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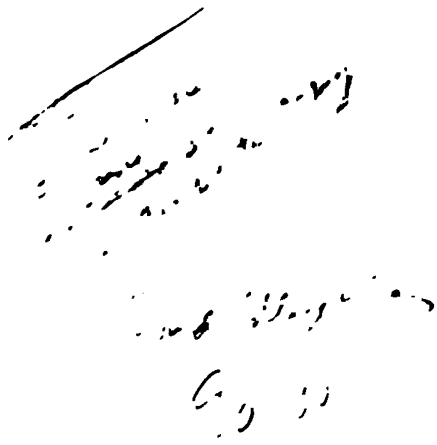

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HISTORY

OF

Marine ARCHITECTURE

By JOHN CHARNOCK Esq.r F.S.A.

LONDON.

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AN

HISTORY

OF

MARINE ARCHITECTURE.

INCLUDING AN

ENLARGED AND PROGRESSIVE VIEW

OF THE

NAUTICAL REGULATIONS AND NAVAL HISTORY,

BOTH CIVIL AND MILITARY,

OF ALL NATIONS,

ESPECIALLY OF GREAT BRITAIN;

DERIVED CHIEFLY FROM

Original Manuscripts,

AS WELL IN PRIVATE COLLECTIONS AS IN THE GREAT PUBLIC REPOSITORIES:

AND DEDUCED FROM

THE EARLIEST PERIOD TO THE PRESENT TIME.

IN THREE VOLUMES.

VOL. I.

By JOHN CHARNOCK, ESQ. F.S.A.

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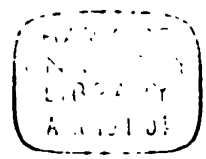

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TO THE RIGHT HONOURABLE

EARL SPENCER,

FIRST LORD COMMISSIONER OF THE ADMIRALTY,

&c. &c. &c.

MY LORD,

THE propriety of dedicating a History of Marine Architecture to the First Lord of the Admiralty, would have been always obvious to him who might venture on the execution of such a task. The great person who may happen to fill that high station, seems to challenge a right to the Patronage of such a Work, which, on the other hand, appears to have something like a natural claim to his protection. It is my singular good fortune, however, in inscribing these Volumes to your

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Lordship, to be able to address myself with propriety to the man, as well as to the statesman; to excellence of private character and talents, as well as to eminence of public capacity; to one who did credit to his high office by accepting it, and who has derived infinite honour from his performance of its important functions.

No apology for these expressions is necessary to my countrymen of the present period; but posterity may think them exaggerated. It is therefore proper for me to state, as well to avoid the imputation of flattery, as for the sake of historic truth, that in a dark and lowering hour, when the nation was torn by faction, menaced by rebellion, and at war with a foreign foe armed with powers unnaturally gigantic; when only retirement seemed to offer security, and only silent inactivity could escape censure; Earl Spencer relinquished the comforts of a princely fortune, the blandishments of domestic life, and that dignified

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dignified leisure which the character of his temper and of his talents so well fitted him to enjoy, to serve his country in a situation eminently responsible, at a period so extraordinarily awful, that error might have produced ruin, and mischance would have been considered crime.

Your Lordship's genius, however, under the blessing of Providence, steered wisely and safely through these dangers. Your uniform encouragement of merit stimulated the efforts of the vigilant; your tacit censure of inactivity called forth the endeavours of the idle; your impartiality silenced complaints; your virtue, your wisdom, your independence, at the same time animated the navy, and raised the drooping spirits of your country.

History will record to the end of time, the series of glorious events which have verified the national hope, and which have been the best reward of your Lord-

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Lordship's labour in that wise and pure administration of Naval Affairs, under the influence of which the late splendid efforts of British bravery have shone with such unparalleled lustre. I have only to express my gratitude for your Lordship's permission to make this offering to the hand which directed them, and remain, with the greatest respect,

MY LORD,

Your Lordship's most obedient,

And most humble Servant,

ST. VINCENT'S LODGE,
December 31, 1800.

JOHN CHARNOCK.

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PREFACE.

THE historical account of an abstract science may, generally speaking, be deemed unentertaining to a very considerable part of mankind. The varied pursuits, and the enthusiasm with which they are most frequently entered into by their respective admirers, appear as though contrived by nature, to direct human attention toward every species of object that ought to rouse inquisitive study, whether occasioned by motives of pleasure, public spirit, private advantage, or the thirst of acquiring fame. Philosophy, including all its various branches, natural history and mechanics, have their different partizans, whose views, though very remotely separated and divided, tend, in idea, to advance the comfort, the pleasure, and every worldly advantage of the human race, without clashing or interfering with each other. Philanthropic, however, and patriotic, as the intentions of adepts may be, in their various studies or occupations, it very rarely happens, that the different parties mutually regard the pursuits of their cotemporaries, with that benevolence which can be the only true basis of human affection, and love.

Nor is it only in the grander divisions of lucubration that man is so apt to display that supercilious contempt, which has been found to border, on some occasions, almost on animosity itself, against persons whose inclinations lead them to tread in a different path; but even in those petty, or more inferior departments, into which the larger classes of enquiry are of necessity separated, in order to render it more perfect; if, however, it is possible, that on any occasion whatever, the general voice should approach one point, it certainly is the case with respect to that of Marine Architecture.

In

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In every country whose shores are washed by the ocean, and an opportunity is thereby afforded to mankind of cultivating navigation as a science, there is scarcely a single wish, or inclination which does not feel itself promoted by the pursuit of it; so that the mind of the student consequently becomes interested, in a very superior degree, by its prosperity and promotion. Even the attention of those who suffer not their thoughts to be carried back beyond the present moment, but who unceasingly direct all their views to future improvement only, must be arrested by the recapitulation of what past some centuries since, for there is very little doubt, however great the natural genius and quickness of the modern architect may be, that no individual, of the whole body, would bestow so much attention on endeavouring to render more effectual or useful in its operations, that structure which he had contributed to invent and raise, as he would to improve that which had descended to him, almost by hereditary right, from his ancestors. It is equally probable, should such a miracle of ingenious discovery actually take place, that the soaring mind of the projector would still be incapable of carrying the projects of its master into effect, merely from the consequence of his not knowing the regular history, and infantine state of that science, with which he had not formed an intimacy till it had reached, as it were, the state of manhood, or at least of puberty.

It is not, therefore, to the antiquary only, and to the mere inquisitive searcher into the events of ages far remote, that the History of Marine Architecture can become interesting; but, considering it also in a scientific view, it must be regarded with a more favourable eye even by the modern adept, provided his mind has not become completely absorbed in the arrogant and self-sufficient contemplation of his own supposed superiority. All men possessing a sufficient share of candour to divest themselves of prejudice, must, without hesitation, allow, that moderns never would have been capable of attaining that summit of knowlege now reached, had it not been for the honest labours of generations, many of them long since past,

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past, which laid the foundation, and progressively continued to contribute toward the completion of that structure, which the modern artist has, to give him every merit he claims, only borne the less laborious part of bringing nearer to perfection.

The laws of nature, at least such as affect manual operations, are few; and inquisitive study has sufficiently discovered them, to render knowlege, on most occasions, entirely equal to the hopes, or perhaps the wishes, both of the theorist, and the executor. On the other hand it is true, that sudden and unforeseen causes have, in many instances, totally contrary to all human expectation, not only for a time obscured the pursuit of many arts, which nations, then esteemed as polished, had advanced to the highest state of supposed perfection, but even obliterated every trace and memory of their ever having existed.

Without entering into any digressive account of other sciences, that of Marine Architecture, after having been cultivated with an assiduity, and pursued at an expence, if the assertions of ancient writers are to be credited, which, at least, proves the high estimation in which it was held; after having very materially contributed to the reduction of the greater part of the world then discovered, under the dominion of an unceasingly ambitious, not to say tyrannical, people; the irruption of an horde, till then, unknown, and consequently, till then, unfelt, effected the total ruin of their wide and extended empire. Bearing with them minds firmly bent on pursuits far different, they not only almost totally effaced the very remembrance of the Roman name, but sunk also into nearly the lowest abyss of obscurity, those maritime pursuits, which had previously flourished, and to that period which might be considered as the last moment of their existence, had been cultivated with the utmost assiduity.

On reviewing such slender authorities, as the savage fury of those barbarians, and the all-devouring hand of time, have suffered posterity, and the modern spirit of enquiry, to possess, it will really be found, that, speaking

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compararatively, the same degree of perfection in Marine Architecture had been acquired by the artists of antiquity, which, it has been allowed, with far less opposition, they reached in other branches of study, mechanics, and philosophy itself. In all points which regard the actual, or supposed wants of mankind, the mind naturally rests content with having reached that summit, which appears to promise a full completion of its wishes; and it were absurd to expect, that the naval artist of the first century, when he had no enemy to contend with, possessing vessels superior to his own; no seas or perils to encounter, (while the properties of the loadstone continued unknown to him) which the vessels he built, even granting them to be unwieldy, were not considered competent to brave; should have attempted any innovation in the science, as practised by his forefathers, which did not seem warranted by necessity, which might be productive of mischief, and which certainly did not promise to afford any advantage to him whatever.

The Roman name, and the Roman mind, however fashionable it may be to call one great, and the other comprehensive, was narrowed and contracted, on account of that circumscribed knowlege of natural philosophy, geography, and astronomy, which mankind then actually possessed. Little inclined to expeditions of mere discovery, Rome sought not to become acquainted with any country whose remote situation appeared to defy its arms; and it hesitated not, almost without exception, to bestow the name of barbarians on the inhabitants of those districts whose manners or customs were indistinctly known to them. This fact, too well established to be controverted, or even disputed, may prove a brief and conclusive answer to all wonder, why a people, whose judgment, whose taste, and whose consummate knowlege in what were considered the polite arts, should have suffered their desires to be sated by so moderate an acquaintance with a science, which might have glutted their ambition in the widest extent the lust of power could possibly figure to itself, or pant for.

The

The strict analogy, in respect to contour, which the gallies of the Romans, and most probably of the Grecians, (for the difference, if any, that existed in their principles and ideas, was either so trivial, or has passed so totally unnoticed, as to render it impossible for modern enquirers to point out what the variation was) bore to those possessed by the inhabitants of many places among the islands lately discovered in the South Seas, may perhaps, at a future period, call forth the assertion of some ingenious commentator and critic, that the circumstance alone proves, beyond controversy, the inhabitants of the Sandwich Islands originally passed thither from Athens, or from Rome. The British watermen might claim, on the same authority, the same genealogical descent: the wherry of the Thames being in effect little else than a galley in miniature.

Though destitute, in great measure, of laboured investigation, or that studious application to the principles of a science, which, notwithstanding the ridicule which may be thrown on mere theory by practical men, and the advantage which practice may really possess over it in many respects, highly contributes toward raising it to perfection; they discovered many of those points which, even at the present moment, are considered among the most valuable and interesting that relate to it. They found out, without enquiry, and probably without knowlege of the cause, that the breadth of a vessel, extended beyond a certain proportion, materially contributed to retard her passage through the water: they discovered, that a rotundity of shape caused their gallies to roll; that while the principle already stated, meaning the too great extension of the breadth, retarded the progress of the vessel, the too extravagant diminution of that breadth produced an inconvenience of still greater consequence, rendering their vessels so constructed, extremely liable to be overset by any sudden shock from an assailant, either natural, as the wind and sea, or artificial, that of an enemy. The inhabitants of the South Seas have, on their parts, been equally aware of the same defect: but they have adopted a different remedy, either by joining two vessels

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artificially to each other, or by the addition of such an extraneous part as will be necessarily explained in speaking of the Indian, or flying proa, as was found sufficient to answer the intended purpose. In short, without any ridiculous veneration for the lucubrations and knowlege of the ancients on one hand, or the smallest wish to depreciate modern improvement on the other, it appears not improbable, that if candour be permitted completely to close the jaundiced eye of prejudice, all sciences whatever might be considerably simplified by a strict attention to what has been the practice of times far remote; the circumstances which caused the introduction of any particular practice; the success or inconvenience of it; and the consequent alteration which have progressively taken place in it. Stripped of the various extraneous ornaments, the modern student may find his pride, or his vanity, mortified, on discovering those ideas, which he arrogantly attributes to his own genius, were promulged to the world more than two thousand years, perhaps, before he himself existed, or broached them; but he will, on the other hand, find his labours considerably shortened by data established on actual experiment, and on which he himself might raise the superstructure, without tormenting himself to find a soil sufficiently compact to render the foundation of it secure.

The apparently extravagant accounts given by various authors, of the fleets possessed by nations whose history they have recorded, and the apparently hyperbolical stories told of certain vessels, constructed even in the most remote ages, have induced many persons to regard both as fictitious. It is certainly probable, that the different descriptions, taken in their literal and direct sense, are derived more from fancy than from fact. A variety of causes have contributed, from the earliest ages of literature down to the present moment, and will certainly continue long as literature shall exist, to cause an extravagant ebullition, which may, on many occasions, excite the incredulity of the reader. To quote an instance not so far remote as to be incapable of critical investigation. The historical student of the present day, provided he were totally unacquainted

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quainted with every illustrative circumstance concerning it, would certainly be inclined to believe, on reading many relations written at the very time, which might consequently be considered as most authentic, that the Spanish Armada, compared to the fleet of Britain which opposed it, was, in respect to the vessels of which it consisted, their magnitude, and lofty appearance, nearly as far superior as a vessel of any description is, to the boat which she carries to attend her; yet it will be found, on examination, there were only four ships in the whole fleet, the Gangrina, the commanding ship of the Andalusian squadron, the St. Ann, and the Ragazone, that were superior to the Triumph, commanded by Sir Martin Frobisher. It follows, therefore, that although in the comparative statement of the two armaments, that of England might be very considerably inferior in respect to tonnage, taken in the aggregate, to that of its enemy, yet the high terms made use of to excite wonder, and extort applause, on the valour and general conduct which produced the victory, were certainly carried beyond the bounds of truth, or propriety. Of the same complexion, and most probably owing to the same cause, are the accounts of the fleets of Darius, of Xerxes, and of Anthony: the vessels of Sesostris, of Hiero, of Demetrius, of Ptolemy, and other personages, which form such prominent characters in the historical drama of Marine Architecture, most probably owe that attention which they have excited in the minds of the learned, more to the fancy and vanity of their celebrators, and the heightened colouring bestowed on them, than to their true, their natural character and rank.

To point out some few circumstances which scarcely can be disputed as facts, Sesostris, who is supposed to have lived three hundred years before the siege of Troy, is said to have constructed a vessel, which must, from the accounts given of it, have been as artificially put together as a modern first rate. Yet it is generally admitted by the most accurate enquirers, that neither decks nor beams were introduced into ships till a considerable time, even centuries, after the Trojan war. The accounts of

Hiero's

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Hiero's ship, as well as of that of Ptolemy Philopater, are not only improbable, but, adhering to the description as a literal one, it is impossible it can be true. In regard to the extended numbers of vessels composing the fleets of antiquity, the case is different, and no such exception will lie; but fancy, in some instances, pourtrays to itself a visionary picture, and gazes on it with admiration till it becomes convinced of its real existence. It would be an historical heresy, according to the opinion of many, to compare the most inconsiderable vessel in Agamemnon's fleet to a modern boat; yet it is an indisputable fact, that although the dimensions of that vessel might, in some instances, be superior, its form and character of construction were exactly the same. The gallies of war, when the custom of naval hostility was introduced, and gradually advanced in general practice, were certainly improved, and perhaps enlarged; but the peculiar exigences of the state, and the mode of fighting then practised, not requiring an attention to those points which have become necessary since the revival of the science in modern times, the ease with which vessels were at that time built, rendered it possible for a powerful nation to send forth an armament as formidable, in respect to numbers, as it thought proper, or could find persons to navigate and man it. The gradual diminution in the numbers of vessels composing fleets, as the improvement in the construction of those vessels gradually advanced, forms no slight internal evidence in favour of the correctness with which historians have given such numerical statements, as, at first sight, may have been considered as exaggerated and untrue. The same points pervade the chronology of naval war, and serve for, at least circumstantial evidence, as well in support of the historians of antiquity, as of those in modern Europe, whose accounts have been rejected by many as legendary tales, fit only for the extravagance of romance, or the allowed effusions of poetical fancy.

To the causes just mentioned may be assigned the alleged immense extent of the armament, with which the Persians originally invaded Greece; of those with which other contending countries, at different times, over-

spread

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spread the ocean; and of that which, descending to a people far less remote, the renowned Alfred, with some others among the more powerful of the British princes, are said to have possessed.

In respect to that doubt and obscurity which has so long, and so happily divided the minds of commentators and critics, with regard to the form of particularly celebrated ships, there need not be adduced a stronger proof of the very uncertain grounds, on which enquiry is to be pursued, than the laboured disquisitions which have taken place, without in any degree ascertaining the point, as to the formation of ships, at a period no farther distant than that of King Henry the Eighth. Description and profound representation appear, in almost numberless instances, at variance with each other. The Harry Grace a Dieu, is of very different force in the official account given of her equipment, from that which the drawing preserved in the Pepysian library, seems to convey the idea of. Taken in a strict sense, it can no more be considered as an actual portrait of a ship, rudely as vessels might then be constructed, than can the uncouth figures of vessels, which are so frequently seen on the reverses of ancient coins, be taken as the actual and correct records of the form of gallies. Not to speak contemptuously of so curious a document, it can only be esteemed as the general resemblance of a ship, such as might be sketched by the most artless hand, upon mere recollection, and at a very remote period from actual inspection. Notwithstanding, however, the pretended form of some particular parts, totally inconsistent as they are with visual truth, may, in the minds of many persons, perhaps, have brought its accuracy into disrepute, yet, on a comparison with other collateral testimony, there seems good reason to suppose, that several of the general points are correct.

It is very evident, that at the period now treated of, there were two distinct fashions in ship-building observed by marine architects, particularly those of Britain. In the tapestry woven to commemorate in Britain the destruction of the Spanish Armada, this point, when joined with other

confirming

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confirming evidence, appears established almost beyond controversy. The first of these fashions, derived originally from the Venetians, and transmitted from them to the English, was certainly adopted by the constructor of the ship in question. There are very many in the hangings just mentioned, which bear so close a resemblance, in the principal particulars, to the Pepysian drawing, as may silence that scepticism which would boldly reject the whole testimony that the drawing in question affords, because some parts of it are incorrect and absurd. On the other hand, there is a second description of vessels, which appear to have been peculiar to the English, and contrived as a very wise improvement on the ridiculous height of the first, which bears so great a similitude to a certain print published by a person named Allen, in 1756, and professed by him to be a representation of the same ship, or, as he stiles it, the Great Harry, that it may also convince the patient investigator, the print is by no means so despicable a document, or so deserving of rejection, as many persons have considered it. In fact, the mystery appears very far from impenetrable; for it seems certain, that such vessels, so differing from each other, were actually cotemporary with each other, and engaged at one and the same time, in the same line of service.

The similarity, in respect to form, between the earlier vessels belonging to the Mediterranean powers, and other countries, when raised from gallies into that class which acquired the appellation of ships, is extremely apparent in the instances of the galleon, or carrack of Genoa, and the English ship of war, on the subject of which there has been so much controversy. Taking the whole of the evidence, positive and circumstantial, into consideration, it seems by no means dogmatical to assert, that the Pepysian drawing, and that published by Allen also, are both of them correct, for to say the utmost in discredit of either, it can only be inferred, that one was the production of a very inferior, the other of a much more polished, artist. A circumstance exactly in point will be found in the different portraits of a ship built in the reign of King Charles the First, called the Sovereign

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Sovereign of the Seas; and even supposing the authenticity of the documents in question sunk to the lowest state of credit that can fairly be attributed to them, it certainly would be too much to insist, that either of them are positively incorrect, or that they are not representations of ships which, if not actually the same, were actually existing at the same period of time.

In a work professedly containing a mere detail of historical facts, which, it is hoped, is impartial, and a collection of information which, it is presumed, is authentic, there can be little room for censure, and still less for praise, on any other ground, than that of negligence on one hand, or of proper assiduity on the other. It becomes, however, an indispensable duty to disregard the most popular opinions, whenever they appear in the smallest degree doubtful, but at the same time to neglect no fair prospect, however distant it may be, by which any possible light can be thrown on the subject of investigation. The pre-eminent rank which Britain has, as it may be said, for centuries, held among maritime powers, has by no means existed in the more remote ages. Many other countries, or states, since fallen into complete decay, were her predecessors and tutors, as well in the art of navigation, as of ship-building; and it is somewhat singular, that the renovation of the art, after the ravages committed against science by the irruption of the Goths, and other barbarous nations, should have taken place among a people now almost unknown, or, to speak of them in the highest terms, sunk into a very low state of obscurity, as a maritime power.

The renowned Sir Walter Ralcigh, speaking of the ability and knowlege possessed by the British shipwrights, observes, " To say the truth, a miserable shame and dishonour it were for our shipwrights, if they did not exceed all others in the setting up of our royal ships, the errors of other nations being far more excusable than ours; for the kings of England have for many years been at the charge to build and to furnish a navy of powerful ships, for their own defence, and for war only; whereas

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the French, the Spaniards, the Portuguese, and the Hollanders, till of late, have had no proper fleet belonging to their prince or state." The same learned person next proceeds to pay the following tribute to the knowlege possessed by foreign countries, who certainly were the predecessors, and perhaps the tutors of Great Britain in this science: "The Venetians only," says he, "have for a long time maintained their arsenals of gallies, and the kings of Denmark and of Sweden have had good ships for these last fifty years. I say that the fore-named kings, and more especially the Spaniards and the Portuguese, have ships of great bulk; not fitter for the merchant, than for the man of war, for burthen than for battle; but, as Popelinize well observes, 'the forces of princes by sea are indisputable marks of the greatness of an estate.' Whosoever commands the sea, commands the trade; whosoever commands the trade of the world, commands the treasures of the world, and consequently, the world itself: yet can I not deny, but that the Spaniards, being afraid of their Indian fleets, have built some few very good ships; but they have no ships in garrison, as his Majesty hath, and, to say the truth, no sure place to keep them in; but in all invasions, he is driven to take up of all nations which come into his port for trade."

To this brief abstract of the maritime power possessed by the European states, whose shores were washed by the Atlantic and Northern ocean, is added an account or remark equally concise, in respect to those states whose territories were situated under what is generally considered a milder climate, and more tranquil sea. "The Venetians," says Sir Walter, "while they attended to their fleets, and employed themselves in their eastern conquests, were great and powerful princes: they commanded the maritime parts of Croatia, Dalmatia, Albania, and Epirus; they were the lords of Peloponesus, and of the islands adjoining, of Cyprus, Candia, and many other countries; but after they sought to render themselves great in Italy itself, using strangers for the commanders of their armies, the Turks, by degrees, drove them out of their goodly territories, and have now confined

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fined them, Candia excepted, to a few small Grecian islands, which, with great difficulty, they still continue to enjoy."

It is highly worthy of remark, that even in those times when the science of Marine Architecture might almost be considered in its infancy, the same defects which have been particularly complained of in more modern ages *, were not only in existence, (which certainly is by no means extraordinary) but the proper remedy against them was clearly pointed out by the same illustrious character. " It is a special observàtion," says Sir Walter, " that all ships sharp before, that want a long floor, will fall roughly into the sea, and take in water over head and ears. So will all narrow quartered ships sink by the tail. The high charging of ships is it that brings them all ill qualities, makes them extreme leeward, makes them sink deeper into the water, makes them labour, and makes them overset. Men may not expect the ease of many cabins and safety at once in sea service. Two decks and a half is sufficient to yield shelter and lodging for men and mariners, and no more charging at all higher, but only one low cabin for the master; but our mariners will say, that a ship will bear more charging aloft for cabins, and that is true, if none but ordinary mariners were to serve in them, who are able to endure, and are used to the tumbling and rolling of ships from side to side, when the sea is never so little grown. But men of better sort and better breeding would be glad to find more steadiness, and less tottering cadge work. Albeit the mariners do covet store of cabins, yet indeed they are but sluttish dens, that breed sickness, in peace serving to cover stealths, and in fight are dangerous to tear men with their splinters."

Grievously injurious has it proved to the principles and general improvement of the science, that the discoveries and practices of the early ages have been either most imperfectly delivered to the modern enquirer as it were by tradition only, or he has been left to form his opinion even

* See Vol. III. p. 138.

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on a more unstable basis, that of mere surmise. The evidence of the cotemporary artist has proved in no less a degree unsatisfactory, as if he had in some measure enviously combined with the enemies of science, in the attempt to destroy every clue that might possibly lead to its developement, or future improvement. With every aid which the strictest scrutiny and enquiry can possibly afford, it must be candidly confessed, that it were the height of arrogance in any person to pretend he understands perfectly well the form, burthen, and dimensions, or the species of vessels, which composed that fleet, by means of which, as the first moving principle, William the Norman, afterwards more generally known to Britons by the grating appellation of Conqueror, acquired the title of their sovereign. The fact is, that the principles of naval war were at that time extremely contracted. It had continued, except in the Mediterranean, sunk into that species of disrepute* whither it had fallen, and in which abyss it had continued, almost without interruption, during the space of ten centuries. In conformity with the practice and custom of the Romans themselves, who appeared almost totally neglectful of all improvement in the science, from the time that the reduction of Carthage had persuaded that ambitious people, that the destruction of a much dreaded rival rendered its pursuit no longer necessary, the Saxons, the Danes, and after them the Normans, seemed to consider the possession of a fleet no otherwise conducive to their meditated plans, than as it served to convey to the devoted spot, or crater, from whence the dreadful torrent of war was destined to issue, that powerful collection of terrific matter, an armed soldiery, which were instructed to mark in characters almost indelible the course they took, and spread the smoking ravage as widely as their torches, and their swords could extend. A naval combat or engagement was so far out of practice, as to have become nearly forgotten; and if at any time those occasional skirmishes took place between the vessels belonging to different

* Being rarely entered into but for the purposes of piracy and plunder.

countries,

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countries, which, by varying the scene, may be said to enliven the page of history, they resembled encounters between foes, who, though possessing deadly animosity towards each other, would gladly have availed themselves of some other opportunity, or means of terminating the quarrel long subsisting between them.

The maritime history of the world may be reduced to a regular system, and considered as fairly divisible, into seven different sections, clearly pointed out by as many remarkable epochs. The first may comprehend all that dark and intricate space of time previous to the foundation of Rome, during which, all pretended authority, and the assertion of facts, no matter how positively given, appear so totally founded on surmise, as to furnish very slender materials for any historian who wishes his relation to be received with that venerable respect which is due to truth, in whatever homely garb it may be clothed. The second section comprises a period somewhat less obscure, in which, as the collateral testimony and evidence of various persons and authors may be examined and compared with each other, there certainly appears less difficulty in developing the real state of facts, and unravelling, in a slight degree, those historical ænigmas, which, on some occasions, convert the page of history almost into romance. It will extend from the foundation of Rome to the destruction of her rival, Carthage, and from thence a third may find its termination in the conversion of the republic into an empire: an æra when the want of naval enemies to contend with, rendered the maintenance of a fleet as connected with the prosperity and safety of the state, a consideration not only of secondary, but certainly immaterial consequence. The death of Charlemagne may be considered as the fourth grand epoch; since although the maritime pursuits of the whole globe might then be deemed in an almost totally dormant state, yet some circumstances appeared which seemed to promise a revival of the pursuit, by a people at that time almost unknown, and certainly possessing a very inferior share of political weight in the state machine of the universe.

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From the death of Charlemagne, the science of navigation appeared progressively acquiring strength, and obtaining followers, who industriously and most laboriously attempted to attain considerable perfection in maritime knowlege. This, however, appeared denied to them as though by nature, till the discovery by Europeans of the wonderful properties possessed by the loadstone, and the subsequent invention of that instrument, known by the name of the mariner's compass, seemed at once to dispel the mist which had so long obscured that summit, to which the art was, without much difficulty, capable of being advanced, and promised the immediate removal to a distance almost infinite, or beyond human comprehension, of those limits, within which the practice of it had, till that time, been unavoidably confined. The sixth section, therefore, may be fairly stated to commence with the invention just mentioned, about the year 1260, and continue till the beginning of the sixteenth century, when the general introduction and use of cannon on board ships, as instruments as well of annoyance, as defence, together with the contrivance of port-holes, gave birth to the seventh and last epoch or æra, by attaching to vessels those requisites and properties, which, though imperfectly supplied and provided for in the beginning, have, by repeated practice, and continued experience, gradually improved into that excellence, and almost unimprovable state of perfection, which the ships built at the present day are, by some, supposed to possess.

The maritime history of Britain becomes more than proportionably narrowed in its extent, when compared with that of the universe; first on account of its obscurity, occasioned by the want of local literature which prevented the record, and which, though perhaps imperfectly, has preserved that of other countries; secondly, inasmuch as, till the period known generally by the appellation of the conquest, it varies so little, and has become so interwoven with that of other countries, as scarcely to render it necessary to give any thing but a brief recapitulation of the leading, or most prominent events which took place, more perhaps for the purpose of rendering

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dering the chain of history regular, than exciting any forcible interest in the mind of the enquirer. The case becomes, however, materially altered as the science advances to maturity; for there is a certain violence of enthusiasm which, without any arrogance at all, has been fostered and encouraged by the most rapid tide of success, which causes a Briton to dwell, with the most peculiar satisfaction, on the history of that science, to which he naturally considers he owes his wealth, his consequence, and his security. This at all times induces him to probe every incident that is likely to contribute towards his pleasure, to the very bottom, to descant on and describe it with a tedious minuteness, frequently painful to those not materially interested in the discussion, and, on some occasions, perhaps, in the warmth and animation of his heart, to exceed even the bounds of credibility itself.

The earlier ages, as just observed, independent of every other consideration, are so enveloped in doubt, surmise, and romance, that little can be collected from them, on which mankind ought to place any dependance. Mention, indeed, is made of immense fleets, raised as it were by necromancy, and which disappear as the enquirer may endeavour to persuade himself by the same kind of influence. The strong degree of popular attachment to that particular pursuit, by which the inhabitants of a country have first raised it into public consequence as a naval power, may induce them to dwell with infinite pleasure on the naval exploits of Uther Pendragon, and the renowned Arthur, on the victories of Alfred, and the naval triumph of Edgar the Great, but admitting the accounts of them strictly true in every particular, yet when adduced as irrefragable proofs of the aboriginal naval supremacy of Britain, they appear rather to invalidate, than support any claim, that can be supposed to rest on so weak a foundation.

Alfred has been generally celebrated as the founder of the British navy. He is said by the best historians to have suggested a variety of improvements in the structure and form of ships, and to have considerably ad-

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vanced the art of building them; so that it has become a kind of historical treason to disbelieve any of those his naval exploits, which, to some modern opinions, may appear at least wonderful, if not incredible.

National pride is sometimes carried to such an extent, that it rejects the belief of naval inferiority, though facts not to be controverted, prove the truth of it, during a certain period, in every page of history. It has, however, chosen a ground which humbles instead of exalting it; for certainly, had not the naval force of Britain been incompetent to its defence, the Norman invasion, to say nothing of those which preceded it, ought never to have succeeded. The fleet which conveyed the army of William from St. Vallery to Hastings, is said to have consisted of nine hundred vessels *, and the consequence of the expedition is known to all. Formidable, however, as this force was in point of numbers, though William had rendered himself master of the kingdom, he was not able to avert a Danish debarkation of troops, which took place three years afterwards; a most undeniable proof, that the overthrow of Harold was not effected by the Norman navy, and that when that, which Britain itself possessed *(if any)* was added by William to his own, they were, even unitedly, inadequate to the purpose of defending the coast even from desultory attacks.

Those divisions of the kingdom, established during the Heptarchy, unfavourable to powerful defence, and continued in a greater or less degree, at intervals, till the time of the conquest, being all done away by that event, the nation might then have been expected to enter on a new, and more energetic system of war, when the supreme power became firmly vested in the hands of so great a warrior and politician, as William the Norman is universally admitted to have been. Those expectations, however, became miserably disappointed. The event called the conquest, effected by an army, continued to be maintained by the same means. The Danes re-

* Augmented by some authors to three thousand.

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peated their depredatory expeditions, and are said to have projected the invasion of England in the year 1084, with a fleet consisting of nearly one thousand sail! It may be answered to this, that these very formidable and tremendous preparations, are positively affirmed to have been baffled by the precautions taken, and the force raised, by William to repel the attack *. But on the other hand, it has never been contended, that this force was any other than an army. Four years afterwards, when Robert, the eldest son of the Conqueror, attempted to dethrone his brother Rufus, he was repelled by a fleet of freebooters, to whom William afterwards granted certain immunities and privileges, in consideration of this service; a very convincing evidence, that England, as a nation, possessed no navy at this time. William is nevertheless reported to have equipped a number of ships, intended to cover the invasion of Scotland, in or about the year 1091; an enterprise which the destruction of his fleet, by repeated storms, rendered abortive.

The first authentic testimony of the birth of the British navy, is the invasion of Normandy by Henry, surnamed Beauclerc, in the year 1106; and the crusading expeditions, which immediately followed, contributed, in some degree, to cherish the infant in its puling youth. Selden has given the event just mentioned as the æra of the first assertion on the part of Britain to the right of what is called the dominion of the sea, and adduces, in proof, the orders given by Henry to his *Butescarli*, or sea officers, that they should take particular care no vessels from Normandy approached the English coast. With all possible deference to the character of so great a man, these orders cannot be considered as an establishment, or even the assertion, of the right, any more than the resolution of a person deter-

* The Danish historians assign a very different cause for the failure of this enterprise: the treachery of Olaus, duke of Sleswick, brother to Canute the Fourth, at that time king of Denmark, who, instead of preparing to assist his brother in the expedition, as he had promised, was secretly plotting his destruction.

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mined to prevent the commission of any trespass on his estate, should be deemed a claim to the exclusive property in all those lands which surround his territory *.

To recapitulate the several events which took place from this time till the reign of Henry the Eighth, when the naval force of England first acquired a permanent establishment, would be little interesting to the reader, especially in the abridged contracted scale inevitable necessity would compel it should be given. It is to be observed, that fleets †, formidable at least in numbers, were fitted out by different monarchs, and for various purposes, but were intended principally for those of invasion. On all such occasions, the vessels are not to be considered in any other light than as mere transports: they were not fitted at the expence of the sovereign, but by different sea ports, to whom certain privileges were granted, in consequence of their furnishing an established quota of vessels whenever they were regularly demanded by the monarch.

Hastings in Sussex, for instance, with its several dependencies, was bound, after having received a regular previous notice of forty days, to provide twenty and one ships, properly rigged and equipped for war, each to be manned with twenty-one seamen. After their arrival at the destined port of rendezvous, they were immediately to pass into the king's service, but were to be maintained at their own expence for fifteen days. At the expiration of this time, they were, if their longer service

* King John appears to have been the first monarch who insisted on the exclusive right of the English to the dominion of their seas. There is a mandate of his to the chief admiral, in which the king orders him to arrest, seize, and make prize of, all ships whatsoever, found thereon.

† Among the most conspicuous of them, was that collected by King Edward the Third, for the purpose of joining in the siege of Calais: of which armament, a particular and minute account will be hereafter given, with some remarks on the various and singular circumstances which the different items in the list, furnish the knowlege of. The fleet of Henry the Fifth, drawn together off Southampton, and the adjacent coasts, for the conveyance of the English army to France, was also extremely numerous: as likewise were those of many among the crusading princes.

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was deemed necessary, to be paid and victualled by the king; the master of the ship receiving six pence, the rest of the mariners three pence a day each. From hence it may be concluded, all expeditions were in that day expected to be of short duration only, and by this clue may also be easily traced, the mode in which fleets, so numerous, were collected with such ease and expedition, as they appear to have been.

Spelman has given a list of persons who held the office of lord high admiral, from the 8th of Henry the Third, to the reign of Mary the First. Beatson has carried the time much farther back. In the 24th of Edward the First, the maritime jurisdiction was divided into two departments; one called of the north, extending from the mouth of the Thames northward, the other of the west, from the mouth of the Thames westward. It continued thus classed till the 6th of Henry the Fourth, when Thomas of Lancaster, his son, was constituted lord high admiral.

The variety of improvements and inventions which had taken place during the fourteenth and fifteenth centuries, tended to render general nautical knowlege much more respectable than it had been. To the invention of the compass is most probably owing the discovery of America. To that of cannon, and their introduction into ships, may be attributed those improvements in Naval Architecture, which distinguish a modern ship of war, from the ancient galley.

The naval militia, as it may with much propriety be termed, and which continued in use for some centuries, was all the defence on which the nation had to depend as a protection from invasion, previous to the reign of Henry the Eighth. That monarch wisely considering the inconvenience to which a very sudden attack might at all times subject the nation, resolved on establishing a royal navy, which, being under the immediate direction of the sovereign, might form a temporary stand against the enemy, till the ships furnished by the different ports should arrive to reinforce it. Notwithstanding even this precaution, and most prudent

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institution, the provident monarch did not yet think his kingdom sufficiently secure. Hall in his Chronicle, anno 1539, says, " The kynges hyghness, which never ceased to stody and take payne both for the avaunceiment of the common wealth of this realme of England, of whiche he was the only supreme governour and hed, and also for the defence of al the same, was lately enfourmed by his trustie and faithfull frendes, that the cankerd and cruel serpent, the byshop of Rome, by that arche traitor Reginald Poole, enemie to Godes word, and his natural contrey, had moved and stirred dyverse great princes and potentates of christendome, to invade the realm of England, and utterlie to destroy the whole nation of the same, wherefore his Majestie in his own persone, without any deley, toke very laborious and paynefull journeyes towards the sea-coaste, also he sent dyverce of his nobles and counsaylours to view and search all the ports and daungers on the coastes, where any meete or convenient landyng place might be suppos'd, as well on the borders of England as also of Wales, and in all soche doubtfull places his hyghness caused dyverse and many bullwarkes and fortifications to be made."

The events of the sixteenth century are esteemed of a much more consequential nature than those of any which preceded it, not because the natural bravery of the English exceeded, perhaps, that which they had frequently manifested in former ages, but because the human mind takes, we know not how, a considerably greater interest in contests, in proportion as their nature bears a nearer relation to those of modern days. Prodigies of valour were, without doubt, performed by men clothed with armour, whose only missile weapons were arrows and javelins, and whose contests were frequently decided by the same instrument of destruction, those by land were, the sword. But there is considerable difficulty in associating ideas with objects which men have not been accustomed to behold, and they regard the greatest ancestrial bravery of those times with little more warmth and generous emotion than they do the battle of Actium.

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The introduction of cannon into ships, which took place at the latter end of the fifteenth century, renders naval history, therefore, much more interesting to moderns, and they feel a natural pleasure in tracing the growth of a caraval, a carrack, or a galleas, into a first rate, while at the same time they disdain not to bid the rising generation contemplate as well as emulate the example of Drake, Grenville, Raleigh, and the Howards.

After the foregoing summary review of the naval history of Britain, which has brought it down to a period not only interesting, but the events of which are perfectly well known, it may, in all probability, prove not a little conducive to the interest, as well as study of the subject, that the different events, which divide as it were the account, should be pointed out in like manner as that general one of the world has already been. It may be considered as divided into seven different sections, there being just so many remarkable and prominent epochs.

To enumerate them—

Section the first naturally commences with the invasion of William the First, surnamed the Conqueror, and closes with the reign of Edward the Third; at the latter part of which period, England distinguished itself as a considerable naval power, after it had been suffered to lay dormant many generations; that is to say, from the time of Egbert and of Alfred, in the ninth century.

Section the second begins with that of his grandson and successor, Richard the Second, continues through the reigns of six princes, ending with the battle of Bosworth, and death of Richard the Third. During this period, which comprehends the whole of the civil wars between the houses of York and Lancaster, little interesting matter

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matter can be expected, England having not the smallest opportunity of attending to, or availing herself of a marine, except during the short lived reign of Henry the Fifth. The war with, and conquest of France, consequent to it, under this monarch, great as the event might be, contributed little or nothing to the advancement of the naval power of the kingdom, it being effected by the land force alone *.

Section the third commences with the reign of Henry the Seventh. At this period, cannon were first used on board ships: they were mounted *en barbet* over the gunwales. Henry the Eighth built the *Great Harry*, anno 1514, the first royal ship of war in England. Portholes were now used. They were invented by a French builder in the year 1500. The Great Harry was burnt by accident in the first year of the reign of Mary.

Section the fourth comprises the period included between the destruction of the Spanish Armada †, in 1588, and the commencement of the civil war between the unfortunate Charles, and his parliament.

Section the fifth commences with the revolt of the fleet from Charles the First, and comprehending the naval transactions during the civil war, and protectorate of Cromwell, ends with the restoration of Charles the Second.

Section the sixth begins in the year 1660, includes the history of the Dutch wars, and ends with the abdication of James the Second.

Section the seventh commences with the revolution, and continues, without farther break or interruption, to the present time.

* Wars with the Welsh, invasion of the Danes, intestine commotions, the invasion and conquest of Ireland by Henry the Second, and the crusades, prevented the exertion of naval power during the eleventh, twelfth, and thirteenth centuries.

† At this time the navy of England first began to be on a respectable footing.

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As the naval history of Britain, from the conquest till the reign of Edward the Third, consists in a mere recital of expeditions, rather undertaken by individuals who provided the fleets, and had the sanction of government for their support, than by the actual power of government itself, it will, in all probability, hereafter, save no inconsiderable portion of time to the reader, to give merely a chronological and brief minute of the different naval occurrences which took place during that interval, reserving the future privilege of making such brief remarks as shall serve to fill up what otherwise, perhaps, might be considered as an hiatus in the history.

1069 Swaine, king of Denmark, sent a fleet of two hundred sail, according to Dunelme, two hundred and forty, Paris and Huntingdon say, three hundred, under his brother Osbern, with his two sons, Knute and Harold, to assist the English nobility, who had revolted against William. Drone, at that time king of Ireland, sent a fleet of sixty-five ships to assist Godwin, Magnus, Edmund, and Harold the Long. The Danes retired, after some negociation, in the ensuing spring.

1070 Dermot, king of Ireland, invaded Devonshire with a fleet of sixty sail. He was defeated by Brien, son to Eudo, earl of Bretagne.

1074 The Danes, on the application of Ralph de Guader, invaded England with two hundred ships under Knute. King Swaine's son, and earl Hacune, retired, after continuing two days in the mouth of the Thames.

1084 Danes invaded England with a fleet of one thousand ships. The earl of Flanders, in alliance with Denmark, added six hundred more. This fleet, however, never sailed, being detained in the Danish harbours two years for want of fair wind, or what is more likely,

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likely, affrighted by the preparations of William to oppose them. This was the last attempt made by the Danes.

1088 An attempt made on England by Duke Robert against William Rufus, was defeated by the assistance of his *pirates.* Anglici vero piratæ qui curam maris a rege susceperant, innumerabiles ex illis occiderunt & submerserunt *(Brompton)* sed Willielmus junior jam mare munierat suis piratis, qui venientes in Angliam tot occiderint & in mare merserunt, ut nullus sit hominum qui sciat numerum pereuntium.

1091 William Rufus, determining to invade Scotland, prepared a large fleet, which was dispersed and damaged by storms.

1102 William of Malmsbury and Hachluyt record an expedition by sea of Edgar, grandson to Edmund Ironside, brother to King Edward the Confessor. Hachluyt from Chronic. of Jerusalem, mentions many valiant actions performed by Englishmen.

1107 Hachluyt (from the Jerus. Chronic.) reports a large fleet fitted out from England, conveying seven thousand men, and joined by others from Denmark, Flanders, and Antwerp, sailing to Joppa for Jerusalem. N. B. These were crusaders.

1120 Prince William, son to Henry the First, was drowned in his passage from Barfleur, the ship in which he had embarked striking on a rock through the eagerness of the pilot to obtain a reward for outsailing the king's ship. The ship was new, and built purposely for the conveyance of the prince. A considerable number of nobility accompanied him, so that nearly three hundred persons perished with him. N. B. The vessel must have been of a considerable burthen.

1157 Henry the Second fitted out a fleet to invade Wales by sea; but all further operations were prevented by peace.

1159 Henry invaded Normandy with a large fleet.

1171 Henry

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1171 Henry invaded Ireland with a fleet of four hundred sail, and completely conquered it.

1177 Mandeville, earl of Essex, sailed from Dartmouth with thirty-seven ships, on a crusading expedition.

1189 Richard the First, surnamed Cœur de Lion, the first *royal* crusader from England, fitted out a fleet, consisting of upwards of one hundred capital ships, and fifty gallies. N. B. It is more than probable, a considerable part of this fleet was hired from the Genoese, as was, according to Rigord, at that time the custom of France.

1190 This fleet was much dispersed in attempting to get round to Marseilles. The king was obliged to hire twenty gallies, and ten large busses, in order to transport him to Messina. In the same year, the first *lex maritima* was enacted by Richard at Messina. It related to shipwrecks.

1191 Richard's fleet consisted of one hundred and fifty sail of ships, fifty-two gallies, and ten large ships for victuallers. In this year, his fleet being overtaken by a storm near the island of Cyprus, and those who were wrecked being ill used by the king of that island, Richard attacked and routed his fleet and army, subdued the island, made the king prisoner, and sent him to Tripoli. In the month of June, he sunk a large vessel belonging to the Saracens, with fifteen hundred men on board. In the same year, he defeated the army of Saladine, and his fleet also, in a regular engagement before Ptolemais. Greek fire was made use of in this action. The vessels of which these fleets were composed, were in part only galley built, according to the ancient form, and such as were called naves rostratæ.

1192 Richard being cast away on the coast of Istria, between Aquileia and Venice, was made prisoner by the duke of Austria.

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1194 Richard invaded Normandy with a fleet of one hundred sail.

1205 King John fitted out an immense fleet for the invasion of France. It was, however, dismissed without action.

1206 John fitted out a second fleet, landed at Rochelle, and reduced Poictou.

1210 He fitted out a fleet of five hundred ships, to quell the commotions in Ireland, which he soon effected.

1213 He fitted out the most powerful fleet against France that had ever been known in England. Necessity appeared to require it, for it is reported, the French navy consisted of one thousand seven hundred ships. In the same year, the English fleet, commanded by the earls of Salisbury and Boulogne, totally defeated the French fleet, and took three hundred sail, driving on shore or burning one hundred more.

1214 Philip of France invaded England with a fleet of seven hundred sail. John strenuously asserted the right of the English to the dominion of their seas, as appears by his mandate to the proper officers, to arrest, seize, and make prize of, all ships found therein.

1217 The fleet equipped by the Cinque Ports, ineffectually attacked the French fleet, under Lewis, Philip's son; but on the twenty-fourth of August following, a squadron of forty English ships totally defeated eighty French ships, taking or sinking the greatest part of them. This appears to be the first instance taken notice of in history, of advantage being taken of the weather gage. A new and singular species of annoyance was also now first used by the English; powdered quick lime.

1228 Henry prepared to invade France, but was obliged to desist for want of a sufficient naval force.

1229 A naval force being collected, Henry the Third, invading France, landed at St. Maloes, but returned in October without effecting any thing glorious.

1253 Henry

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1253 Henry invaded Gascony with a fleet, according to Holinshed, of three hundred sail of large ships, besides smaller vessels.

1261 A fleet of fifty-seven sail was fitted out by the Cinque Ports, at the instigation of the barons, against Henry the Third. The barons of the Cinque Ports, Hastings, Romney, Hith, Dover and Sandwich, were by their charter obliged to furnish for the king's service, fifty-seven ships, eleven hundred and eighty-seven men, and fifty-seven boys; that is to say, twenty-one men, and one boy, to each ship.

1266 Prince Edward defeated a piratical fleet fitted out by the Cinque Ports, under the command of Simon de Montfort.

1294 A fleet was collected for the purpose of invading France, but the expedition was deferred. A squadron of sixty English ships falling in soon afterwards with a Norman fleet, consisting of two hundred sail, laden with wine, after a very smart engagement, took the whole. There is a considerable variance among authors concerning this event. Some assert that the fleet which defeated the French belonged to the merchants, while others as strenuously insist, it was the fleet under the orders of the sovereign. Be that as it may, they agree that such an action and defeat took place.

1295 A fleet of three hundred and fifty, or sixty ships was sent to Guienne, under the earls of Lancaster, Richmond, and Lincoln. Three other squadrons also were equipped to guard the coasts. The Yarmouth, or eastern, under John de Bottetort; the Portsmouth, or southern, under William de Leyborn; and the Irish, or western, commander not named. In this king's reign, so vehemently was the dominion of the sea asserted, that the Dutch were obliged to obtain licences to enable them to fish on the English coasts.

1296 An English squadron plundered Cherburg.

1297 Edward equipped a fleet, in which he transported fifty-one thousand five hundred men from Winchelsea to Sluys.

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1300 The mariner's compass was first introduced into Europe by Flavio Gioia *.

1326 Edward the Second declared war against France, and issued proper orders, in form, to his admirals, John l'Esturms and Nicholas Kyriel, of the north and south, to take, burn, and destroy, all French ships.

1338 Edward embarked an army of forty thousand men, in five hundred ships, at Orwell, in Essex, and landed them at Antwerp.

1339 The French infested the English channel with a flying squadron. A fleet in the same year landed at, and pillaged Southampton †. Soon after this, thirteen French ships met five English ships, and after an action of nine hours, took the two largest, the Edward and Christopher. Six hundred men were killed on both sides. At the latter end of the year, the Cinque Ports' squadron attacked Boulogne, and burnt nineteen gallies, four large ships, and twenty smaller, with all their equipment and furniture.

1340 The French committed great depredations at Guernsey, Portsmouth, and on the western coast. In this year was fought the first en-

* See page 277.

† As is apparent from the following account given in the old Chronicles:—"The fourth of October, fiftie galleyes, well manned and furnished, came to Southampton, about nine of the clocke, and sacked the towne, the townsmen running away for feare. By the breake of the next day, they which fled, by the helpe of the country thereabouts, came against the pyrates, and fought them; in which skirmish were slaine to the number of three hundred pyrates, together with their captaine, a young soldiour, the kinge of Sicilie's sonne: to this young man, the French kinge had given whatever he got in the kingdome of England; but he being beaten down by a certain man of the country, cried rancon: yea, (quoth he, I know well enough thou art a Françon, and therefore shalt thou dye;) for he understood not his speech, neither had he any skill to take a gentleman prisoner, and keepe them for their ransome; wherefore the risidue of these Gennowayes, after they had set the town a fire, and burned it quite, fledde to their galleyes; and in flying, certaine of them was drowned; and after this, the inhabitants of the towne compassed it about with a strong and great wall."

This mischief was effected by the joint efforts of the French and Genoese; an irrefragable proof of the maritime consequence which the latter people had then reached to.

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gagement by sea in which any king of England had been personally engaged. It appears also to have been one of the most desperate, and the first *regular* action recorded in history. The English fleet, consisting of two hundred and sixty sail of ships of war, was commanded by king Edward the Third in person: the fleet of the French amounted to four hundred sail, of which one hundred and twenty were very large vessels. The action was long, desperate, and bloody. As a prelude to victory, the Great Christopher, formerly taken from the English, was retaken by them, and towards the evening many others. As night came on, several endeavoured to save themselves by flight. In one of which, (the James of Dieppe) taken by the earl of Huntingdon, after being engaged the whole night, four hundred persons were found killed *. Numbers of the French threw themselves into the sea, seeking refuge, in vain, from the swords of their enemies, and preferring to encounter a certain and instant death, rather than risk a casual one from the hands of the English. In fine, upwards of two hundred of their ships were taken, and thirty thousand of their men, with their admiral Bahuchet killed or drowned. De Keruel, their other admiral, was taken prisoner, and Edward the Third, as he was the first English monarch who had ever fought on an element new to English royalty, had the honour of obtaining a victory, than which none was ever more complete and decisive. It appears, that the naves rostrata, or gallies, became now disused, except in the Mediterranean.

1342 Edward the Third sent a fleet under lord Walter de Munny, to the assistance of John de Mountford, duke of Bretagne. He raised the siege of Hennebon, and took several ships from the French.

* A certain proof of its considerable size.

A second

A second squadron was afterwards fitted out under the command of Robert d'Artois, consisting of forty-five sail. He encountered a Spanish fleet off Guernsey, consisting of thirty-two sail, nine of them very large. A conflict, which ended in a drawn battle, took place between them, and Edward again put himself at the head of his fleet, but very soon after agreed to a truce.

1344 In this year, Edward declared war against France both by sea and land, and his commander, the earl of Derby, was very successful. In this year, the island of Madeira was discovered by one Machan, an Englishman.

1346 Edward invaded France with a fleet of one thousand, or twelve hundred ships, and landed at La Hogue.

1347 He besieged Calais, which was blockaded by sea by a fleet of seven hundred sail. The list of this fleet is given by Hachluyt, from a roll or list extant in the king's wardrobe; a copy of which roll is now preserved in the Cotton library.

The account of the force employed on this occasion, becomes the more interesting, from the circumstance not only of its affording the first specific information of the force and numbers of an English fleet, but because it contains very material internal evidence of the nature of the vessels employed, as well as their peculiar services. It stands also as an incontrovertible proof, that the use of gallies was totally abandoned, at least by the English.

The Sowth Flete.

[From an original MS. preserved in the Library belonging to the Dean and Chapter of Canterbury.]

The Kinge -	Shipps	xxv	London -	Shipps	xxv
	Marriners	iiii^{c}xix		Marriners	vi^{c}lxii

Aileforde

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Aileforde *	Shipps	ii	Wight	Shipps	viii §
	Marriners	xxiiii		Marriners	ii^{c}xx
Hoo	Shipps	ii	Winchelsey	Shipps	xxi
	Marriners	xxiiii		Marriners	v^{c}iiii^{xx}xvii
Maidstone	Shipps	ii	Waymouth	Shipps	xv
	Marriners	li		Marriners	ii^{c}lxiii
Hope	Shipps	ii	Lyme	Shipps	iiii
	Marriners	lix †		Marriners	lxii
Newhithe	Shipps	v	Seton	Shipps	ii
	Marriners	xlix		Marriners	xxv
Margate	Shipps	xx	Sydmouth	Shipps	iii
	Marriners	clx		Marriners	lxii
Motne, or Morne	Shipps	ii	Exmouth	Shipps	x
	Marriners	xxiii		Marriners	ciiii^{xx}xiii
Ffeversham	Shipps	ii ‡	Teymouth	Shipps	vii
	Marriners	liii		Marriners	cxx
Sandwich	Shipps	xxii	Dartmouth	Shipps	xxxi
	Marriners	v^{c}iiii		Marriners	vii^{c}lvii
Dover	Shipps	xvi	Portsmouth	Shipps	v
	Marriners	iii^{c}xxxvi		Marriners	iiii^{xx}xvi

* Now Aylesford, in the Roll copied from that in the Great Wardrobe, and published in the Archæologia, Vol. vi. It is called Milford. The names of the ports given next to it, prove the correctness of the present in preference to the former.

† The Wardrobe account says 39.

‡ In the Wardrobe account, Sandwich is omitted. The ships here said to belong to Sandwich are given to Feversham, and the ships of Feversham omitted.

§ Called in the Wardrobe list 18.

Plymouth.

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Plymouth -	Shipps xxvi Marriners vi^{c}iii	Newmouth	Shipps ii Marriners xviii
Loo - -	Shipps xx * Marriners iii^{c}xxv	Ham$\tilde{m}$loke	Shipps vii Marriners cxvi
Yalme - -	Shipps ii Marriners xlvii	Hoke - -	Shipps xi Marriners ii^{c}viii
Ffowey - -	Shipps xlvii Marriners vii^{c}lxx	Sowthampton	Shipps xxi Marriners v^{c}lxxvi
Bristoll - -	Shipps xxii Marriners vi^{c}viii	Leymington	Shipps ix Marriners clix
Teinmouth	Shipps ii Marriners xx	Poole - -	Shipps iiii Mariners iiii^{xx}xiiii
Hastings -	Shipps v Marriners iiii^{xx}xvi	Warham -	Shipps iii Marriners lix
Romney - -	Shipps iiii Marriners lxv	Swynsey -	Shipps i Marriners xxix
Rye - - -	Shipps ix Marriners clvi	Ilfercombe -	Shipps vi Marriners lxxix †
Hithe - -	Shipps vi Marriners cxxii	Patricksrow, or Padstow	Shipps ii Marriners xxvii
Shoram - -	Shipps xx Marriners iii^{c}xxix	Polereman -	Shipps i Marriners lx
Soford - -	Shipps v Marriners iiii^{xx}	Wadworth -	Shipps i Marriners xiiii

* In the Wardrobe account 15.

† Called in the Wardrobe MS, 96.

Caerdiff

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Caerdiff -	Shipps i Marriners li	Cayleths-worth - -	Shipps i Marriners vii *
Bridgewater	Shipps i Marriners xv	Mulbroke -	Shipps i Marriners vii *
Cermarden	Shipps i Marriners xvi	Some of the Sowthe flete	Shipps iiii^{c}iiii^{xx}iii Marriners ix^{m}vi^{c}xxx†

The North Flete.

Bamburgh	Shipps i Marriners ix	Woodhowse	Shipps i Marriners xii
Newcastele	Shipps xvii Marriners ^{m}iii^{c}xiii	Stolkhithe -	Shipps i Marriners x
Walerith -	Shipps i Marriners xii	Barton - -	Shipps iii Marriners xxx
Hertilpoole	Shipps v Marriners cxlv	Swyneflete	Shipps i Marriners xi
Hull - -	Shipps xvi Marriners iiii^{c}lxvi	Salteflete -	Shipps ii Marriners xlix
Yorcke - -	Shipps i Marriners ix	Grymesbye	Shipps xi Marriners clxxi
Ravenser -	Shipps i Marriners xxvii	Wayneflete	Shipps ii Marriners xlix

* Mariners called 12 in both instances in the Wardrobe.

† The addition of the total amount is extremely incorrect, as is generally the case in all old accounts of this kind. The amount should be

Shipps iv^{c}lxxii
Marriners ix^{m}iiii^{c}lxv

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Wrangle and Boston	Shipps	i	Brichlinsey, or Brichel	Shipps	v
	Marriners	viii		Marriners	lxi
Lynne	Shipps	xix	Colchester	Shipps	v
	Marriners	iii^{c}iiii^{xx}ii		Marriners	iiii^{xx}x
Blackeney	Shipps	ii	Whitbames	Shipps	i
	Marriners	xxxviii		Marriners	xvii
Scarborough	Shipps	i	Denven	Shipps	i
	Marriners	xix		Marriners	xv
Yarmouth	Shipps	xliii	Boston	Shipps	xvii
	Marriners	^{m}iiii^{xx}xv		Marriners	iii^{c}lxi
Donwich	Shipps	vi	Swinhomber	Shipps	i
	Marriners	cii		Marriners	xxxii
Orford	Shipps	iii	Malden	Shipps	ii
	Marriners	lxii		Marriners	xxxii
Gosford	Shipps	xiii	Barton	Shipps	v
	Marriners	iii^{c}iii		Marriners	lxi
Harwich	Shipps	xiii			
	Marriners	ii^{c}iiii^{xx}iii	Some of the North flete	Shipps	ii^{c}xvii
Ipswich	Shipps	xii		Marriners	iiii^{m}v^{c}xxi
	Marriners	ii^{c}xxxix			
Mersey	Shipps	i	Some of all the English flete	Shipps	vii^{c}
	Marriners	vi		Marriners	xiiii^{m}cli

Estrangers their Shipps and Marriners.

Bayon	Shipps	xv	Spayne	Shipps	vii
	Marriners	iiii^{c}xxxix		Marriners	ciiii^{xx}iiii

Ireland

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Ireland - -	Shipps i Marriners xxv	Gelderland	Shipps i Marriners xxiiii
Flanders -	Shipps xiiii Marriners cxxxiii	Some of all the Estrang. flete	Shipps xxxvii Marriners viii^{c}v

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To the foregoing list, which comprises the whole of an armament more extensive, in all probability, in respect to actual force, than had ever quitted the shores of Britain, even admitting the dark and intricate accounts given of the fleets of Arthur and Edgar, less repugnant to reason and belief than they are in general considered, it seems by no means impertinent, or improper, to add a correct account of the expence which attended it, far as related to the pay of the mariners and soldiers; for although some information irrelative to the present subject is interwoven with that which is more particularly interesting, yet it may be considered as more satisfactory, notwithstanding the objection just made, if given in a perfect, than it would be in an abridged state.

Rates of Wages of Warre by the Daye.

The Prince of Wales by the daye for his diet, xx^{s} - xx^{s}

A Duke for his diet by the daye, xiii^{s} iiii^{d}. If he bee of the blood royall, having in his company iii^{c} horse, for every man and horse by the daye, xii^{d} xv^{lb} - - xv^{lb} xiii^{s} iiii^{d}

A Duke not being of the blood royall for his diet by the daye, xiii^{s} iiii^{d}. And having in his company ii^{c} horse, for every man and horse by the daye, xii^{d} x^{lb} - x^{lb} xiii^{s} iiii^{d}

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An Earle being of the blood royall for his diet by the daye, xiii^{s} iiii^{d}. And having in his company ii^{c} horse, for every man and horse by the daye, xii^{d} - - x^{lb} xiii^{s} iiii^{d}

An Earle not being of the blood royall, for his diet by the daye, vi^{s} viii^{d}. And having in his company i^{c} horse, for every man and horse, xii^{d} v^{lb} - - v^{lb} vi^{s} viii^{d}

A Viscount for his diet by the daye, v^{s}. And having in his company i^{c} horse, for every man and horse by the daye, xii^{d} - - - - - - lv^{s}

A Baron for his diet by the daye, iiii^{s}. And having in his company xxx horse, for every man and horse by the daye, xii^{d} - - - - - - xxx^{s} iiii^{d}

A Knight for his diet by the daye, ii^{s}. And having in his company x horse, for every man and horse by the daye, xii^{d} - - - - - - xii^{s}

An Esquier for the body for his diet by the daye, ii^{s}. And having in his company x horse, for every man and horse by the daye, xii^{d} - - - - - xii^{s}

An Esquier for his diet by the daye, xviii^{d}. And having in his company vi horse, for every man and horse by the daye, xii^{d} - - - - - vii^{s} vi^{d}

A Gentleman for him and his servant by the daye, ii^{s} - ii^{s}

Archers on foote, every man for his diet by the daye - iii^{d}

A Mariner for his diet by the daye - - - - iii^{d}

A Welshman on foote for his diet by the daye - - ii^{d}

A Page for a shippe by the daye - - - i^{d} ob.

Archers on horse, vinteners * of footemen, standard bearers, surgeons and cryers, being Welshmen, every man by the daye - - - - - - iiii^{d}

* Vintiner—Vigintinarius—an officer commanding 20 men.

The

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The Names of the great Princes and Noblemen, Estrangers, holden in the Kinges Retinue and Paye, not being comprised in the Number aforesaid:——

The Emperour to him delivered in prest at dyvers times for his wages - - - - - -	viii^{m}ii^{c}xxvii^{lb}xii^{s}
To William Marches Pollyon for his wages and men	viii^{m}v^{c}lvii^{l}x^{s}
To Reynold duke of Gilder for his wages and his men	iiii^{m}v^{c}xii^{lb}
To John duke of Brabant for his wages and his men	vi^{c}
To the lord Ffrekemond for his wages and his men	iii^{m}viii^{c}lxiii^{l}viii^{s}iiii^{d}
To Charles Marches, brother to the bishop of Legins, (Liege) for his wages and his men - - -	iii^{cl}
To Bartelot, of Baspire Markes, of Bradeburgh, and other knights and esquiers, estrangers, for their wages - - - - - - - -	iii^{c}xli^{lb}xvi^{s}viii^{d}
To Baldwin, archbishop of Tryers, for his wages and his men - - - - - - -	vi^{c}vi^{lb}
To the archbishop of Magodonew, (Mentz) for his wages and his men - - - -	iiii^{c}l^{lb}
Somme of all the prest - - -	xxxi^{m}lxiiii^{l}v^{s}vi^{d}

The somme of the said expences as well of wages as prest as for the expences of the king's houses, and for other gifts and rewards, shipps, and other things necessary to the said parties of Ffraunce and Normandy, and before Calais, during the sige thereof, as appeareth in the account of William Norwell, keeper of the king's wardrobe,

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wardrobe, from the xxi day of Aprill, in the xviii year of the reigne of the said king, unto the xxiiii day of November, in the xxi year of the said king's reigne iii^{c}xxxvii^{li}ciiii^{l}ix^{s}iiii^{d}

With this expedition, the exertions of England in a maritime point of view might be said to have ceased for the space of an entire century. Civil contests between the rival houses of York and Lancaster quickly succeeded; so that except under the rule of Henry the Fifth, the national quietude was far too violently disturbed to admit of any relaxation from internal slaughter, sufficient for the purpose of directing the public fury against any other object than itself. The victor at Agincourt was indebted for his success to the hand of Providence, the absurd measures of his enemy, and the gallantry of that miserable remnant of soldiers which disease had left him. The terror which he had carried even into the heart of France, when his armies were in the most formidable state, by no means originated in the might of his fleet. Both the contending parties appeared actuated by the same opinion on this occasion. The navy of Henry was a mere collection of transports, destitute of any armed force specially equipped for the purpose of protecting them, that could deserve, in the most distorted sense of the word, the appellation of a fleet. The reason was obvious, and exactly similar to that which had contributed to the success of the expedition under William the Norman, whose vessels were of the same description. Philip of France had neglected to equip any armament capable of opposing the passage of his invaders.

With the defeat and death of the third Richard, who appears to have been destitute of a single ship calculated to prevent the free passage of his

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his rival and antagonist Henry, the bloody dispute, as is perfectly well known, closed at once. Internal peace, added to the prudent policy of Henry the Seventh, occasioned a revival of maritime pursuits. Commerce became considered one of the first supporters of the state, and the dreadful improvements which were rapidly made in the science of naval war, gave birth to that marine which, under succeeding monarchs, and in defiance of a variety of opposing difficulties, as will be hereafter found fully described, has attained its present power and consequence among nations.

The History of Marine Architecture becomes so intimately blended with that of the nautical pursuits and events which have taken place from the first origin of the art, that it would be extremely difficult, if not impossible, to separate them, without rendering the first at least obscure, if not unintelligible. The subject, taken in its full extent, might be carried through folios heaped on folios, till study would sicken at the task, and turn with apparent dismay from the mountain of labour, which would present itself to the human search. That great and ever to be revered character, Sir Walter Raleigh, had in meditation an undertaking of this kind, but it must be remarked, the task in his days, though not materially less difficult, would have proved considerably narrower than at the present time. By a Manuscript known to be his own, now preserved in the British Museum, it appears to have been his opinion, that maritime history should be divided into the following heads, or classes :——

COTTON

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COTTON MSS. Fitus, B. 8. p. 219.

Heads of an intended Publication in Sir Walter Raleigh's Hand Writing.

The Fare.

Cap. 1. The antiquities of sea-fight. Their weapons of elder times.

Cap. 2. The great fleets used in those days.

Cap. 3. That those princes and states used many commanders at once in their sea warrs.

Cap. 4. The office of an admiral, or sea general, the antiquity, and when brought into form.

Cap. 5. The law of the sea, ancient and modern.

Cap. 6. The art of warr by sea.

Cap. 7. The building and victualling of ships.

Cap. 8. What fashion ships, and of what burthen are fittest for the warr. What ordnance, and how many for each ship.

Cap. 9. The considerations of the times of the year in invasions by sea, divers in divers countries.

Cap. 10. The reason of the victories of the English upon the Spaniards, both by sea, and in the Indies.

That it is not the great trade which the Hollanders have, that makes them so powerfull at sea.

Cap. 11. That the English, who might have mastered the world by sea, have lost that advantage, by the negligence, ignorance, and covetousness of private persons.

That the English may in a short time recover this power.

Cap. 12. That the Portugueze may be beaten easily out of the East, and the Spaniards out of the West, with no great charge.

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Fig. 1.

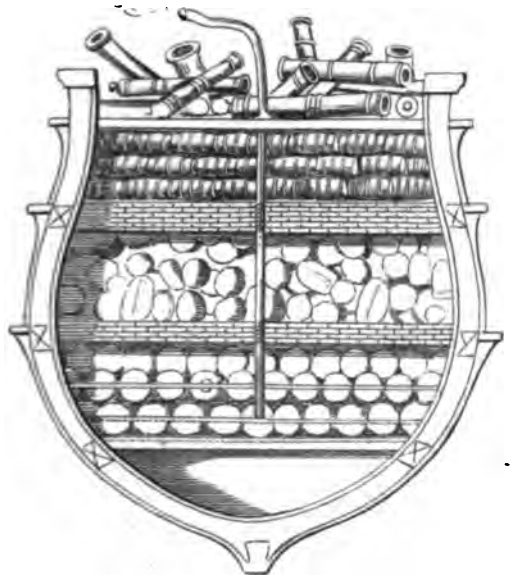


Fig 3.

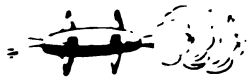
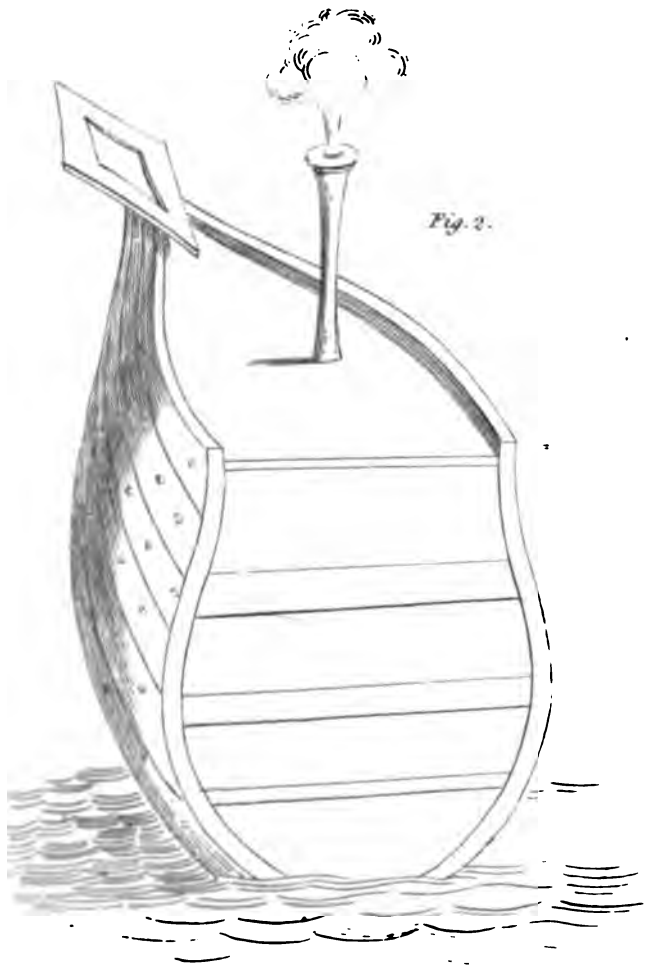


Fig. 2.



Published by J. Sewell, Cornhill.

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Cap. 13. The advantage which the Christians have over the Turks in the Mediterranean sea.

That the Christians are equal to the Turks in land-forces, that they have the advantages of arms, and infinitely exceed them, in their forces by sea.

The little force of gallies, and how to be resisted.

Cap. 14. That all petty attempts are more profitable to the invaded, than to the invader.

Cap. 15. That the wisdom of all princes and states is best determined in their enterprizes.

That all art, and industry of particular persons, is but vain, where God bereaves the magistrate of understanding.

Among the various difficulties which present themselves in the developement of the progress of Marine Architecture, there is, perhaps, no one more formidable than the establishment of the authenticity and propriety of those documents which undeniably form the basis of all history. Repeated controversy tending very little to illustrate the subject, with a too blind partiality to authorities which prejudice has, perhaps, hastily considered correct, have rendered the accounts of the earlier ages of the science rather more obscure than they found them. History has, beyond dispute, in many instances misrepresented the state of the science at particular periods, and sculpture has afforded its benevolent aid, on some occasions, to render it ridiculous. To prove the existence of this fact, far as relates to ages far remote, it will be only necessary to refer to circumstances which have taken place almost within human memory. St. Remi, a writer acknowleged of the first rank in his class, has given what he terms a section of the infernal, a species of fire-vessel attempted to be used by the English

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in the destruction of the town of St. Maloes. To this the late ingenious captain Grose, in his history of ancient armour and weapons, has subjoined one of nearly the same description, constructed by the French on the occasion of their meditated attack on Algiers in the year 1688. The copies of these representations are subjoined, and will be best explained by the following description, given nearly in the words of Mr. Grose himself:—

Infernals were floating mines constructed in the bodies of ships or boats. The first inventor of them, or at least the first who put them in practice, was Frederic Jambelli, an Italian engineer at the siege of Antwerp by the Spaniards, under Alexander, prince of Parma, in the year 1585. A very particular and interesting relation of their wonderful effects, is given by Strada in his history of the Belgic war.

The great destruction made by these, caused several others to be tried, but none of them by any means succeeded: at Dunkirk and St. Maloes they were tried by the English; at Havre de Grace by the English and Dutch, under king William; and one (Fig. 2) was constructed by the French to be used against Algiers in 1688, but was not made use of.

In St. Remi's memoirs of artillery, there is a section and view of the Infernal used by the Dutch and English at St. Maloes, which is copied in this work; with it, is the following description: Fig. 1, is a section or profile of the machine. The bottom of the vessel was filled with sand, and the lower deck with twenty thousand pounds of powder, having a covering of masonry a foot thick. The second deck was furnished with six hundred bombs and carcasses, having two feet of masonry over them. The third deck above the gailliard, supported fifty barrels hooped with iron, filled with all sorts of fireworks; a canal or tube being provided for conducting the fire to the powder, and to the priming. The adjoined Figure represents iron instruments, fifty in number, filled with fireworks, whereby they would, if they fell on wood, stick fast to it. The machine or vessel was thirty-four feet in length, eighteen in height, and drew nine feet water; the

upper

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upper deck was covered with old iron cannon and langridge. It broke a great number of windows, and uncovered many houses, without any other effect: one part of the vessel did not blow up, by what remained, its construction was known.

A mere cursory inspection will be sufficient to convince the understanding, that vessels, so contrived, never could have existed; yet it were much to be doubted, unless the human mind should become very materially altered from its present state, whether when the venerable ærugo of antiquity shall have mellowed and softened the sturdy opposition of common sense, these representations, transmitted to posterity, might not be entitled to at least equal credit with the boasted authority of the Trajan pillar, faithfully transmitted as the most undeniable evidence by Schæffer, Bafius, and other antiquaries of the first character, in respect to shrewdness, diligence, and fidelity of representation.

In fact, all elucidation of the science and practice of the ancients must depend on the evidence arising from the varied representations of the same fact. No points determinately given by one person deserve to be received as authentic, unless they stand collaterally strengthened rather by circumstances, than what is called the positive proof of direct assertion. The reason of this seeming paradox has been already given, and will be sufficiently traceable in every page of history. It is extremely easy, for instance, to detail a long account of a vessel having forty banks, or tiers of oars, and it were no more difficult, on paper, to extend that forty, to four hundred. The first rates in modern use, if the bare assertion in history is to be credited, and stand as an incontrovertible proof, were, at times, far exceeded by those of the ancients, when the science of Marine Architecture was certainly in a much less improved state than it is at present. It undoubtedly is, to repeat the same words, extremely easy to give such a detail, but the authenticity and propriety of it, can by no means be so readily established. Doubt gives birth to the noble task of controversy, and dispute, while the latter, on their part, disdaining to have recourse to such

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mild methods as might in some degree contribute to elucidate the point, give way to passion, and in the heat of argument, the point actually in question appears totally forgotten. Somewhat of this description has been the subject of cavil even in times the most recent.

In order to place the dispute between the architectural critic, relative to the form and contour of shipping built in the reign of Henry the Eighth, it will be necessary to consider the annexed Plate with some attention: it has been copied with all possible attention to similitude, and certainly comes as near to the rude and faded original, as the difference in representation between tapestry and engraving will probably admit. It is one of the ships given in the hangings of the British House of Lords, as belonging to the fleet under the orders of lord Charles Howard. Opposite page 65, will be found a second, also taken, and with the same degree of precision, from the same individual authority. It were almost an insult to human understanding, to ask whether they bear any resemblance to each other; but they are both given by the same authority, as representations of ships existing at the same time, and the affinity which that immediately present bears to that in the drawing belonging to the Pepysian collection, inserted page 32 *, is equally strong with that which the Plate, page 65, bears to the supposed representation of the Great Harry, said by Allen (on what grounds is not satisfactorily determined) to have been copied from a picture painted by Hans Holbein. From these facts the disputants are at liberty to draw their own conclusions, and the unprejudiced mind can feel little difficulty in deciding what it conceives to be the truth, in the reconciliation of the seeming incongruity, and the easy developement of this knotty, this, hitherto, obscure mystery.

* From hence, it may be reasonably inferred, that the drawing in question is a representation, though rather uncouth, and certainly impossible to have been *faithfully* designed, of some ship then belonging to the British navy, and that the portrait said to have been painted by Holbein is of the same description; so that according to the fable, contending critics may both be right, and both be wrong.

The

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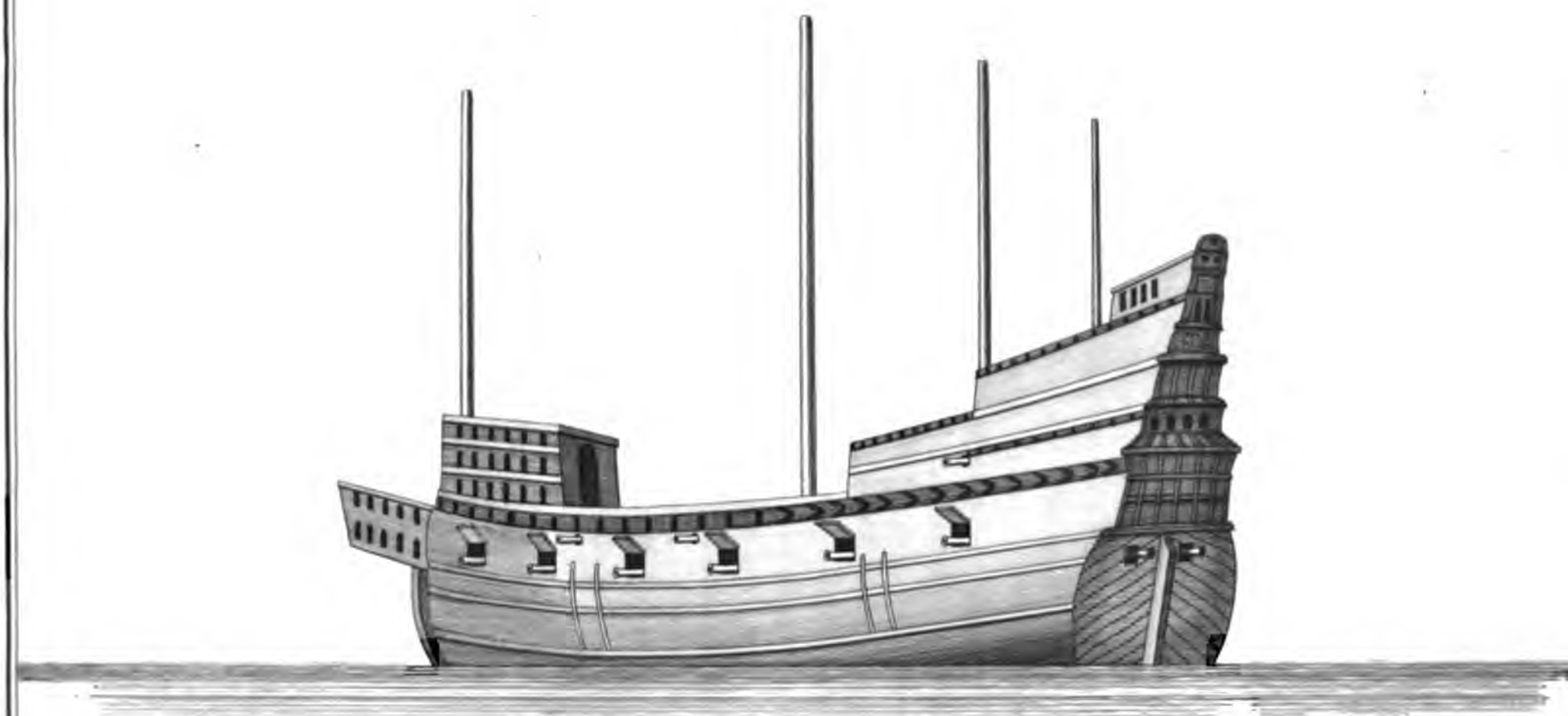

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The case of the Sovereign of the Seas, page 265, is somewhat of the same description, though not strictly parallel, and the less distant period in which it existed, has rendered the explanation considerably easier. But supposing that some centuries hence the pictures of Vandevelde should become completely annihilated, or that such had proved their fate, even at the present moment, could any critic or historian be sceptic enough to dare cherish a doubt, that the authority of master Heywood, an artist not only living at the time the vessel was launched, but one of the identical persons who by his ingenuity and fancy contributed to decorate it, was incontrovertible; yet it is very evident, that however equal he might be to one task, he was miserably deficient in the other. The errors and defects both in the Pepysian drawing, and Mr. Heywood's, are exactly in the same line, and they are on a par with each other. The exaggerated number of guns, extended beyond all bounds of history, or belief, and that uncouthness of the form, which is apparent, might almost serve to persuade the beholder, that they were at least the works of pupils studying in the same school, if not of the same individual person. The pictures, on the other hand, or rather the copies from them, carry with them such sufficient internal evidence of their greater truth and authenticity, that it becomes totally needless to add any thing farther on this point.

These cursory observations cannot perhaps be more satisfactorily continued, than by the annexed curious papers, which speak sufficiently for themselves to render all comment unnecessary.

A Discourse touching the past and present State off the Navy, composed by that ingenious Gentleman, Sir Robert Slingsby, Knight and Barronet, Comptroller thereof.

The scituation of this kingdome being soe much more commodious or shiping than any other in this part of the world, and the inhabitants not inferiour to any other nation in spirit and industery, and being soe circled

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by the sea, that there was noe other way to make themselves considerable to their neighbour nations than by shiping, it is noe wonder that our ancient kings for soe many ages have maintained an absolute soverainity in the narrow seas. Yet wee doe not find they employed any but their subjects ships, which though built for trade, upon occasion were made use of for publicq expeditions, till of latter ages, (when other nations endeavouring to be competitors with them) our kings built some ships of their own as a standing arsenall, to be ready on all occasions, and accordingly settled some standing officers, (the regiment of them.) The most ancient establishment whereof (that I can find) was in the reigne of Henry the Eighth, wherein the officers that were under the lord high admirall were the vice admirall of England, the master of the ordinance, treasurer, comptroller, surveyor, and clark of the accounts, called principall officers of the navy; the surveyor generall of the victualls, storekeepers two clarkes of the checq for the severall yards of Deptford and Woolwich, (there being then noe more) the storekeeper of Woolwich being but a substitute to him at Deptford, (though since a distinct office.) The master attendant, the master shipwrite, and boatswaine of the yards, &c. as the navy increased, soe some new officers were erected. The clarke of the rope yard, formerly a branch of the clark of the checq's duty, were made distinct places, with many other petty officers, according to the new occasions; but as it increased in some, soe it was abridged in others: the master of the ordinance of the navy being discontinued, and his office contracted into the generall office of the ordinance. These two great officers of the admiralty, I doe not find, have (of a long time past) satt or acted with the rest of the principall officers of the navy, the occasion whereof, and the conveniencyes or inconveniencyes which have been, or may be, by their discontinuance or restoration, (before I proceed further in this discourse) may be worthy your consideration.

The principall officers, besides their distinct dutyes in their original constitution, appeared to have been as a counsell to the lord high admlrall in his

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his government of the affaires of the navy, the vice admirall a president of that councell under him; but that office was a long time vacant in the beginning of the reigne of king James, till Sir Robert Mansell, formerly treasurer of the navy, was enforced to resigne his place of treasurer to Sir William Russell, as a person most sutably qualyfied to the rest of those that were then employed in the (then) new projected modell of government of the navy, and the office of vice admirall conferred upon him meerly as an honorarium, without charge or employment, (saving in one voyage to Algiers) both his person and officer being otherwise thought very unconsistant with the project, &c. when it was sett aside, and the ancient modell restored, he being very old, and in noe very great favour, contented himself with being nominally vice admirall, though I have heard say he would come and reassume the duty of his place, and sett in councell with the rest of the principall officers, yett he never after did. (The defect whereof it is very likely) was the occasion why (soon after) there were two commissioners added to the principall officers, as may be presumed it was thought the business of that office was not fitt to be intrusted with soe few persons, without some others to supervise them, whether more properly by commissioners, who having noe distinct charge or trust, and therefore seemed to be something less than the officers, and soe if any abuse appeare to them, dare not with the same authority openly correct or reprehend it as a person whose superior quality and place might doe, but rather by private information, (which frequently happens to be aggravated) extenuated or formed according to the humour of the informer, that is considerable; nor can it be any under valuation to his lordship, that the now vice admirall should desend, sit and joine with the rest of the principall officers, since the former lord high admirall (namely, the duke of Buckingham sometimes, and the earle of Nottingham very often) did soe; besides that, there would be a farther conveniency that his lordship (when there shall be occasion for sending any great fleets to sea, wherein he is personally to be employed) may better foresee what preparation and

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provisions and necessary, soe that there need be noe defects, or other demands, which often happens to the great prejudice of designes, which are not, or perhaps may not be, fitt to be communicated to all the rest of the principall officers.

The last master of the ordinance of the navy, distinguished from the master of the ordinance by land, was Sir William Winter, after whose death it was thought fitt to unite that place in the same person with the mastership of the ordinance by land, whereby the navy office, and the office of the ordinance, have since become soe perfectly distinct, that there have many inconveniences happened by it in all great expeditions. Their orders for preparations being distinct, and the councell apart, it always happened that one of them stayed for the other, which occasioned both great expence of time and money, besides many differences in judgment between the two officers, and interlocutory messages and letters between them occasioned still greater retardation. At the returnes of the fleets, the officers of the ordinance having still need of the assistance of the mariners, or ship keepers, for takeing out and disposing of their ordnance, carriages, and ammunition, they being subordinate only to the officers of the navy, will not move without their orders, whereby there often happen differences and complaint between the subordinate officers of both offices. To remedy which it hath been proposed to disjoin the officers of both offices of the ordinance by sea and land, and to unite the office of the ordinance by sea to the generall office of the navy. But the masters of the ordinance of England having been, ever since, of great quality, and interest would never suffen such a collop to be cutt out of their employment. I can find noe trace in the navy of any subordinate officers to the masters of the ordinance, and therefore presume, that, though they were two distinct masters of the ordinance, one for the land service, and the other for the navy, yet the office of the ordinance, and all the subordinate officers, were the same as they now are, nor was it inconsistent for them to act by distinct warrants from distinct masters, each in their

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severall places, nor can it reasonably be imagined, that the uniting of these two offices were intended as the extinguishment of one, but rather the annihilation of the duty of two offices in one person, and if soe, then certainly he continues an officer of admiralty and navy still, and ought to performe the duty of both, and doubtless if he should re-assume his place of session with the rest of the principall officers, as his predecessors did, (which was next to the vice-admirall) the inconveniences above mentioned would be avoided, and a single warrant from the lord high admirall for the setting out any ships, would serve, which now are multiplyed. But certainly since the two principall officers of the navy have discontinued their session in the office, it hath been (more than any other) subjects for question, inquisition, or accusations. Many pragmatick discoveryes of abuse and difficiences, wherein tho' there were often much reason, yet the designe centered in themselves, thereby to create to themselves imployment; nor was it unreasonable in some measure to encourage such men, since it was not possible to constitute such a modell of regiment of the navy, but by the increase of it, or experience of the success. Some necessary alterations or additions must be made, but a totall subversion and alteration into a modell, how exquisite soever, (in the most cunning man's contemplation) must needs be dangerous in the execution, as it happened in the 15 yeare of king James. The earle of Nottingham, then lord high admirall, being very old, and the then earle (afterwards) duke of Buckingham, ambitious of that high command, to gratifie that young favorite, Sir Foulke Grevelle, afterwards lord Brooke, Sir John Cooke, afterwards secretary of state, (the one having been formerly treasurer of the navy, and the other his paymaster) projected to doe great service to the king by introducing a new modell of the office of the navy, under the new admirall.

The inconveniences they proposed of the former modell, tho' many, may be reduced into these two. The lord high admirall had claimed and enjoyed, as his due, the cast ships, (as the master of the horse, and other

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great officers, doe in their severall places the cast provisions under their charge) and the subordinate officers of the navy as perquisites due to their places, all other decayed and unserviceable stores which they either did or might reasonably be suspected (they pretended) were unserviceable before they were soe, the principall officers being usually gentlemen, tho' before ancient sea captains, tho' they might be experienced in sea affairs, yet were not well versed in matters of provisions, or husbanding the stores, (more proper for merchants) whereby the king paid excessive rates both for provisions and manufactures, and paid excessive rates more than the merchants did, by the precident of accounts of the East India Company att Blackwall, that company then having a number of ships not much inferior to the royall navy.

In pursuance of which project, the principall officers were suspended, and a commission granted to severall of the most eminent merchants, with considerable salliryes, for the government of the navy, the event of which was, the distinct dutyes of the former offices, (the treasurer only excepted) were promiscusly referred to the execution of one man (Mr. Burrell) under the notion of husband for the navy, a person certainly of incomparable abilityes, but an employment of too great trust for any single person to be without checq or comptroll. The commissioners referring all to their generall meetings, where the representations of all things was from him, and the concurrance, for forme only, excepted in great contracts, wherein allways some of them, or their partners, were concerned, an inconvenience inevitable, if any intrusted to make bargans for the king, should drive a trade either by himselfe, or others, for the same commodityes; as for instance, Sir William Russell, formerly a Muscovia merchant, and then treasurer of the navy, there being then want of cordage, and pretence of greater want of money to buy it, obtruded upon the king a bargan of cordage pretended alderman Freeman's, of the value of 15,000l. for which the king should have credit, and lands to be assigned in lieu of it, which are since valued at 30,000l. It is true that cordage may be said to be the most

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most lasting of any that ever came into the king's stores, for there was never above one cable of that provision sent to sea in one ship att a time, and that only wett for forme in faire weather, (not daring to trust a ship upon any stress with soe false a friend) and soe returned into stores for junk, being indeed good for nothing else at first. By this meanes, the navy was in effect taken to farm by the merchants, and the remaining old sea captains, being most of them gentlemen, (not soe suitable to the then commissions) were sett aside, and in all things requisite to be advised on concerning the sea, the Trinity House was only consulted, and the master of it introduced in most eminent commands, as persons most knowing, att least, of whom the commissioners had best experiance, and most conversation with, in their former merchantile affaires. The great conducing end of this project was, att the first, the saving of charge, which was att that time very acceptable, there being then little or noe employment for the navy, but only to preserve it; yet if the accounts of these years be compared with the former, (considering the numerous salliryes) the charge will appear to be very much increased: besides the workes that by them were projected to be done by contract, did appear afterwards to be soe superficially performed, that when the warr happened in the beginning of the reigne of his late Majesty, the defects of the ships, and the confusion that then grew in the navy, with the tardy and disorderly supplyes, was imputed to be the occasion of the ill success of some of their great expeditions. Whereupon a commission was granted under the great seal to the lord high admirall, divers of the privy councell, and some others, to enquire into the defects and disorders of the navy, about the causes of the same, and the remidyes thereoff. The commissioners mett but twice in the starr chamber, where, after many informations and examinations, it was dissolved, without any appearing result or returne of it, which was proposed to preserve the projectors of that new modell, and their instruments from obliq or punishment. But the former commission was soon after dissolved, and the navy reduced to its ancient method of particular officers, that

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hereby each might be answerable for the defects in his particular duty; yet two commissioners, Sir Kenelmne Digby, and capt. Ph. Pett, were soone after added as assistants to them, without particular charge, but only to joyne with them in consultation, and (as may be presumed) inspect how faithfully each of them did perform his particular duty. But by the ten years discontinuance of the ancient method, during the confusion and disorder in the navy, which then prevailed in the business of that office, it could not easily or suddenly be reduced into the ancient channell till the office of high admirall was conferred on the earle of Northumberland, who takeing much pains in the regulation of it, and inquiring into the ancient duty of each office, published by way of instruction to the principall officers in generall, and to every office in particular, their joint and severall dutyes, which tho' as to this discourse is most pertinent to be here incerted, yet least it might make this too prolix, I choose rather to refer to it as a tract by itselfe. Whether these instructions were exactly performed by the particular officers, I think not fit (soe long after) to examine; but it was very probable, that that exactness, which by these instructions were required, was not afterwards punctually observed, the reasons whereof were—

There was then an house called the office, but of soe small receipt, that there was seldome more than one, and never but two officers residing in it, which occasioned that each officer kept his booke att his own residence, where not being allways ready for inspection of the rest, they were more superficially kept, nor indeed was it possible they could be, exactly, by soe few clarkes, and that with soe small salleryes as they then kept, or were allowed: as for instance, it was required of the comptroller to keep exact counter bookes, which the treasurer with the victualler, and likewise such account of reyceipts, issues, and expences of stores, as to be able to charge the severall storekeepers to take frequent musters, thereby to checq the clarke of the checqs. How they could possibly be performed, exactly performed, by two clarkes, when every one of these other officers with whome

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whome they are to keepe counter bookes, imploy many, it is obvious, and therefore, not without much reason, some have lately projected some new erected places, which tho' intentionally to gaine themselves imployment, yett in respect of the service proposed to be done to the king, each of them deserve a particular consideration. One proposed an office of checq upon the victualler, in respect as it alledged the former principall officer in takeing the victuallers accounts, did only take in such warrants as they had before given, and (upon the purser's receipt) allow them upon account; whereas it being possible to keepe the compliment of any ships company soe compleated, but that between the discharge of some, and the entry of others, there must be often some vacancyes, and sometimes very many, whose victualls ought to be saved to the king, and charged as remaine upon the victualler or pursers advantage. If it had been soe, the person certainly deserves thankes, but whether it be fit to erect a new officer, or to reforme the old, is worthy of farther consideration.

A second project is to keepe a checq upon the clarke of the checq, who indeed have a very great trust, and may be conniving with the pursers to defraud the king of very considerable sumes in the year. This office, if such a one should be established, would be in the nature of a muster master generall, which, whether it were more advantageous than the former rules prescribed, if well observed, is worth consideration. Were the principall officers engaged to employ some of their clarkes to muster the severall yards and ships in petty warrant victualling, and tho' it may be thought a muster master (whose particular office it were) would be more exact, yet the inconveniencies would be these, if his place were generall through the yards, his checq could not be perfect, and if there should be distinct ones in each yard, with such salliryes as might encourage them to be faithfull in their charge, it is questionable whether the augmentation of charge by soe many salliryes would not exceed the advantage which would be made by their service, especially when they shall once come to be known and tempted. Whereas, by frequent musters,

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according to the ancient rules, the person imployed in it, and the time not foreknown or expected, it is almost impossible there should be any eorruption.

A third project is for more exact auditing accounts of stores, which is most true have been very superficially kept, and the reasons were, most of those provisions are bulkey commodities, and soe not easily embezelled, without a joint concurrance of all the officers in the yard; besides that, by a transmutation of them, (as for instance, hemp and tarr delivered to the clark of the rope yard returned againe in cables and coiles, those issued againe by fathoms, and returned back as worne or decayed, the like of canvas for sailes, and many others) the accounts became so intricate, that tho' as to inspection or direction for the expence and saveing of the stores was properly the surveyor's duty, the abridgment whereof to be transferred to the comptroller for the stateing of accounts, yet the surveyor heretofore haveing but two clarkes, one whereof constantly attended att the office, it was very difficult (if not impossible) for the other to performe that duty soe exactly throughout all the yards as might be reasonably required, as was the case under the late usurped power. Though the regiment of the navy, by particular officers, seemed then unsuteable to the forme of a commonwealth government in this state, and all publicq business was reduced to a committie, soe likewise was the navy to commissioners, yet to avoid confusion they appointed distinct clarkes for distinct duties, and soe did place in each yard a clarke of the survey, with competant stipend to each of them, which are yet continued, and I suppose soe necessary, that they cannot be easily discontinued. But it seems their part is, not that, which this projection comes att, as an employment to himselfe, since he doth not propose a residence in a particular yard, but residing in London, to audit the severall storekeepers accounts, which amounts to noe more than hitherto hath been observed of that part of the comptroller's duty, and certainly may deserve much thanks and incouragement. So tho' there may be many other abuses and inconvenienceys in

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in the navy, yet doubtless they may all be summed up in one of these three heads, to which those projections stands.

Although it be very probable, that the abuses in all these may proceed from the deficiency in the principall officers in the due execution of their places, yett whether it be more convenient to ease them of soe much of their duty, or to rectifie them in the execution of it, is worthy consideration, tho' the difference will be noe more than this.

It is not possible for the principall officers to performe their duties according to their instructions, without the assistance of soe many pens as will be necessary for them, nor such pens to be procured, without such reasonable encouragement as every merchant allowes to his book-keeper; soe that in effect, tho' the substance of all these three projects must be acknowledged very reasonable and necessary, the only question will be, whether they be made distinct places, or as substitutes, or as clarkes to the principall officers. Nor is it very materiall only with this, as if distinct officers or clarkes imposed upon the principall officers, (which I suppose none of them will scruple readily to submit too) then the principall officer not to be responsable each of them for their severall clarkes misdemeanours, but only to inspect and correct them. But if their imediate clarkes were of their own election, then the principall officer to be responsable for their severall clarkes. In order therefore for the regulateing of that office, which by the frequent vicissitudes of formes is still in great confusion, whereby neither are accounts exactly kept, nor sufficent order taken for the rectifying of known abuses, or preventing the like for the future, it is therefore humbly proposed,

That his Royal Highness would vouchsafe, according to the precedents of his predecessors, the lord high admiralls of England, to regulate the navy by his princely instructions, to be preserved in the office in a booke fairly written, as a direction for every officer to walke by, in the execution of the duty of his place, wherein (if his Highness thinkes soe fitt) I conceive the ancient modell is most safe with such other superscriptures

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(only addition or alteration) as have been experienced, were heretofore different, and might not alter the frame, of which sort these subsequent proposalls were humbly submitted to his princely consideration. The earle of Northumberland (takeing notice in his time of the inconveniences that happened by the remote habitations of one officer to another, that dispatches from him to them were retarded in their execution, besides other inconveniences to the subjects in the business they had to sollicite in that office) in one of his instructions, did therefore require them to live as neare together as conveniently they might, yet the house, then called the office, being of soe small receipt, tho' the officers did in observance to that instruction recide as neere as they could find commodious habitations, the inconveniences were not quite taken away in the tardiness of dispatches, but especially in the exact keeping of bookes, it was therefore most prudently considered by the former lord high admirall, that all such officers of every yard (whose constant attendance was requisite) should have some commodious habitation within the yard, thereby to take away all excuses for their neglect or absence. The principall officers (their business being then but little comparatively to what it is now) were loath to confine themselves to that strictness, and therefore (tho' there was always an office) it amounted to noe more than an house of meeting, the now navy office being his Majesty's house, purchased by the late usurper, being but a part of an house: the other part in other hands, which being either purchased or rented, and soe united, would be capacious enough to leave the principall officers, and present commissioners, likewise without excuse for their dayly attendance, and their due keeping their bookes in good order and method. Although the addition of charge in remitting of that house may be thought inconvenient, yet the consequence of it would abundantly recompence it, or at least each officer or commissioners might, out of their stipend, defaulke or allow proportionable to it. Each officer might appoint one roome or office within the generall office, where the clarkes under him may continually attend for the keeping their bookes exactly,

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exactly, which are now confusedly together, and that each office may att all seasonable hours be open to all others, the officers, and commissioners, their clarkes, and all others concerned for inspection. That upon the examination of the quality and quantity of each officer's particular duty, he may be appointed by his Royal Highness such a number of clarkes as may be proportionable to the duty required of that officer. That the commissioners (tho' of late introduction, as coadjutors to the principall officers, without any particular distinct charges, whilst his Majesty and his Royal Highness shall think fitt to continue them) may not be insignificant, but may give their attendance at meetings to advise with and assist the principall officers in all their consultations, and jointly and severally to inspect every one of the officers in the due execution of their places, and to that end each of them by their pattents being allowed two clarkes, they may appoint one of their clarkes to attend each severall distinct office, as assistants to the officers clarkes, to inspect the due performance of their duty.

That monthly and oftener (if there be occasion) the principall officers and commissioners may appoint two of their clarkes to take muster of all the yards and ships in ordinary and petty warrant, to enquire into all abuses, and to make their returns to the principall officers and commissioners, the same clarke not to be employed twice together, nor any certaine day prefixt, and the principall officers to make report of such abuses to the lord high admirall as there shall be occasion. But that such regulation may take the better effect, the causes of the present confusion in the offices, and the remidys, are worthy of consideration.

The great cause of all, is the great error of pay still due to the seamen on board severall ships now in harbour, and some of them in dry dock, which being a constant growing charge, the victualling only of these men do soe exhaust the treasury, soe that the officers are forced to wink att, or dispence with severall disorders, which for want of money to supply the ordinary expence of the navy, are inevitable; amongst which, it is not the

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least, that the principall officers are forced to employ the purveyor for the buying of small provisions, especially of timber and planke, as there are demands made of them from the severall yards to keepe their men at worke, which are bought att the second hand, and at exorbitant prices.

The ancient custome of the offices of the navy as to the treasurer is, every year the principall officers did make up an estimate of the ordinary charge of the navy for the year ensueing, how much of that money was to be paid to the treasurer, how much to the victualler, and att what severall times of that generall estimate it would be necessary, and in like manner upon every warrant for extraordinary service, estimates were drawn up and presented unto the lord high admirall, and by him signed and transferred to the lord treasurer, whereby money might be provided in seasonable time, (the defect doth often multiply the expence in this office more than any other) by which meanes, the principall officers knowing the state of the treasury, could best order the emption, and preserve the creditt of the office. The treasurer every quarter used to present his ledger bookes, which being first examined with the vouchers and comptrollers counter bookes, were signed by all the rest of the officers, and then transferred to the auditor. This method, during the time of the late usurped power, hath been soe altered under their commission, that there appears noe preceeding estimate in their confused booke remaining in the office, nor any charge appearing upon the treasurers, save only for such old decayed provisions as have not long since been sold, nor any account passed with the auditor.

I doe not conclude it necessary to ravile into the accounts allready passed, (tho' not regularly) yet wherein the subsequent accounts, and they may interfere, it is necessary to consider how far they should be revived. It hath lately been required of this office by the late parliament, to give an account of the debts of the navy, which have been returned, and by his Majesty's gracious permission, left to the parliament to consider the discharging of them; yett whereas there have been old provi-

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sions sold to some persons for money payable to the treasurer, the same person's bills for other provisions delivered by them, may have been transferred to the treasurer in lieu of payment, and yett by him or others presented to the principall officers, and demanded amongst the debts.

Whether the auditor could charge the treasurer with his receipts at all further than he would charge himselfe with the price of the old provisions, appears a matter of dqubt, unless he should voluntaryly charge himselfe, soe as many of these debts may be doubly charged upon the publicq. There hath been usually 12d. a month out of every man's wages defaulked in the treasurer's hands, whereof 2d. per mensem is payable to the chyrurgeons, 4d. to the chaplins, and 6d. to the chest, which defaulcation hath not been usually mentioned in the treasurer's account by the full wages charged.

It is not likely the chyrurgeons would release their 2d. without some clamours, which wee hear nothing of, nor the chaplins their groats, whose places, if they were vacant, the groat were due to the king, but it is not likely there were any vacant, since there were soe many guifted men, (which could not want) to take upon them that employment, of the 6d. only due to the chest for the support of maimed seamen, there appeares to have been for many years past 10,000l. paid to those that then assumed the government of it, and have not yett (tho' often required) given any account, tho' the poor maimed persons are many years in arrears for their pensions. The treasurer alledgeing he had orders from the former powers to pay the neat wages only, a thing very improbable, since the defaulcation must as well touch the chyrurgeons and chaplins as the chest, soe there is noe meanes for the governors of the chest to audit their accounts, or relieve their pensioners, without inspection of the preceding treasurer's accounts, whereby they may fully charge him with the debts due to them, a worke wherein I am the more zealous, since they happened during the short (but sharp) warrs with the Hollanders. The then usurped power pretending great care of them that should be wounded or maimed in the service, made certaine commissioners to provide for them, (who besides the pro-

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visions heretofore established by the acts of former parliaments out of the severall counties for such occasions) received by way of imprest from the office of the chest, (who notwithstanding there was a revenue of lands purchased to it by the former, and the accesse of accruing expences) which during those great fleets must needs amount to a very great sume, assumeing soe many pensions; they are yet indebted to them about 10,000l. yet those commissioners presented to the now principall officers a scedule of debts for the reliefe of those maimed persons, amounting to 3000l. which was accordingly presented to the parliament, and the maimed persons, their nurses and guardians, still clamouring and pretending further debts for their reliefe, and yett there is noe account passed by these commissioners, but a debt required. In the victualling office there hath been noe account passed these five years last past, and yett was impressed to major Aldern above 200,000l. who being since dead, his executors and administrators pretend noe assets after his death. The victuall office was settled in a strange method, the same persons that were commissioners for the navy, were likewise by a distinct commission for the victualling, as it is said in their commission itselfe, by which they acted not to be subject to account, but had other inferiour officers in the victualling office, one whereof was the chashire, another the purveyor, or disposer of the victualls, and a third auditor or accomptant. Wee find imprest to that chashire out of his office above 400,000l. besides that, there may be more which cannot be charged by reason that the commissioner sometimes setting att the navy office, and sometimes att the victualling office, might charge the treasurer with further imprest than doth appear here. The great clamour that lyes upon this office from almost all the pursers of the navy, besides many other, for debts due upon the victualling, is not possible to be remedied, or they reasonably to be relieved, till the generall account be stated, that it may appear whether they be creditors to the publicq, or to the victualler. Nor is it possible duly to charge the present victualler, till upon stating the former accounts it may appear what remains in victualls, casks, or other provisions,

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provisions, which are left to him att his entry, either on board ships, or in the stores of the severall ports. There have been some other victuallers accounts (distinct from these) in the remoter parts, and many other employed either without check or comptroll, who have had very great sumes impressed, some of which have made very extravagant accounts, and some none.

The office being once regulated in forme and method, the principall consideration that is to be had, that the seasonable provision of what moneys shall be necessary to prevent such inconveniences as are now obvious to all men, and altho' it hath been heretofore the usual proportion limited to the stores, to be replenished with all sorts as might serve twelve months in harbour, and six, in all the ships att sea, yet in respect some of those provisions are not att all times to be had, and especially timber and plank, the first owners of which doe seldome cut it downe, but for present want of money, and therefore choose any chapman rather than the king; soe that the king, upon any occasion, is forced to buy att the second or third hand, those and sometimes other provisions of the like nature. It is observed, that all the officers employed in it, find more advantage in a penurious time, than when payments are punctuall, the opportunityes of buying such, att the best hand, being lost before the warr. In the beginning of the reigne of his late Majesty, the seamens pay, besides the 12d. defaulcation moneys, was but 9s. per mensem, yett the medium, according to the number of men of the severall rates of ships, was exactly calculaced, that a medium of the officers wages, included together with the common men, was 15s. per mensem, soe as estimates might be made briefe, and yett exact. In the beginning of his late Majesty's reigne, a forraigne warr happened, when it was thought necessary to encrease the seamens pay from 9s. (their neat wages) to 14s. per mensem: upon our exact calculation, (including the officer) it amounted by a medium to 20s. a man. The long parliament in the beginning of the late troubles, as a bribe or a reward to the seamen for their first rebellion, againe increased their wages:

and

and during the Dutch warr made yett a further increase of it, but the medium was never exactly calculated. The established rule for wages of seamen in the king's navy, was the rule by which the merchants was always forced proportionably to exceed it, and forriners to exceed them. I dare not venture to give my judgment, how convenient it might be to retrench it, tho' wee find now there is noe need of pressing seamen, they being sollicitous to be admitted into the servic, which may rather be imputed to the small employment the merchants have for them, comparatively to what they had heretofore, than to the greatness of their pay, which if they had the like employment as they had heretofore, they must necessarily exceed. But however, it were fitt the medium were exactly calculated, and a new booke of rates established, the distinction that is made (contrary to former usage) of able and ordinary seamen, is subject to great abuses. Those that are entered able upon the bookes being more for favour or interest than for merrit. Each captain (besides their retinue) hireing many servants for small wages, which stand upon the booke as able seamen, soe as that increase of pay goes, much of it, into the captain's purse. If therefore it should be thought fit to give some additionall incouragement to the most able seamen, it would be convenient they were limited to a number in each rate, by which the medium may be calculated, and those to be no other than such as have served out their apprenticeship. But a greater abuse, lately much practiced by the sea captains, is most fitt to be regulated. Those ships that have been employed in remoter voyages, especially into the Straits, have taken freight of merchants goods from one port to another, and the captains themselves, and other officers, by their example, still driveing a trade, wherein it appeares often they sell some of their stores, (belonging to the king) out of pretence they have bought the like in some other port, which is easily helpt by the captains connivance in their accounts of expence of stores; besides, by that meanes they take occasion to spend much time in port, which might be better spent att sea, and the ships hould soe filled, that they have noe roome to throw by their chests,

chests, or other cumbersome things, upon occasion of fighting, whereby the gunn deck is soe imbarrassed, that they cannot possibly make soe good an opposition to an enemy as otherwise they might, and att their returne, comeing home freighted with merchants goods, have greater opportunityes to defraud the customs than any merchants have. There is another branch of the navy which, tho' it cannot properly be called his Majesty's. Yett though it hath been the use of his royall predicessors, it would be a parradox to affirm the contrary, and nevertheless if it be true, that those only are rich that have more than they have need of, and those only poor that have need of more than they have, I doubt it will appear, that his Majesty's royall navy affairs are not soe considerable, in case any great forreigne warr should happen, as his royall fathers were in the year 1640, when his Majesty might, upon all occasions, have an hundred merchants ships suddenly fitted for his service, of such burthen and strength as were little inferior to his own, without any charge of maintaining them longer than they were in the service, as long before appeared during the warrs with France and Spaine, when few in those great fleets were of the king's own ships; yet the merchants continued their trade without expecting or desiring convoys, if there could but two or three consort together, not careing who they mett; unless it were the colliers, or small vessells trading upon the coasts.

But since these late distractions began at home, forraigne trade decayed, and merchants soe discouraged from building, that there hath been scarce one good merchant ship built these 20 years past, and of what were then in being, either by decays or accidents, there are very few or none left remaining. The merchants have found their private conveniences in being convoyed att the publick charge, they take noe care of making defence for themselves if a warr should happen, computing what would be the necessary convoys to the traders to the severall parts of the world, which must be of the king's own ships, (since there are noe other) it were very doubtful whether (upon a great expedition) the residue of his Majesty's whole navy might be sufficient to performe that, and leave any consider-

able

able force for service, (as hath always been used) especially if the Hollanders should be an enemy, which I suppose cannot be avoided unless they more mutually joyned with us in the warr. For it is observable, whilst during the warr his late Majesty had with France and Spaine both at once, (though the great expedition had but ill success) this nation hath rather been enriched than impoverished by that warr; and during the time of the late usurped powers, tho' the nation was grown more martiall, and tho' they were in firme league with France, Portugal, and Sweedland, and the king of Spaine, whose navall force was much more inconsiderable than formerly, by the loss of Portugall and Dunkirke, the nation was by that warr impoverished above 1000 sail of ships taken and destroyed, and the trade of this kingdome almost ruined. The reasons were obvious: during the former warr, severall noblemen and gentlemen made use of merchant ships upon their own private advantage, in such considerable manner and equipage, as that the earl of Warwick, with one fleete, did make an honourable defence and retreate against the whole force of Spanish gallions upon their own coasts. Sir Kenelme Digby bafled the Venetians, pretending to protect the French in the Mediterranean sea. Sir David Kirke and his brother tooke not only some of the kings of France's best ships from him, but his best plantation, Canada; whilst many other smaller adventurers did, as it were, besiege all the ports of the dominions of both these kings. Soe as I believe it may be truly affirmed, that the lord high admirall's tenths of prizes taken by this nation, did exceed the full value of the prizes taken from it. Soe numerous then were the merchants ships fitt to make men of warr, besides the continuance of a trade, with little less confidence and security than in the time of peace, that they proved the reason why these two great kings, being then att peace between themselves, were willing to make so honourable and advantagious a peace with his late Majesty, tho' att the time he was reduced to such streights for money by the malignant humours then (prevailing in severall parliaments by him called, that it was thought impossible for him to continue the warr longer.

Whereas

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Whereas in the time of the late usurper, there was neither shipping fitt for such private adventurers, nor persons either able, or willing to undertake it, or if they had, they would have been suspected by him to have some other designe, all that was then in favour or trust being persons only shirking upon the publicq.

A second great reason was, during the former warr, the Hollanders mutually engaged with us in that warr against Spaine, with whom there was then noe hopes of reconciliation: whereas, in the latter warr, the Hollanders being nutrall, and yett more jealouse of our rivallship in trade with them, supplyed the Spaniards with such great proportions both of shiping and men, upon their own adventure, with Spanish commissions, under the notions of Flemmings; that they did the nation more damage under that coloured peace, than during the open warr before, whilst this nation having noe such colourable pretence, could not take their shipping without open breach of the peace but a little before made with them. Nor can it be imaginable, that for the advantage of their own trade, they will not be ready to doe the like for any nation with which hereafter his Majesty may have a breach, and how much more encouragement it may be to any enemy to make warr upon us, when they shall know what the utmost strength of the king's navy is, which possibly may not be difficult to gaine intelligence of, knowing there are little or noe recruites to be expected from his subjects' shiping, as heretofore there were, when there were such numerous warrlike ships in the merchants employment, whereof they could make noe computation.

Since, therefore, the whole navall force of this nation is now comprised within the king's arsenall, and the whole charge, both for defence of the kingdome, and protection of trade, is out of the king's revenue only, how much ought it to be attempted to encourage or enjoine each company of merchants to build two or three ships every year att least, whereby in 20 years more, it may be possible to recover what in 20 years wee have lost.

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It is a consideration of the most high concernment that can be proposed to his Majesty, or a parliament, and may deserve a particular tract by itselfe.

FINES.
1669.

To the foregoing, which may be considered as the civil history of the then existing navy, may, with much propriety, be added the following, which is no less comprehensive and explanatory of the opinions of the time, with respect to the military department, or management.—It was written by a gentleman named GIBSON, whose opinion appears to have been specially asked by government on that weighty occasion.

Haveing perused the severall expeditions of the navy royall in the reigne of queen Elizabeth, from the year 1585 untill the yeare 1603, I herewith returne your Honour (pursuant to your comand) my observation upon each voyage. In peruseing them, I finde many accidents to have happened for want of tarrpawling commanders, or gentlemen thoroughly acquainted with maritime affaires, as may readily be seene by compareing the conduct of Sir Francis Drake, Sir John Hawkins, Sir William Burroughs, Sir Martin Forbisher, and Sir William Monson, with that of my Lord Effingham, the Earles of Southampton and Cumberland, Lord Thomas Howard, Sir Richard Lewsham, Sir Richard Greenville, captain Lister, Sir Francis Veere, Sir William Brookes, &c.

Withall observeing the relators of these voyages to have wrott them more methodicall for use, than our moderne men, which possibly arose from this, that our clergymen employed in these expeditions, tooke the paines to write the history of their voyages, while our gentlemen captains, to prevent haveing any more such true relations, take care, by ill usage,

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usage, &c. not to carry any of that function, at this day, to sea with them.

Upon Sir Francis Drake's voyage to the West Indies in 1585, he setting out with few shipps and men, proceeded with only a designe to plunder and destroy. It is well observed by the relator, that had wee fortified in the West Indies, wee had carryed the warr with Spaine from home thither, where by good management, (as the Dutch in Brazell) wee might have been masters of great wealth and dominion, as being the better seamen.

Whither his want of victualls and stores arose from neglect, or want of money, at setting out, appears not: possibly being a tarrpawling, he mett with ba friends at court.

His courage and conduct was great, as appears by the mischiefe he did the Spaniards in takeing and sacking St. Domingo, Cartagena, and Fonta Agua.

It appeares he mett with noe accidents at sea, but what he mastered with his skill in maritime affaires, and at land, by his courage and conduct.

But all remote undertakeings, when managed by gentlemen, have proceeded slowly; wittness Virginia, Jamaica, Carolina, &c. compared with New England, Barbadoes, &c. settled by seamen.

In Sir Francis Drake's second voyage to Cadize and the Trecera, in anno 1587, appeare the great advantage got by intelligence to a man (as he was) of great courage, and knowledge in sea affaires, in which he did his country great service, by destroying all the Spanish shipps (and other nations hyred by them) in Cadize road.

Farther shewing what perswasion from the mouth of an experienced commander, may doe to get his men to saile theme to the Western islands, and hasard starving, by staying for a Spanish carrack from Mozambique, which, by takeing her, proved soe advantagious to the undertakers; he returneing with honour and profitt.

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I further observe, that the merchants were adventerous with Sir Francis Drake, as haveing full assureance of his courage and conduct. I feare our moderne men would faile of such helpes, were they to sett out upon a like designe.

As to our conduct in 1588, under the lord admirall Howard, earle of Effingham, it appeares, wee tooke noe care for intelligence, (although the Spaniards had a full account of the posture of our fleets, by their takeing one of our fishing boates) for had it not beene for the English privateer, Fleming Valdes, his councill to burne our fleete as they lay in harbour without men, had taken effect.

Our want of powder and shott, and not pursueing our victory, showes our gentlemen captaines small care of knowing what stores came aboard, and little skill to make use of an oportunity then offerred, to have totally destroyed the Spanish fleete before they gott home.

The Spaniards ignorance in sea affaires, takeing the Lizard for the Ramhead, and tacking off that night, lost theire opportunity of destroying our fleet in Plymouth Sound.

And although king Phillipp's councill for his fleet to saile along the coast of France, was great and good, yett being to be putt in practice by gentlemen ignorant in sea affaires, and preferred onely for theire birth, it lost the effect it might have had, and totally overthrew all theire designe.

That Sir Francis Drake and Sir John Norris's expedition into Portugal, anno 1589, became fruitless, by undertaking soe great a designe with soe little meanes, wanting victualls, armes, and amunition, (and shipping for theire soldiers) at theire setting out from England.

Their goeing out of the way to attacque the Groine, not taking the forts upon the Tagus, nor goeing up to Lisbone with the fleet, were all great oversights: the miscarriage of one of them was enough to have spoiled theire designe had they sett out well.

The

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The gallys in the Tagus I believe would not have been any hindrance to the designe.

Theire well useing the Portugalls, and the benefitt they had by it, by not being persued as they retreated, is a good note to all invaders.

In the earl of Cumberland's expedition to the Trecera, in anno 1589, as the relater has well sett forth in the person of captain Listor, (by his rashness in his attempt to take the suggar shipp, by landing in view and gunn shott of the fort of St. Mary's, and bringing a famine into the fleet by sending home the wine, &c. to England, occasioning thereby a great mortality and hazard of shipwreck of the fleet homeward bound, and being afterwards drowned in the rich shipp cast away at Mount's Bay) the ill choice is shewn that gentlemen captaines make of theire next assisting officers.

When on the contrary, tarpawling captaines seldome faile of haveing good assistants, otherwise Sir John Harman had been burnt in the Henry, the Nonsuch had been taken by the French, and the Speedwell by the Turkes, in the Straights; when on the other hand, all our gentlemen's courage are like captain Listors, and Sir Richard Greenville, wittness Sir William Berkeley, who lost the Swiftsure, Sir John Chicheley the Royal Katherine, captain St. Loo the Portsmouth, by theire haveing more courage than conduct.

As to Sir John Hawkins and Sir Martin Forbisher's expedition upon the coast of Spaine, in anno 1590, I finde the king of Spaine to have ordered his fleete of 20 men of warr to decline fighting with but 10 of the queene's shipps, when knowne to be under the command of experienced and tryed tarpawling captaines.

This fleet stayed seven months at sea, and came home without being put to the straights for want of any thing. And though they did nothing but stopp the Spaniards from tradeing, yet they appeare not to have layne under any blame.

In

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In the expedition of the lord Thomas Howard to the islands of Trecera, in anno 1591, I finde our former want of shipps and victualls to have been now supplyed for this fleet out of England.

The timely advice the earle of Cumberland sent from the coast of Spaine to the lord Howard, of a great fleet of Spanish men of warr being comeing to seeke him out, was of great use; and his lordship, timely weighing and getting to windward, prevented theire being taken by the Spaniards.

In this expedition, it plainely appeares what sayling shipps may be able to doe, to avoid danger, under the command of a prudent and vigelant captaine, and the loss sustained by the ignorance of Sir Richard Greenvill, who by neglecting his opportunity for want of seamanshipp, brought himself into danger by his willfulness, and lost his shipp, and the lives of many brave men foolishly, which he would afterwards have avoided if he could.

By the Spanish gallions being eaten by the worme by wintering in the West Indies, and theire late disamberqueing from thence, occasioned neare one hundred of theire shipps to suffer shipwreck by stormy weather, to the loss of many millions of treasure. This arose from councill wholly unacquainted with the accidents attending these voyages.

In the earle of Cumberland's expedition on the coast of Spaine, in anno 1591, I observe there was great miscarriage for want of seamenshipp, by not sending home their prizes as soone as taken, but toweing them at theire sterne, till a storme came, that forced them to cast off one loaden with suggar, which, by springing a leake, was forced to make to the shoare, and stranded to save her men.

Another prize was forced to runn into the Groyne, and submitted to the ennemy for want of provissions.

The spice shipp determined to be sent to England, was retaken by six gallys, occasioned by the captaines of those shipps ordered to convoy her, not following theire orders.

I observe

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I observe further, that the earle of Cumberland gave over his voyage, findeing how useless his service was by his shipps being badd saylers, a defect wee at this day lay under, (soley by gentlemens commanding in the navy) yet was the principall thing the long parliament aimed at, to outsaile the Dunkirkers, which could not be done but by haveing seamen captaines; wittness Owen Cox, who carryed away the Phœnix frigate out of 30 saile of Dutch men of warr in Livorne road, by askeing an ordinary saylor (who had sayled formerly in her) the trim of that shipp, which otherwise would have been retaken by the Dutch.

In a voyage undertooke by Sir Walter Rawleigh, left to Sir Martin Forbisher, in anno 1592, I observe the great interest which Sir Walter had beyond Sir Martin, by which may be seene the great advantage the state receive by employing popular men in military affaires by sea and land, and our present great defect in that particular.

Hence appeares the hurt and loss of the voyage by setting out of men of warr that are badd of sayling, they thereby lost takeing a rich prize, and lay lyable to be took by every ennemy they should meet stronger than themselves.

I also finde by this journal, the Spanish as well as the English gentlemen thought themselves too wise to follow orders.

And that a little time given to escape away, may avoid a great danger.

That in all the expeditions under the queene, there was a land as well as a sea generall.

Not as now, to have our maritime regiments under the command of flagg officers.

In the earle of Cumberland's voyage on the coast of Portugall, and to the Azoras, in 1598, I observed my lord owned that many of his former voyages had miscarried through the negligence or unfaithfullness of those who were intrusted to fitt his shipps. Here his experience rectified mistakes.

Although

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Although by his lordshipp afterwards being separated from his fleet, showes he was not a compleat seamen as yett.

Here the earle being in a shipp which sayled well, durst undertake to pursue twenty-four Spanish men of warr to the Azores, where he mett one of the fleet separated from the rest, which his lordship tooke, with the death of the Spanish captain.

And although the earle mett the Spanish fleet the next day, findeing they were too strong for him, his lordshipp, by his good sayling, was able to goe away from them.

I observe, that cleane frigotts, cruizing upon an ennemy's coast, are of great use for intelligence, as well as to annoy the ennemy. Qu. Why have we not had any of our cleane shipps, on the coast of France all this warr?

In Sir Martin Forbisher's voyage to Brest, in anno 1599, her Majesty had great success by putting her shipps and land forces under the conduct of stout and knowing men, whose undertakeings, although with great difficulty, had the desired effect.

Here Sir Martin (by his success) declare to the world, that when wise generalls adventure theire persons, they rarely faile of obtaining what they undertake.

In Sir Francis Drake's and Sir John Hawkins' fifth voyage to the West Indies, in anno 1594, which proved unfortunate by a too early discovering of their designe, by the Spaniards takeing one of their fleet, I observe, that our fleet had been destroyed in the way home, if they had not outsayled the Spanish fleet that looked out for them, under the command of a coward. Qu. How came we lately to suffer the French fleet from Toulon to pass by us in the Streights mouth.

In the earle of Essex and lord admiral Effingham, theire voyage to Cadiz, in anno 1596, which went from Plymouth in June by the personall care of the captaines, and theire weighing to sea with a S. and by W. wind,

I observe,

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I observe theire great good luck as well as care in keeping the ennemy (as the French doe us at this day) from haveing any intelligence of theire motions by sendeing scouts (afore the fleete) that sayl well, which facilitated theire afterwards success, as well as theire (by chance) comeing to Cadiz early in the morning.

Here I finde great loss of time (a whole day) by the two generalls, with equal power, being in severall shipps, theire debateing (by messages) what to doe at a time when they ought to have been upon action.

Togethere with theire not falling uppon the Spanish fleet as soon as they came into port.

Theire departing from the bridge, and (by it) letting the gallys gett away uppon pretence of want of victualls, when it was to be doubted but that it arose by our men's drinking too much wine, or being too greedy for plunder at the town. This appeares a great fault, since the gallys could not get away before they brake downe two or more arches of the bridge.

Theire not following Sir William Monson's good advice, to take all the enemys shipps first, was through want of seamanshipp: by not doeing it was lost a great treasure.

How but Sir Walter Raleigh's conduct was questioned, for want of seamanshipp, by his anchoring too soone.

Had our fleete had but two fire shipps, they might have destroyed the galleons at theire first onset at Puntall, but through the want of them lost six houres.

Here I finde a gunner all complaint for want of victuals, raised out of a desire to be at home, rather than out of any real necessity, all the fleet haveing then seaven weeks victualls aboard, drink excepted, which might have been supplyed by water.

At this time staying for the carracks was left off, against the judgement of (tarpawling) men of experience, noe reason being able to prevaile with the gentlemen captaines to stay.

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It was a fine stratagem to send a carvell with men habited in Spanish cloathes, to view the harbour of the Groyne without suspicion. Qu. Why doe wee not practice the like against France.

As to the earle of Essex's voyage to the Westerne islands, in anno 1597, I finde a good designe lost by theire late setting out, and afterwards by theire want of victualls, all defects through want of tarpawlings knowledge.

Here was noe care taken (as last yeare) to see if the Spanish fleet was in the Groyne, and if theire was, what readiness they were in, before the fleet approached the coast, for want of which, they afterwards, by false intelligence, went to the Western islands to looke out for the Spanish fleet which were then at the Groyne.

Here the lord admirall appeares to have lost sight of his fleet by not giveing due notice of his lying by, to stopp a leake. Qu. Haveing known it two days before, why he endeavoured not to stopp it in the day time?

By Sir Walter Rawleigh's being blamed for takeing tryall without the lord generall, I finde punctillues of honour oft insisted on by gentlemen, and the loss of many a good designe. When on the other hand the tarpawlings observe noe grandure, but like devells, count themselves most happy that can doe most and soonest mischief to their enemys.

Sir William Monson advised my lord of Essex well, to sende a squadron of shipps forthwith to the road of Angra, in the Trecera, to intercept the Spaniards, which not being followed by his lordship, and his lordship proceeding by the north of Trecera, and not pursueing his former order to Sir William, (all defects of want of seamanshipp) they lost takeing a rich booty.

Here appeares (in a different point) Sir William Monson, a tarpawling captaines good conduct not to hazard his shipp, and yet to have certaine intelligence what the shipps he chased were.

How the earle of Southampton lost time by chaseing a single shipp, when he should have followed the Spanish fleete in sight, and assisted Sir William Monson; and alsoe of my lords over perswading Sir William to leave

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leave chaseing the Spanish fleet which they knew to be soe, to chase shipps which afterwards proved to be part of theire owne fleete.

At Angra, Sir Francis Veere sent for Sir William Monson, (then attempting to take the Plate fleet) to come of from his worke to advise with his lordshipp; but Sir William's answer showed his, and his lordshipp ignorance in maritime affaires.

My lord admirall omitted takeing Sir William Monson's good advice, by haveing divers young gentlemen on board; his lordshipp, tired with the tediousness of the sea, observed the ill effect of gentlemen goeing to sea but as volunteers.

Soe Logan perswaded captaine Peirce of the Saphire to runn from four Turks shipps of warr.

Soe Mark Anthony lost the empire of the world by following Cleopatrie's advice, to fight by sea rather than to try his fortune with his land army: the former runn away with her fleet upon the first onsett, and the latter kept faithfull to him fourteen days after the fight, in which time had Anthony gon to them, he had bidd faire for the empire a second time.

Gentlemen (as this of the Adelantado) are able to forme a great designe to destroy the fleets at theire comeing home seperate, but spoiled all by haveing gentlemen to manage by sea what was soe well contrived.

In the lord Thomas Howard's expedition to the Downes, returneing in a month, in anno 1597, I finde the Atalantado's (the Spanish admirall's) pollicy great, in makeing showes of annoying us in Ireland, and the channell's mouth, and after that sending his gallys undiscovered to Flanders, and with his shipps pursueing the Holland fleet to the Western islands.

The dispatching our fleet abroad twelve dayes was great, it shewed the seamen loved the cause, and the commanders were popular men.

Observe the difference between the queen's gentlemen captaines and ours; to be sure they wanted noe courage—damneing, drinking, &c. were not then practiced.

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In Sir Richard Lewson's expedition to the Westerne islands, I observe it was the queen's policy, to employ her admirall of the Narrow Seas to provide her foreigne victualls at Plymouth for that voyage, in order to the more secrett carriage of the business, while wee gave out the Smyrna fleet was come to Kinsail three weeks before they arrived.

The Spaniards were politick, and sayled thither with a fleet superior to us: to avoid which, Sir Richard kept 60 leagues to the westward of the island, and yet lay in the way to intercept the Plate fleet, who, at the same time, went another way.

In Sir Richard Lewson's expedition to Ireland, in anno 1601, beating the Spanish vice-admirall Siriago in Kinsail harbour, and destroying all the shipping by his courage and conduct, (which greatly contributed to the speedy reduction of Ireland, by hindering the Spaniards from reliefe) one may see the value of sea conduct joined with courage.

In Sir Richard Lewson's and Sir William Monson's expedition to the coast of Spaine, in anno 1602, I finde they lost great booty by not setting out both fleets early, and the slow dispatch of the Dutch fleet to joyne them.

By captaine Summers of the Warrspight missing taking two rich Spanish shipps goeing to the West Indies, for want of good looking out in the night, one may observe gentlemen captaines to be in theire cabbin asleepe, when they ought to be uppon deck, and soe not the fittest to make sea captaines.

By the care taken to send a carvell to look out for Sir Richard and Sir William, with intelligence of the carracks being at Cisembra road, it showes these captaines began to learn theire trade.

I further observe, that onely Sir William Monson advised attacqueing the carrack and gallys, who by his courage and conduct brought theire designe to a happy issue.

And the admirall looseing the use of his shipp by the neglect of his master's not anchoring in time, shows how gentlemen captaines may be imposed upon.

Sir

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Sir William Monson's courrage uppon the whole was great.

In this journall, one may see the absolute necessity of haveing seamen to command men of warr upon any enemy's coast.

In Sir William Monson's voyage to the coast of Spaine, in anno 1602, I finde our late setting out lost his meeting with the Plate fleet.

His having a carvell, which brought him the news of twenty-four Spanish men of warr being at the isles of Bayon waiting for him, was of great use to him.

It was soldierlike don not to detaine the carvell taken in time of truce.

By three of our men of warr falling into the Spanish fleet in the night, and getting away from them, may bee seen the absolute necessity of haveing shipps to outsaile the enemy.

By Sir William looseing the company of one of his shipps all the voyage by a chase, showes there wanted instructions for such accidents.

Sir William, by being off his station in the late chase, missed takeing the Plate fleete.

In the Mary Rose and Dreadnought, theire looseing most part of theire men by sickness, showes how little care gentlemen take of theire shipps company, to carry on theire designe of gaine, and how easily they let slipp occasions of takeing prizes when offered them.

The first Spanish prize taken, could not be called the best man of warr we had, but from the quality of sayling.

In Sir Richard Lewson's and Sir William Monson's being appointed to guard the Narrow Seas, anno 1603, I finde the queene to have made some reforme in the navy, employing only certain of all the captaines she had last yeare, haveing made better choice of victualls and men than before, takeing notice of the ill furnishing her shipps in other voyages, and by it the ignorance of her gentlemen captaines, not to discover all defects before the shipps depart from the place of fitting forth.

Reflecting upon the state of England as to naval strength, in anno 1652, when the Dutch first made war upon us, we at the begining of that warr haveing

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haveing but a small navy, ended the same with more than a double strength, notwithstanding the many smart fights with them before we could obtain the mastery of the seas.

Considering the great number of shipps of warr built since for a further reinforcement, we doe finde ourselves at this day much inferiour to the French in navall strength, particularly in the number of seamen; they haveing noe navy then, and wanting those naturall meanes England have, to create seamen, by the Flanders, Holland, Hambro, Baltic, and Norway trade, North sea, Iceland, Westmony and Herring fisherey. Our New England, New York, New Jersey, Virginia, Carolina and Carebee islands, (increased by Jamaica) our Guinea, Spanish, Portugall and French, as well as coasting and coal trade, our fisherey for the river Thames, besides that of watermen, and west country bargemen, afford England many more helps to breed seamen, than the French.

Also considering the Dutch (altho' theire double warr with us since, and the French king's invasion upon them by land and sea in 1672, which greatly impoverished them) do yet retaine the same vigour for warr, and opinion of their neighbours for navall strength and conduct, that ever they had; it is vissible, that the defect of our navall strength to fight Dutch or French, arises entirely from gentlemen comanding in the navy, who for the most part meet with more accidents (too many of their owne makeing) than a seaman captaine.

I therefore premise, that it is impossible to make warr without accidents, more especially by sea.

That these accidents by sea (if at all) are to bee avoided by a captaine experienced in the well navigateing his shipp, joyned with courage and timely care, upon any emergency.

An instance of both, cost this nation 500,000l. by makeing a gentleman captaine of a fifth rate shipp, viz.

In 1665, the Coventry friggott (Dunkirk built) was sent to the West Indies under the comand of captain Hill, (a Papist gentleman) who in a hurrycane

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hurrycane was forced ashore upon one of the Carebee islands, near or in the French possession, and (as the captain afterwards made report to the navy board) was driven so farr up into the land that he thought it impossible to digg her out, and therefore left (or sold) her, and matterialls, to the French, who afterwards gott her off, and sent her, in 1666, for all the governours and gentlemen in other islands, to helpe take St. Christophers from the English. In her way back, (full of French gentry) she was mett by the Colchester friggott, comanded by captain Morgan, (son to the major generall, a compleat gentleman for courage and sobriety) who outsayling the Coventry, and being a bigger shipp, of more force, and well manned, in health, lately come from England, might easily have taken the French shipp had hee fought her a shipp's length distance, but captain Morgan boarded the Coventry forthwith, and was put off. Before the second boarding, to make it uneasy to the Colchester, or fright him from boarding them, the Frenchman shodd the inner flook of his sheat anchor, and hung it a cock bill over that side on which the Colchester approached them. Upon the Colchester's second boarding, this sheat anchor flook runn into the Colchester's bow, and made so great a hole as to sink her, and drown every man and mother's son. No other account but from the French ever came to hand of that shipps' loss.

Upon this St. Christophers came to be taken by the French, and the lord Willoughby was comanded to raise an army, and press all the shipps at Barbadoes to recover that island. In their passage thither, a hurrycane sunk the shipp the generall was in, and also many others, with soldiers on board never heard off. The residue being too weak for the French at landing, were most part of them cut off, and the English of this island (by the consequences attending that expedition) were undone.

Which certainly would have been prevented, had a seaman commanded the Colchester, for then the French shipp (the Coventry) had been taken, and in her the governors and best gentry of the other places held by the French

in

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in the West Indies, which in all probability had maimed the French so, as to break that attempt in the budd.

Ever since the year 1660, that gentlemen came to comand in the navy, these accidents have been too oft repeated upon us; to the loss of many shipps and men unexpectedly, their numerous names and comanders yet to be recovered, most of which for want of seamanshipp in not timely and well navigateing his shipp, by boarding an ennemy when they ought not, or by doeing it unskillfully.

It was once my happ to trace a gentleman captaine's sea journall of a 4th rate shipp, in which I found he was at times 460 daies in port, and but 164 daies at sea, dureing that voyage. More examples of this kind I have mett with.

Our gentlemen captaines have had the honour to bring drinking, gameing, whoreing, swearing, and all impiety, into the navy, and banish all order and sobriety out of their shipps. They have had further this ill effect, to bring seamen to covett to act like gentlemen, when gentlemen should learn to act like seamen.

If wee continue this foolish way of fighting in a line, (only per form to begin) and trust to that mode of conduct, wee may live to see ourselves destroyed by it, as the Spanish Armada in 1588, who kept to their line, till scattered and undone by one fireshipp.

By fighting in a line, the coward hides his cowardice, while the Dutch observe it not, but value every man's actions by the damage hee does, or receives from the ennemy.

It's true, that by fighting promiscously, men are subject too oft to shoot their friends, as well as ennemys; therefore shoot with discretion, that is, hold your hand while in smoke, and be sure it is your ennemy, before you shoot, and that you are in halfe gunn shott of your ennemy. It is direct cowardice to shoot at a greater distance, unless he is running away.

In

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In all the sea fights against the Dutch in 1652 and 1653, no other method was observed, (than keepeing to their flaggs as much as they could.) The first fight off Dover, at Portland, in June 53, and August, (when Tromp was killed) were all out of order, courage and conduct swaid each captaine to doe his best.

British gunns being for the most part shorter, are made to carry a bigger shot than a French gunn of like weight, therefore the French gunns reach further, and those of Britain make a bigger hole.

By this, the French have the advantage to fight at a distance, and we yard arm to yard arm.

The like advantage wee have of them in shipping, (although they are broader, and carry a better saile) our sides are thicker, and the better able to resist their shott. By this they are more subject to bee sunk by gunn shott than wee are.

The benefitt ariseing by these advantages, are lost to us by gentlemen comanding their Majesties shipps of warr.

That gentlemen captaines have been in a great part, if not the sole cause of the destruction of our seamen, I further prove, viz.

A gentleman is put into the comand of (suppose a) 4th rate shipp, complement 200 men: he shall bring neere 20 landmen into the shipp, as his footmen, taylor, barber, fidlers, decayed kindred, voluntier gentleman, or acquaintance, as companions, &c. These shall have the accomodation of a master's mate, midshipman, quartermaster, master trumpeter, coxswaine, &c. and too oft their pay, while others do the duty for that, of an able seaman, or such as deserve it not. Next hee covetts to have all the rest of his complement able seamen, to the denying an officer the privilidg of a servant, which custom has given him with a seaman captaine. If he presses masters, master boatswaines, gunners, or carpenters of bigg merchant shipps, they shall fare noe better in their accomodation and wages than others before the mast, and be sure he will allways have more than his complement.

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Now all that gentlemen captaines bring aboard with them, are of bishop Williams's opinion, that Providence made man to live ashore, and it is necessity that drives him to sea.

When on the contrary, a seaman, as soon as hee has the comand of a 4th rate shipp, of 200, has none belonging to him but such as devout themselves to the sea, as to a trade, and by it only, expect to raise their fortunes.

Admiralls.	Vice Admiralls.	Rear Admiralls.
Sir Francis Drake.	Sir Wm. Batten.	Sir Richard Stainer.
Sir John Hawkins.	Sir John Lawson.	Captain Houlding.
Generall Deane.	Captain Badilow.	Captain Deacons.
Col. Rainebrough.	Sir Tho. Tiddeman.	Captain Sansum.
Sir John Narbrough.	Captain Peacock.	
Sir William Penn.	Captain Goodson.	
	Sir Christoph. Mings.	
	Sir John Harman.	
	Sir John Berry.	

All these came to deserved honour from having been cabbin boys.

Sir Cloudsley Shovell had the same begining.

By this a seaman captaine's rettinue knew presently their station and duty, are true spies upon every officer's miscarriage that reflects upon the captaine, and are ledd to take the more notice to signifie their capacity to judge of things, and to bespeak their captain putting a true value upon them for their preferment.

On the other hand, gentlemen captaine's rettinue value none but of their own stamp, for whoreing, swearing, drinking and gameing, know nothing of any man's ability, or neglect, and tell tales as he finds the captain pleased or angry with the man, or himself obliged, or disobliged by him.

A seaman

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A seaman will bee content with the complement of men allowed, if but halfe of them are seamen, (as Sir John Narbrough, when hee went his last voyage in the Foresight, took aboard many officers servants out of the ordinary, before the mast, and in six months had them fitt for his purpose.) This way a seaman captain breeds up more seamen from being landmen, trouncers, and boyes, than the casualty of fights, drowning, sickness, &c. destroys.

While the gentleman captain (as the buck rabbitt eates his young) destroys his breed of seamen by casualtys of his owne making, as by sending his boate for water, wood, &c. at unseasonable times of day, weather, or tyde, or his pinnace ashoar upon slight occasions, att unseasonable times.

A seaman has none about him but what deserve preferment.

A gentleman captain only such as promote pleasure.

A seaman captain in chaceing takes care of his masts, rigging, &c. and endeavours to finde the trim of his shipp.

A gentleman captain speakes bigg, crys lett all stand untill all comes by the board, then crys the masts, yards, &c. are rotten, and too small, by which many a fast sayling shipp have come to loose that property by being over masted, over rigged, over gunned, (as the Constant Warwick from 26 gunns, and an incomparable sayler, to 46 gunns and a slugg) over manned, (vide all the old shipps built in the parliament time now left) over built, (vide the Ruby and Assurance) and haveing great tafferills, gallarys, &c. to the making many formerly a stiff, now a tender sided shipp, bringing thereby their head, and tuck to lye too low in the water, and by it takeing away their former good property in steering, sayling, &c.

The French by this defect of ours, make warr with the sword, (by sending no small shipps of warr to sea, but clean) and wee by cruseing in fleetes or single shipps foule, with bare threates. As Lucan said of Cæsar and Pompey's soldiers.

A seaman by inspection knows how to finde out an extraordinary expence or demand of stores brought for his hand to vouch it.

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A gentleman remaining ignorant how to contradict, signes it implicitly, or otherwise hinders the service by refuseing to signe it, because hee loves not the officer.

In convoys, a gentleman seldom takes any shipps under his convoy, but some of them are taken from him, although he seldom fail of takeing convoy money, and that at exorbitant prices.

A seaman, by shortening sail in the night, and lying by early in the evening, to bring his convoy together, and by makeing early signels to tack in the night, by shortening saile upon the shift of a winde, or its over blowing; rarely looses any.

A seaman captain takes up less of the shipp for his accomodation.

A gentleman captain claimes the sterridge for his grandure, quarter deck for his jarrs, pidgeons, &c. and oft times all abaft the main mast upon the upper deck.

A seaman is familiar amongst his men, talking to severall on the watch, is upon deck all night in foul weather, gives the most active a dram of the bottle.

A gentleman has a sentinall at his great cabbin doore, (to keepe silence in the belfry) and oft times beates his master for not comeing to him forthwith, when hee rings his bell in the night, (although it's not his watch) to answer his impertinant questions. By which you have few good masters left in the navy, and nothing less than a lieutenant's place will serve a merchant master of a small vessell, so much do they dread being a master of any of their Majesty's shipps, (vide captain Abraham Potter, late master attendant at Sheerness) who chose to bee gunner of the Anthelope, a 4th rate shipp, than to go master of a like 4th rate, the which he had been for severall years before.

Finde but a way, and practice it, to catch the French privateers, you at once cool their courage. Enable yourselves thereby to put a dread on their comeing near a fleet of your merchant shipps, by sending clean

shipps

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shipps on convoys at appointed times, not oftener than once a yeare, to remote ports, and very early in August, to recover your men for the great shipps in the spring. Let those merchant shipps that goe abroad, be of the greatest force to resist an ennemy.

Preferr the most knowing; turne no man out of employment without a heareing and cause publiquely assigned; put none into imployment but such as know the duty of the meanest person hee is to comand. Till this is practiced, England can neither bee safe or happy.

Wee act as if king Lewis had the management of our navall affaires. Six or ten cleane tallowed shipps of warr, (not over gunned) and constantly recruited as any grow foule, lying at convenient distances in the soundings, would be incomparable. Lanthornes to guide and bring our straggling rich, but heavy laden merchant shipps into port. The want of which, in a little time more, will destroy all our trade by capture and wreck of our homeward bound merchant shipps, and thereby also robb this kingdom of her best seamen, beyond all the other wayes of gunn shott, sickness, &c.

Before gentlemen came to comand in the navy, and direct our maritime affaires ashore, wee were able to fight with all the world at sea, (as the French king does at this day with the greatest part of Europe by land.) Since the yeare 1660, wee finde (by gentlemens management) ourselves under a necessity to make up our fleet with a third part French to fight the Dutch, or a third part Dutch to fight the French. In a little time more, this method will reduce us but to one third part of the strength of our neighbours, Dutch or French.

Wee have forgot our old way in fighting, of laying upon the bow, or quarter of our ennemy, ever since 1654, yet the Dutch retained it in two warrs with us afterwards, viz. upon the Victory, when Sir Christopher Mings comanded her, and the Prince Royall, when Sir Edward Spragg wore the blue flagg (at main topmast head) in her; and when Sir John Harman

comanded

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comanded the Henry, and also when hee comanded the Charles the Second. Severall others had by Skipper Thrum Caps sons their jacketts well thrashed, (although our best heroes were enclosed in walls of brass) and entirely by men keeping in the trade from father to son; while wee forgott to fight any other way than twice cannon shott distance from the ennemy, or catch a tartar by our great courage. We began to learne late, and dispise the trade, although wee gott our bread by it, thereby oft leaving the most dareing of our friends to be distroyed by our ennemy. When the gentleman captaine lookes on with a Damme, I take him for a coward, let him take his share as I have done, a slight matter having sent him a packing.

Heretofore, if a seaman had offended in a private shipp, hee was called into the great cabbin before the officers, viz. lieutenant, master, and his two mates, the gunner, purser, boatswaine, and carpenter, sumoned for that purpose into the great cabbin, and the corporal ordered to sett a centinell on the great cabbin doore, and the person accused brought in, and after examination and proof, (viva voce) had his punishment sentanced by majority of votes. Since gentlemen came to comand in the navy, all is done at the will and pleasure of the comander, without hope of releife at a court martiall, the Scotch law takeing place there, of shew mee the man, and I will tell you how his cause shall goe. Many men, by rigorous punishment, have disserted their shipps with tenn and fifteen months pay due to them. Severall abroad in forreigne ports, where by marrying they are for ever allienated from their country. There being (as James Howell saies of the Spaniards and French) a naturall as well as accidentall antipathy between the genius of seamen, and their gentleman comanders: as king Charles the First found experimentally true.

Upon the whole, if the number of daies a gentleman captaine layes in port unnecessarily, his supernumeraries, over manning, over gunning, and spoyling the sayling of his shipp, the small care hee takes, and judgement hee

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hee has to increase seamen, secure them from drowning, and his shipp from stranding, annoy his ennemy, or secure his convoys, or prevent the great wast and theft of stores made by his officers, through his ignorance to sign, and interest to get them past, bee put together, the crown will at all times be better able to secure trade, prevent the growth of the navall strength of our ennemy, with 100,000l. under a naturall sea admiralty, and seaman captaines, (witness the Dutch) than with three times that summ under land admiralls and gentlemen captaines, not bred tar-pawlins.

The preceding coarsely drawn account and remarks, which are in many instances unwarrantably severe, appear to have been produced by the custom which, to say the truth, became too prevalent after the Restoration, of appointing land officers (and in many instances, persons who had never been bred either to the land or sea service, though of high rank, and merely because they were so) to the command of ships of war, and to stations of still superior consequence. However illiberal and improper the observations offered may be in many respects, there certainly appears much truth and solidity in the general principle of them. The page of history, and many events which took place subsequent to the Restoration, confirm the judgement of the Author, though it might have been wished, for the sake of decency and propriety, he had conveyed his animadversions in somewhat less vulgar terms. Upon the whole, its insertion, as well as that of the former paper, may perhaps be pardoned, especially as the latter forms a curious sketch of the costume of the navy, (if the term be allowable) at a period when it first began to acquire that consequence which, after having successfully contended against Holland, soon became sufficiently mighty to check and overcome the ambition of Louis the Fourteenth also.

A LIST

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A

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ADVERTISEMENT.

THE first part of the performance of a long existing contract, relative to the History of Marine Architecture, the speedier execution of which has been delayed by a number of occurrences, which it would be now irrelative and impertinent to mention, is at length sent forth, with all its imperfections on its head, to pass through the fiery ordeal of public criticism and opinion.

Although it is impossible for the most consummate vanity to flatter itself with the hope, that even in the mere narrative of the events which have taken place during so long a period, and so interesting, yet, in many instances, so obscure a branch of history, many errors may not be discovered; the Author, nevertheless, is happy in being able to boast a firm and honest consciousness, that he has spared no pains in the inquiry and investigation which a most complex subject seemed to demand. As he can safely affirm, too, that the best powers of his mind, and the strongest efforts of his activity, have been for many years unceasingly devoted to it, he trusts that his inaccuracies will be censured with mildness, and that his unwilling deficiencies may be rather pitied than condemned.

On the ulterior prosecution of the plan submitted to public view, some years since, in the advertisement prefixed to the Prospectus, it would, perhaps, be considered improper to be silent: it would not only be improper, but most probably impolitic, as it might argue either a breach of contract, or at best an indecent neglect. It was then considered as necessary to divide the subject into two branches, for reasons which maturer subsequent deliberation having sanctioned the propriety of, may now be assigned with less hesitation than they could have been, in the first instance.

It is a complaint frequently made, and, it must be confessed, with very good reason, that books, more especially those written on points of any particular science, are

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often branched out into a variety of sections and divisions, in which the greater part of their readers feel themselves very little interested. An History of Marine Architecture is peculiarly subject to this species of objection. The mere theorist may covet to learn only what has been done in remote times, that he may furnish himself with a general and comprehensive view of the subject, from whence, in the hope of suggesting improvement, his own future studies may be directed towards any point which he finds most suited to his inclination. On the other hand, the practical artist, totally disregarding obsolete fashions and customs, which he considers as in no degree interesting to him, wishes for nothing more than the possession of such designs as the most recent experience has established the propriety of. The reason of this different tendency of the human mind, is obvious in both instances. The former character has sufficient leisure to bend his views to scientific improvement, while the latter is prevented, by the natural duties of his occupation, from paying the same portion of attention to it: he consequently resorts to his fellow labourer for assistance, or readily embraces and pursues such as suit his purpose, from among the experiments that have been made by other artists, to whom, in his turn, he himself affords the same kind of aid.

What is now offered, therefore, to the public, is an historical account, and an humble attempt, towards the investigation of the theory of the science. The character of the generality of those readers, to whom the consideration of such branches may be most agreeable, has been already hinted; and though, it is hoped, it may not be too arrogant to expect, that many, even practical men, may possess sufficient curiosity and leisure to honour the following sheets with a serious and attentive perusal, yet it certainly might be considered, by others, an extravagant tax upon them, to compel the purchase of what they might esteem least consequential, as the sole means of possessing that which they might deem infinitely more valuable. In respect to the merits of the present Publication, the Author, as he has just now hinted, is naturally doubtful. It is a work of labour, and of inquiry; and of the extent of his own faculties in those pursuits, no man is a competent judge. As to the proposed Supplement, which has nothing but truth, and usefulness to recommend it, he entertains no fears for its reception. It will contain merely a detail of facts, collected from the dry experience of practical men; and if he reports them with fidelity and accuracy, he will have done his

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his duty, and the humble degree of credit due to him will be fairly allowed by those who are the proper judges of it.

On the grounds just stated, what may in some measure be considered as a Supplement to the present Work, though in a great measure disjointed from, and unconnected with it, is offered to the Public; and as a manifest proof it cannot contain any thing beyond what has been already honestly explained, so that consequently such Supplement regards merely the practice of the science, it is necessary to observe, that the letter-press will scarcely exceed fifty pages, for it will comprise nothing more than a technical statement of the qualities and properties possessed by the different vessels, of which working draughts will be given; to the amount of forty-eight in number.

The Supplement being in very considerable forwardness, its publication can be promised, without the smallest apprehension of a breach in the performance, on the 1st day of November next. It will contain, as has been already stated, forty-eight draughts of ships and vessels that have been actually built, and whose properties and qualities have been experimentally ascertained. A brief statement of them, printed uniformly with the History of Marine Architecture, will be severally annexed to the draughts. In order to render the selection as interesting as possible, it has been arranged in such manner as to comprise twenty-four ships or vessels of war in different rates, and as many intended for the purposes of commerce. These classes are again divided into two equal parts, half of them being the works of British artists, and the remainder of those belonging to foreign countries. The smaller vessels will be given on a quarter scale, the larger on an eighth, which, as they will be severally executed with the utmost accuracy, has been considered sufficiently large for the purpose of actual practice. To the foregoing will be added two models, or folding plates, on pasteboard and card-paper, one representing the horizontal demi-section, shewing the water-lines of a third rate, the second, a demi-model of its hull, both which being constructed according to a draught given in the selection, will, it is presumed, enable the mere novice to understand, with perfect readiness, those lines described in what is called a working draught, which might otherwise be considered by him confused and unintelligible, and by that means, at least further, the study of the science.

Specimens

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Specimens of the Plates will be shortly sent to the different booksellers, whose names are affixed to the present publication, and to whom those persons who wish to become purchasers, are requested to signify their intentions. The price will be Six Guineas in boards.

ST. VINCENT'S LODGE,
April 6, 1802.

HISTORY

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HISTORY

OF

MARINE ARCHITECTURE.

INTRODUCTORY CHAPTER.

On the Origin of Marine Architecture.

DEGRADING as it may appear to what is called the dignity of human nature, we fear it is a truth, too firmly established to be controverted, or even disputed, that many of those arts, the discovery and perfection of which are thought to have contributed most eminently to the benefit and advantage of mankind, owe their existence and progress in a much greater degree to the depravity of the human mind, than to any of those virtuous principles of enquiry which can alone adorn and exalt it.

Avarice, luxury, and ambition have been the grand promoters of all pursuits and discoveries not strictly innocent in themselves, or which do not most unequivocally rest on the basis of philosophy only. Those which tend in the most distant degree, by their operations and effects, to pamper the pride, the sensual appetites, or the lust of power in man, certainly deteriorate his character; and however speciously it may be pretended, that in their first intention they applied only to the enlargement of the understanding, or the ease of such supposed wants as custom has insinuatingly added to those of nature, it cannot surely be denied by persons who advance this excuse, that their introduction, their progression, and their general use, have, in regular proportion to their own advancement, augmented the general inquietude of man, lessened that innocence and purity of mind he is supposed to have originally possessed, and, finally, been the grand promoter of those horrid scenes of slaughter and desolation which, during so many ages, have disgraced the universe. The reflection which arises on seeing nation furiously arming against nation, as if in dreadful emulation which should prove themselves most barbarous, and most cruel,

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must naturally lead the philanthropic mind to lament any discovery that may tend to feed the fury of contest, although the advantages derived from it, while confined within a peaceful and innocent channel, might have very strongly contributed to our general ease, our comfort, and our enjoyments.

Let the blame rest, however, on those whose misapplication of such discoveries Britain has been forced for her own security to adopt; and, finding, as we do at the present day, that such reflections may distract us, but cannot remove or allay the evil that has gone forth, it becomes highly incumbent, as a natural principle, and to put us, at least on an equality with the rest of mankind, that we should investigate every art and science that can possibly contribute to our defence, or can advance our consequence among nations, much as we are at the same time compelled to condemn the ends to which those arts, originally innocent in themselves, have been perverted. Among the foremost of these, at least when we speak in relation to such as are cultivated by countries and nations bordering on the sea, stands the science of ship-building, the origin of which is certainly almost coeval with the existence of the world. This assertion will not be disputed among Christian nations; and, we believe, will be almost as well admitted by all other countries where the habits and pursuits of men have led their ideas on this subject to any farther attention than we find bestowed on it by those small secluded societies whose remote situation, and almost primitive simplicity, have rendered any study or application unnecessary, farther than what we may, without impropriety, say, appears to be connected with their very existence.

It would be a fruitless attempt to investigate, not merely the first inventor of Marine Architecture, but even the country, or quarter of the world from whence the science derived its birth, or origin. The remote distance of time, aided by the hyperbolical fictions of poets and historians, render the attempt absurd, and indeed ridiculous, because the result of the enquiry cannot produce any decisive determination. It may be conjectured that the inquisitive active spirit of enterprize, constitutionally, as it were, implanted in our nature, displayed itself at one and the same time, in a variety of quarters and districts; for the primitive ideas of men dispersed over the face of the globe unconnected with, uncommunicating with each other, and totally ignorant even of each others existence, appear in such perfect unison as to invention, that they extremely well warrant this supposition.

At the time Cæsar invaded Britain the inhabitants of this country, so far as regarded civilization and improvement, might be pronounced almost in a state of

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nature. Though not far removed from that nation which was then rapidly raising itself as the emporium of taste, elegance, and universal knowledge, the Britons lived in so great a degree secluded from the rest of the world, as to have derived little or no advantage from that circumstance: their domestic œconomy, their general habits in life, their mechanical knowledge, scarcely equalled that which in modern times we have witnessed to be possessed by the New Zealander; yet the following complimentary description of their skill in Marine Architecture is given by Cæsar, in his first book de Bello Civili, Sect. 54. "Quum in his angustiis res esset; atque omnes viæ ab Afranianis militibus equitibusque obsiderentur, nec pontes perfici possent; imperat militibus Cæsar, ut naves faciant, cujus generis eum superioribus annis usus Britanniæ docuerat. Carinæ primum ac statumina ex levi materiâ fiebant, reliquum corpus navium, viminibus contextum coriis integebatur."—"To such straits," says he, "was Cæsar reduced, all the passes being occupied by the cavalry and infantry of Afranius's army, that he was unable to complete bridges over the river *. He then ordered his soldiers to prepare a number of vessels †, the use and construction of which he had learnt some years before in Britain. The keel and frame were formed of light wood; a sufficient number of elastic twigs were interwoven between the ribs to give strength to the sides, which were afterwards covered with hides;" the latter answering the same end as the more refined method of planking, which had been, even then, in use for a number of ages, in those countries where the arts had made any material progress.

From the foregoing description it is very evident that this vessel, in the construction of which the full extent of British maritime knowlege and mechanical ingenuity appears to have been exerted, was of the same kind, and applied to the same purposes, as those which in modern days are called Punts or Pontoons; but the necessities of our aboriginal ancestors not requiring in their rude uncultivated state any thing farther than a conveyance across the rivers which intersected the country, it can be but little wondered at, that their discoveries and skill attained no greater height. Viewing, therefore, and comparing with it, the Marine Architecture of the various newly-discovered countries, where it may at this

* The Sicoris, now the Segra, situated in Spain, and running by the town of Lerida, then called Ilerda.

† Naves. This term proves how very indeterminately that word is frequently used by the ancients; and their descriptive accounts, through so uncertain a mode of expression being consequently rendered extremely vague, can very little be relied on.

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moment be considered in its original and almost totally unimproved state, it is drawing a very fair inference, considering the subject in a philosophical light, to say that the human mind, directed to the same point, has generally effected its purpose nearly in the same way, whether the artist was an aboriginal Briton, an Esquimaux, or an inhabitant of New Zealand. Partial variations must indeed be admitted, but these are occasioned merely by the difference of situation and climates, as well as the peculiar productions of the countries themselves. The inhabitant of the Labrador coast covers his Canoe with the skin of the seal, on which he feeds, because the frozen region, in which he is destined to live, affords him no other material so fit for his purpose: others whom we might with ease select, and who are placed by Providence in a more genial latitude, have been wise enough to use either the bark of trees, curiously joined, a contrivance to which they have been driven, through the want of implements, or tools sufficiently hard to enable them to make use of the trees themselves; while the inhabitants of countries fortunately or ingeniously supplied with these, as a more durable and useful substance, better adapted to their purpose, have carefully seized the opportunity of working such light and buoyant woods as nature hath furnished them with, into their rude and uncultivated first attempts in the science of Marine Architecture.

The difficulty of ascertaining who were the original inventors of the art has been already pointed out. The nations which stand foremost as joint candidates for the honour, appear to have been the Ægyptians and Phœnicians; at least it is to them that the invention is ascribed by authors of the highest antiquity, as well as credit, on the score of affording the most authentic information. The Nile, which intersected their country, presented to the former a less dangerous opportunity of making the first rude attempts in the science of navigation than the sea itself did; while the enterprising spirit, that appears peculiarly to have marked the Phœnician character, as well as the advantageous situation of their two principal cities, Tyre and Sidon, urged them, by gradual steps, to bolder enterprises, which raised them to an unrivalled pre-eminency, as navigators, among the nations which surrounded them, and enabled them to engross, almost entirely to themselves, the commerce of the universe.

The following description is given us of the original method used by the Ægyptians in constructing vessels, and it will forcibly strengthen the observation we have already made, that all primitive attempts in the art we are about to treat of, have been regulated or extended more by natural causes and consequences than by any wonderful exertion produced from the mind of the artificer himself.

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himself. The bark used on the Nile appears to have been formed of small planks cut out of the acantha or Ægyptian thorn: these were not, as might be naturally supposed, cut into lengths, as planks, but nearly square, measuring about three feet each way: they were lapt over each other like tiles, and fastened together by a proper number of wooden pins nearly of the same shape with the trenails of modern times. This mode of construction was found sufficiently strong for the purposes to which it was applied, even without the obvious assistance of any internal frame of timber; and proving equal to the necessities and ambition of the inventors, they for a long time troubled not themselves with attempting any additional improvement.

The hull of the vessel being completed, a competent number of seats, or benches, for the accommodation of the rowers, were added; and when the joints or seams were carefully caulked with the papyrus, so as completely to exclude the water; the floating fabric then became fit for immediate use. We must not, however, forget to mention, that experience very early suggested the necessity of some directing as well as impelling power, in aid of human labour. A mast, formed out of a strait stick of the acantha, and a sail, made of papyrus, supplied the latter; at the same time a rudder, which is said to have passed through the keel, or bottom of the vessel, remedied the defect occasioned by the want of the former.

These vessels being, as well from their construction, as equipment, almost incapable of stemming the current of the river, were generally towed up against it by persons on shore, unless the wind fortunately proved sufficiently strong and favourable for the proposed course, to enable the sail to be used as a substitute. On returning with the current, it was customary for the Ægyptians to fasten, with ropes across the prow of the vessel, an hurdle of tamarisk, which being let down into the water, and steadied by ropes, or bands made of twisted reeds, caused it to move forward with encreased velocity, in consequence of the stream acting with greater force on the surface of the hurdle which extended beyond the sides, than it would have done on the mere vessel itself, without this ingenious aid. In order to preserve a due balance between the head and stern, which might otherwise have been affected by the action of the water on the hurdle, and, in some degree also, by the weight of it, as well as to cause the boat to swim nearly with an even keel, a stone of considerable magnitude, pierced through the middle, was suspended by a rope from the stern, a contrivance

contrivance which was found to answer the purpose so well, that the unskilled navigators were enabled to pass to and fro without either danger or difficulty.

Certain prejudices which originated in religious motives, confined the navigation of the Ægyptians to the Nile for the space of several centuries: they entertained the strongest aversion to the sea, and called it Typhon, because, according to the crude undigested notions of early times, they supposed it to swallow up a river, which, on account of the fertility it endued their country with, they regarded as a species of divinity. They even carried their dislike, to all persons following a maritime way of life to such an height, that, it is said, they would scarcely permit Phœnicians, or any other strangers so occupied, to enter their country. The case was widely different with respect to the inhabitants of Tyre and of Sidon; scarcely were those cities founded, ere they entered with avidity on a pursuit which they never relinquished, or even relaxed from; whilst they continued to preserve their liberty and independence. The following character, which they appear to have well deserved, has been given of this enterprising and industrious nation. "As they were merchants, they may be said to have engrossed all the commerce of the western world; at least, as navigators, they were the boldest, the most experienced, and greatest discoverers of the antient times. They had for many ages no rivals; and as they delighted in establishing distant colonies, their exertions in that particular were so numerous, that, when it is recollected their country was, in all probability, little more than the narrow slip of ground extending between mount Libanus and the sea, it must appear not a little surprising, how they could furnish such extensive emigrations without causing an absolute depopulation of their whole country."

In few words, they appear, according to the best information we can now procure, to have been among the earliest people who made any considerable progress, either in the art of constructing vessels, or the science of navigation itself. No particular description is afforded us of the mechanism and form adopted by them, farther than that, in the earlier ages of the state, when their views were directed merely to the inoffensive purposes of commerce, their ships were considerably shorter, and broader than those which, in after times, when the power, and the consequent ambition of the people encreased, were intended to promote the destructive ends of warfare, and plunder. This difference of construction was common to all nations as soon as the art of navigation became applied to two purposes, and has, in some degree, been continued among moderns even to the present moment.

CHAPTER

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CHAPTER THE SECOND.

The Science of Shipbuilding and Navigation probably known at a very early Period to the Chinese—Reasons assigned for the little Progress made by them in the Art—Account of their Skill in Navigation and Method of Boat-building—The Art of Navigation understood by some Individuals before the Time of the Phœnicians, or Ægyptians—Its Influence and Effect with respect to Colonization during the early Ages of the World.

WE are not, however, while we attribute to the Phœnicians this pre-eminence, to consider every other ancient nation in the universe as ignorant of the science in its more extended state. That degree of curiosity which is infused by nature into the human mind, and the ardour of pursuit which frequently swells inclination into a persuasion of necessity, produced at the same time, in other quarters, the same progressive improvement, which we may, almost uniformly, trace in all countries whatever, as they emerge from barbarism into civilization. But the earlier ages of the world, were we much more intimately acquainted with their history than the most learned and unwearied investigator ever pretended to be, could scarcely afford us any amusement, and still less instruction, in this service. We have therefore little to regret if time, and the destruction of the most valuable records of antiquity, have prevented our diving farther into the ancient arcana of it, as the most perfect knowledge of them would certainly produce materials far less interesting to our present purpose, than an account drawn from the modern practice of the uncivilised rude artist inhabiting any newly-discovered country on the surface of the globe. It consequently becomes needless to say more on this part of the subject; we have already pointed out those states which we know were considered, by the ancients, as the leading professors of navigation, and consequently of ship-building, as a national pursuit, and have only to add to this list of enterprising people a short notice of a nation which strict enquiry, and more recent discoveries, serve to point out to us as almost coeval with them.

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We mean the Chinese;—a people who afford us stronger proofs of the paradoxical temper and genius of mankind than any now existing; a nation which, perhaps, in respect to priority, may claim a very early mention; but which, in regard to improvement, has not improbably passed through upwards of thirty centuries without producing, or even wishing to produce, any considerable improvement in the original floating structure, the possession of which first constituted them a naval power. The opinion that existing necessities and local situation tend more to the establishment of those particular forms, or peculiarities of construction, which distinguish the vessels of different countries from each other, is wonderfully strengthened by the practice of this art among so numerous and ingenious a people. Sufficiently secluded, and separated from nations more powerful in respect to naval war than themselves, they have, if their own chronological statements may be believed, quietly conducted their affairs, during the period just related, without acquiring additional knowlege, or discovering perhaps, at least till within the present century, that it was in the reach of human ability to extend that knowlege beyond what they themselves possessed.

The history of nations endued with so much apathy is so little interesting, that it passes through the mind like a vision; and the narrative of three lines will comprise all the account that is necessary to give of it.

The causes of the little progress by them made in the art of navigation, a science which all persons must admit holds an equal and uniform pace, in respect to improvement, with that of ship-building, are well explained in the account of the Transactions of the Embassy sent from Great Britain to Pekin, in the year 1792. The short observations which are interwoven with it are in exact conformity to those ideas, which we hope all persons, who regard the defects, the perfections, the real, and artificial necessities of human nature with care, and attention, and without prejudice, will, though with some reluctance, admit the truth and propriety of.

"When an European pilot arrives," observes the narrator, "upon the deck of a vessel, on board of which his assistance is required, he takes at once the helm, and exercises his functions like a dictator among the Romans, while all other authority is suspended, or exerted only to enforce obedience to his absolute commands."

"But the Chinese, in the present instance, were too much awed by the novelty of their situation, in the midst of strangers, to be forward in interfering. They were, however, attentive to the preparations made for the prosecution of the voyage, and to all manœuvres of the ships. Each of them brought with him a small

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small marine compass; but they had neither charts, nor any instrument for ascertaining latitudes. The local experience, it is true, of skilful pilots, is deemed sufficient in regard to coasts visited by them frequently."

"It is not uncommon, however, on board Chinese vessels, to have maps or sketches of their intended rout, with the neighbouring headlands, cut out or engraved upon the back of empty gourds, the round form of which corresponds, in some sort, to the figure of the earth. Such a similitude may have sometimes contributed to render these sketches somewhat less erroneous: but the advantage is accidental, for neither the astronomers nor navigators of China have varied much from the first rude notions entertained among mankind, that the whole earth was one flat surface, in the middle of which the Chinese took for granted, that their own empire was situated; thence emphatically stiled, by them, the empire of the middle; all other countries surrounding it, being, in their estimation, comparatively small, and lying towards the edge, or margin of the earth, beyond which all must be a precipitate and dreadful void."

"This ignorance of the earth's form precluded any attempt to ascertain the latitude and longitude of the different parts of it by observations of the heavenly bodies, for the improvement of navigation. Even among other nations, where philosophers had made discoveries of importance, they seldom were applied to useful purposes, until the great inventress of social arts, necessity, had stimulated to extraordinary exertions. Notwithstanding the science of the Greeks, and the fertility and acuteness of their mind, they never proceeded to the length of ascertaining, with the assistance of an instrument, the position of a ship at sea: satisfied that they could by the observation, in the day-time, of some part of the coast of the Mediterranean, in which they generally sailed, or of the many islands scattered through it, and, in the night-time, of the stars, obtain such information as they wanted in that respect."

"The Chinese, indeed, enjoy a similar advantage, as their seas resemble the Mediterranean by the narrowness of their limits, and numerous islands with which every part of them is studded. It is to be observed, likewise, that the art of navigation, improved among Europeans, dates its origin nearly from the same period when their passions, or their wants, impelled them to undertake long voyages over the boundless ocean."

Among a people so destitute of ambition as we find the Chinese described, little variation could be expected to take place either in ship-building, or any other art connected in the most distant way with war, and extension of terri-

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tory, since that time, when experience taught them that their different rude contrivances fully answered the humble ends to which they were applied. On comparing the account given by Sir George Staunton of their smaller vessels with those in use among the ab-original Britons, the similitude will be found extremely striking. "The boats," says he, "commonly in use among them, consist of five planks only, joined together without ribs or timbers of any kind. Those planks are bent to the proper shape, by being exposed some time to a flame of fire. They are brought to a line at each end, and the edges are joined together with wooden pins, and stitched with bamboo split into flexile threads, and the seams afterwards smeared with a paste made with quick lime from sea-shells and water*. Others are made of wicker-work smeared all over, and rendered water-tight by the same composition as is used for the former. The owners affect to paint eyes upon the heads of all those boats, as if to denote the vigilance requisite in the conduct of them. They are remarkable for standing the sudden shock of violent waves, as well as, for being stiff upon the water, and sailing expeditiously. The boat belonging to the chief of the district was built upon the same plan, but on a larger scale; had a carved and gilt head bearing some resemblance to that of a tiger; and a stern ornamented with sculpture, and painted with a variety of designs in lively colours. In those boats the principal sitters are generally at the stem, instead of being near the stern, as is the custom in Europe."

Having said thus much, we should be involuntarily led into an anachronism were we to proceed any farther. The skill possessed by this extraordinary people in modern times, as naval architects, appears to the most perfect conviction so little varying from their own, and the practice of all the rest of the world so many centuries since, that their ancient history would imperceptibly involve with it their more recent one. Except, perhaps, in some few particulars, more, indeed, to be considered as refined embellishments than as tending to any real use or advantage, one and the same account might serve, without much impropriety, for both.

Although we have stated the Ægyptians and Phœnicians as those who are supposed to have first followed navigation as a national pursuit, yet a multitude of individuals belonging to other countries†, whose names we shall have occasion to mention hereafter, when we speak of the Galley, or vessel of war in

* This circumstance well explains the term of ὀστράκινα πορθμεῖα used by Strabo, and strangely supposed, by Schæffer, to mean vessels built with *sea shells*.

† Danaus, or Armais, Janus, and many others.

use

use among the ancients, certainly passed over the sea from different quarters at a very early period, and that too in vessels not merely contrived for the purpose of transporting them, but even fitted for war as completely as the unskilful artist of those early times could equip them. Let it not, therefore, be taken for a contradiction in us, if, while we are speaking of nations whose pursuits it is easy to trace with certainty, we mention the more early fortuitous voyages of any adventurous individuals unconnected with them. Phryxus, and his sister Helle, daughter of Athamas king of Thebes, from whom the Hellespont, now better known as the passage of the Dardanelles, derived its name, were wrecked in attempting to cross it in a ship, or vessel, called the Ram; and from thence is explained to us the ancient mythological fable. This accident is supposed to have happened nearly fourteen hundred years before the Christian era, and almost a century and an half before Tyre, the Phœnician capital, was built. Many other similar instances might be adduced if necessary; and if we consider a little, we shall not find it within the bounds of possibility that the case should be otherwise, except in the opinion of those who are daring enough to dispute, or deny the fundamental and leading principles of the Christian religion.

It is not, however, our intention to enter into any disquisition of that sort, or to say more, than that adhering to those principles, it is a self-evident fact, the knowlege of navigation, though in a very crude undigested state, must have preceded the general population of such part of the world as was known even at that time. This wonderful art, and the dispersion of mankind, as they encreased in numbers, followed each other naturally, as cause and effect; for though it might have been possible for continental colonization to have been carried on to a very great extent without any aid at all from it, yet the absolute inaccessibility, except by shipping, of some countries, which we know to have been peopled at a very early period, and the ease with which many others could be colonised through the assistance of this contrivance, or, more properly speaking, this science, very sufficiently prove its remote, and general use.

The Chinese date, whether with truth or no we cannot pretend to say, the foundation of their kingdom from Fohi, who is with good reason to have flourished very soon after the deluge: but though we might be inclined to allow this without any violent stretch of belief, yet it is by no means so reconcileable to our understanding, that Italy, France, Spain, and many other countries of inferior note, should have been peopled, and risen into consequence at the time reported by history or tradition, except through the intervention, and powerful assistance of this art.

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CHAPTER THE THIRD.

Of the different Vessels intended for commercial, and other Purposes not warlike, in use among the Ancients—Their Form, their Names, and the Materials of which they were built.

THE first rude attempts made by mankind in the art of navigation were directed, as we have already observed, merely to the gratification of an invincible propensity, planted by Nature in our hearts, curiosity, and the necessity, in some degree, of promoting colonization. The second originated in the desire of gain. It is a general idea, founded, we believe, on the best information and opinions now to be procured, that the first species of commercial vessel in most frequent, as well as extensive use, among nations widely separated from each other, was the Raft; a collection of planks, or rather trees, rudely fastened together with ropes, formed, most probably, from the barks of the very trees which constituted the float, or from some other coarse material which the dawning genius of our early ancestors had discovered to be applicable to that purpose. Experience soon taught the navigators, that they were deficient in the power of guiding or directing the course of this unwieldy machine, so as to be certain, in spite of the natural opposition of wind and current, of reaching in safety the precise spot they wished. To remedy this defect a simple addition was first contrived, and, unlike most other primary inventions, though extremely artless, was, to say the truth, tolerably well calculated to remove that inconvenience, to the cure of which it was applied. It consisted of nothing more than a few thick planks of wood thrust down into the water, to the depth of three or four feet, between the joints of the raft, or rather between the trees which composed it; these being raised or lowered according to the wish of the untutored pilot, were found, by experience, to aid him considerably in the management of his vessel.

Floats exactly answering the same description with those in use among the ancients, having been found in the South Seas within the present century, it may probably be thought not improper to give the following description of them, extracted from the " Relacion Historica del Viage a la America Meridional,

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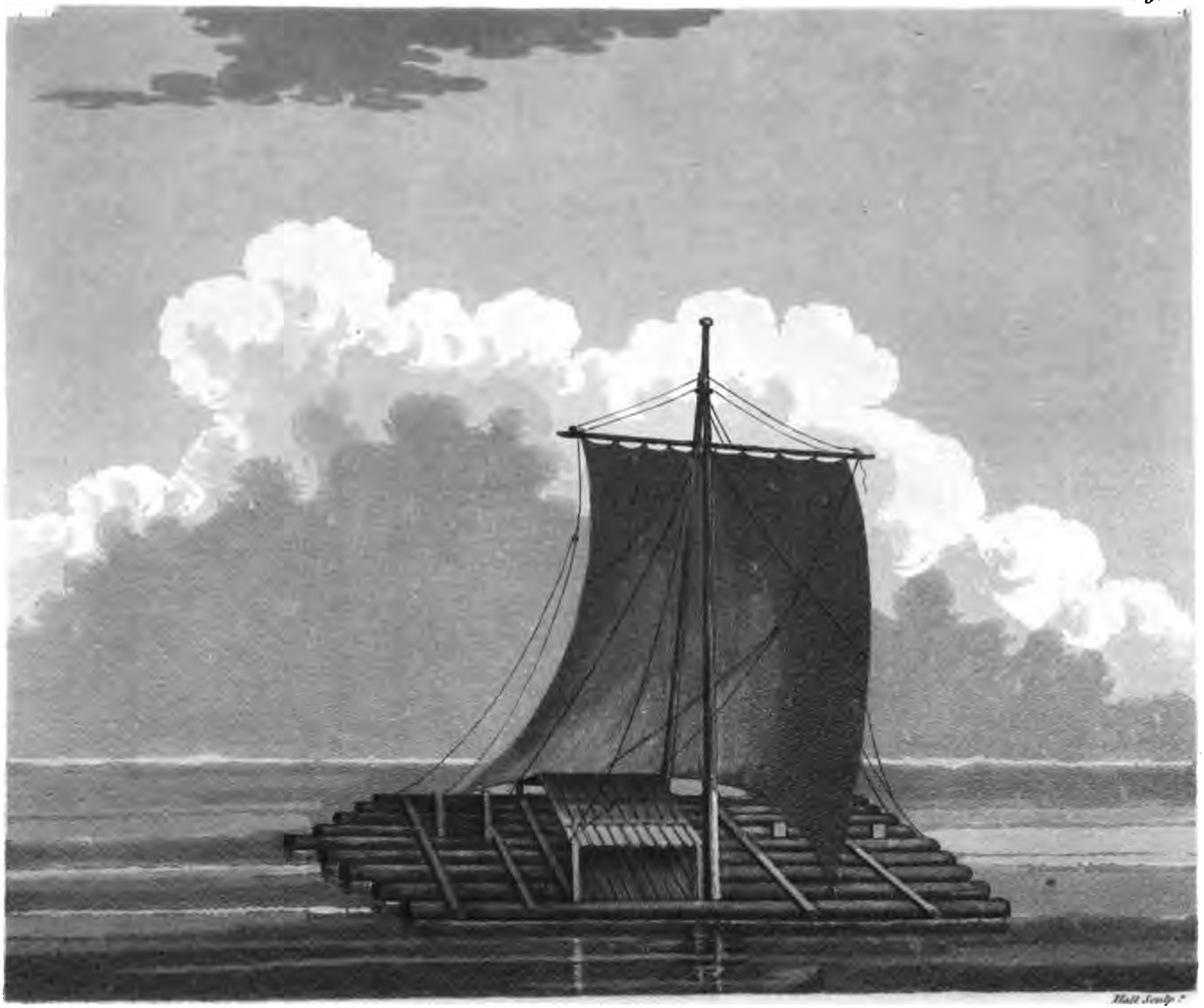

Hall Sculp.

A BALZA.

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necho de Orden, de S. Mag, &c. Impressa de Orden de Rey en Madrid, 1748."

"These jangadas, or rafts, are called Balzas, from Balza, the name of the tree of which they are made. They consist of five, seven, or nine logs, or trunks of trees, by the Darien Indians called Puero, which in all appearance is the ferula of the Latins, mentioned by Columella in lib. 5. and of which Pliny in lib. 13. cap. 12. says, there are two kinds; the lesser by the Greeks called NA'PTH, and the greater Narthex, which is very lofty. Nebrija gives it the Spanish appellation of Canna beza, or Canna beja. Don Jorge Juan has seen it growing in Malta, differing only from the balza, or puero, in being much larger than the canna beja, which the Maltese also call ferula. The balza is a whitish spungy wood, and so very light that a boy can easily carry a log four yards long and a foot in diameter.

"The balzas are not only adapted to this river [Guayaquil] but venture out to sea, and carry on the trade as far as Payta. Their dimensions are proportionate to their use, or voyage for which they are intended, some being only for fishing, others for the river trade, bringing fruits, and all sorts of merchandize from Bodega to Guayaquil, and from thence exporting them to Puna, Salto de Tumbez, and Payta; others are yet more commodiously contrived for carrying families, with all their furniture and necessaries, to their plantations, or country houses. The puero trees, of which they are built, are twelve or thirteen toises long, reckoning five feet to the toise, and two feet, or two and an half diameter; so that the whole breadth of nine logs, of which some of them consist, is between twenty and twenty-four feet; and those of seven or fewer logs are proportionate.

"These logs are fastened to each other only by the bejucos, or withies, with which the cross logs also are lashed to them, yet so securely as never to give way, if not worn out by long use, though in their voyage to the coast of Tumbez and Payta the sea runs very high; but the negroes neglecting to examine if the bejucos are not too much worn to sustain another voyage, before they put to sea, it too often happens that the lashing breaks, the logs separate, and both cargo and passengers perish: indeed the Indians, being more active, get upon a log and safely work it to the nearest harbour. One of these melancholy instances happened while we were in the jurisdiction of Quito, and are wholly to be imputed to the sordid negligence of the Indians, who seem to have no sensibility of danger.

"The thickest log of the balza is placed so as to reach farther than the others: at the stern, another log is lashed to this, on each side, and others to these, till the

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the intended number be completed, which is always odd; the large one in the middle being, as it were, the stay and foundation of the others.

"The larger sort of these vessels usually carry about twenty-five tons without damaging the cargo in consequence of its being too near the waters edge, for the sea never breaks over them, nor does the water swell between the logs, or ever rise above them, because the whole body of the vehicle accommodates itself to the motion of the water in all weathers.

"These rafts work, and ply to windward like a keeled vessel, and keep their course before the wind almost as exactly, which is the effect of another contrivance besides the rudder: some large planks, three or four yards long, and half a yard broad, called guares, are set up vertically at the stern, and also forward between the main logs. By pushing some of these under the water, and taking others a little up, the float sails large, bears up, tacks, or lies to, according as the machine is worked; an invention which has hitherto escaped the acuteness of the most ingenious Europeans: and though the Indians have indeed contrived the instrument, yet they are utter strangers to the principles of mechanics, and the causes of its operations.

"Had it been known before in Europe, the loss of many lives in shipwreck might have been prevented, as appears by the following, among many other instances: in the year 1730, the Genouesa ship of war, being lost in the Vivora, the mariners made a jangada, or raft, to save their lives, but miscarried by committing themselves to the winds and currents, without any steerage; and the frequency of such melancholy events induces me to give a minute explanation of this instrument, from a Memoir of Don Jorge Juan, relating to it.

"The direction in which a ship moves when under sail, is in a line perpendicular to the sail, according to the demonstrations of Renau, in his Theory of Manual Arts, cap. 2. art. 1. Bernoulli, cap. 1. art. 4. and Pitot, sect. 2. art. 13. The reaction being equal, and opposite to the action, the opposition of the water to the motion of the vessel will also be in a direction perpendicular to the sail, from leeward to windward, and the impulse of a larger body exceeding that of a smaller, supposing the motion of both to be equal, it follows that, upon one of the fore guares being thrust under water, the vessel will lie-to, and bear up again, if it be taken out; and, by a parity of reasoning, an after one being thrust under water will cause the ship to bear up, and to lie-to, on its being taken out. The way used by the Indians, in managing the balzas, is to increase the number of guares to four, five, or six, to keep her to windward; for it is evident that

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that the more there are under water the greater will be the lateral resistance, which is thus increased by the lee boards used in smaller vessels, and for the same purpose. These guares so effectually answer the end for which they are intended, that, when once the balza is under way, only one need be worked; and by thrusting it down, or raising it up, a foot or two, the vessel is kept in a right course."

This floating machine, the use of which we have just shewn, has been continued even to modern times, being extremely simple as well as of very easy construction, afforded the means of carrying a greater quantity of commodities than could possibly be conveyed in any vessel, put together with so little trouble and expence of time. Those commodities being, in the infancy of traffick, articles less liable to sustain injury from the weather, either in their texture or quality, than they would have done in later days, when refinement had materially improved them; it becomes extremely probable that the ab-original inhabitants of all maritime countries, whose genius or inclination led them to such pursuits, made use almost without exception, of the same means. As practice and experience naturally point to the remedy, as well as the discovery of defects, so did they in the instance before us; the variety of inconveniencies to which the primary invention was liable, was afterwards much reduced by that more ingenious piece of mechanism, called by the Romans navis oneraria, by the Grecians φορτηγος, a ship of burthen, built either for the purposes of commerce, or for the conveyance of troops and different warlike or other stores, which the frequent contentions between nations rendered, we had nearly said, indispensibly necessary.

The use of the sail appears, from the most authentic testimony, to have been very particularly appropriated to the class of vessels which we are now describing. Their crews were few in number, speaking comparatively with the galley, which was the invention of less remote ages; and it is natural to suppose, that avarice, which trade is invariably the parent of, would exert its utmost ability to feed its own insatiable desires, and contrive all possible means of diminishing expence, as it thereby encreased its own more speedy acquisition of wealth, and property. As to the vessels themselves, when navigation became so far established as to be a national pursuit, a variety of names were bestowed on them, and a multiplicity of forms were used by different countries, as chance, caprice, and, very frequently, as real utility suggested. The general principles by which the ancients were actuated have been already described, and it is, perhaps, needless to enter much farther, into more minute particulars.

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We must not, however, omit to observe, that both the Greeks and Romans, with whose history we certainly are better acquainted than with that of other cotemporary nations, were attentive and precise enough to build vessels peculiarly adapted to that trade in which the owner was immediately engaged: for instance, among the Greeks, those vessels which were intended to carry corn, called from their use σίτηγοι, materially differed, more especially in their internal structure, from such as were used for any other kind of purpose. Among the names commonly, and generally bestowed on vessels of burthen, was that of ὁλκας, from whence is evidently borrowed the modern term hulk, holker, or hooker, adopted first by the Flemings. Indeed, we may trace many of the appellations now given to vessels from those bearing some analogy to them, either in use or size, which were built upwards of twenty centuries since: for instance, the σκαφοι, or skiffs; the Cattæ, from whence the term cat, usually applied to Norwegian and other large north country ships; with many others.

It was also not uncommon to derive the names of vessels from the place where they were first contrived, or most usually built, a custom still in use among moderns. Phaselus, a small yacht or pleasure-vessel, so called, in all probability, from Phaselis, a town in Pamphylia, belonging to the Cilicians, where such boats were much in use and fashion: Cydarus, a vessel peculiar to a river in Thrace, of the same name: Parones, small vessels built on the Parian Islands, in the Ægean Sea, the inhabitants of which much used them: Myoparones, nearly of the same description with those last-mentioned, and acquiring their title from the same cause*, with the addition of Myon, a city in Epirus, where the use of them was much adopted. On the authority of Cicero we mention the name Cybea, applied to a large vessel built for the purposes of merchandise, probably derived from Cibus, meat or food. On that of other authors, the Gaulus, a vessel nearly round, somewhat resembling the present jolly-boat, and certainly derived from the same Latin term, which signifies a milk pail. The Corbitæ, so denominated from corbis, a wicker basket; the reason of which allusion is readily seen from the account given by Cæsar, of the vessels he found in use among the ab-original Britons, when he first invaded their island. The Caudicæ, or Rafts, so called from Caudex, the stump or body of a tree. Hippagines, from Ιππος, an horse, signifying vessels used for the transportation of cavalry or horses. Pontones — *Anglice* punts or pontoons, vessels particularly adapted to the

* Stephanus Doletus asserts they were so named from Myoparo, a pirate of Syracuse, who first invented them; and this certainly is the most probable derivation.

passage

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passage of rivers. Lintres, small flat bottomed boats, so called from the Greek word λινος, signifying a vat. Ratiariæ, vessels answering to the description of modern lighters, not improbably the first essay towards improvement on the caudicæ, or rafts; the name appearing to imply, that the modern term, now used, is thence derived. Catascopium, a scout, or advice boat, from σκοπιαω, *video*, to spy, or to look out.

These, with a few others which we might with very little industry select, formed the catalogue of the ancient civil, or commercial marine. Some of their vessels were of wonderful magnitude, if we may credit the testimony of authors. In particular, Hiero king of Syracuse, is said to have possessed one, intended for the sole purpose of carrying merchandize, which was of four thousand tons burthen: and the Ægyptians, at a still earlier period, built a ship, which they called the Isis, that was an hundred and eighty feet in length, forty-five in breadth, and forty-three in perpendicular height, from the upper deck to the bottom of the pump-well *. The inhabitants of Alexandria were also much noticed, in ages somewhat later, on account of the immense size of the vessels which they constructed for the same species of service as that last-mentioned.

From the foregoing accounts we may fairly conclude, after making all possible allowance for the extravagant and hyperbolical fancy of ancient writers, that the science of shipbuilding very rapidly advanced, in some particular countries, soon after its first discovery; for though we may be sceptics enough to doubt some particulars, still there will remain behind firm and immoveable facts, fully sufficient to convince us, that it must, in point of strength at least, have been conducted on fixed and determinate principles, established by close attention, and by no indifferent experience. The principal proportions, if those of the Isis are to be taken as a pattern, differed not, as we have already shewn, very materially from those even of our own times: but we are much in the dark as to any other of those more minute particulars, the knowlege of which would enable us to form that perfect representation of their vessels, which future ages, no matter how remote, will be able to amuse themselves with doing, of those built at the present time, pro-

* The dimensions given of this vessel do not differ materially from those of the first rates built at the end of the last century, except that it was rather longer in proportion to its breadth. We calculate its burthen to have been about nineteen hundred tons; from whence it is evident how unwarily hyperbolical the ancients sometimes were in their reports, and in none more, than in the assertion they have transmitted to us concerning this Leviathan, which they would fain persuade us was capable of carrying as much wheat, for which purpose she was built, as would have supplied all Greece for twelve months.

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vided a new gothicism does not rear its leaden mace to destroy literature, as an avowed enemy to its views and designs. As to the particular materials, those used in the very infancy of the science, were certainly such as nature appeared to have kindly furnished the inhabitants of different countries with, in aid of their humble views, and supposed necessities. Afterwards, when, by degrees, the first rude essays grew into a regular and established system, then, as now, such timber as was peculiar to each climate, was adapted to this great purpose, under the direction of proper artificers, by all nations who boldly aimed at the character of becoming maritime powers. The plane tree, the cypress, the oak, the fir, the cedar, with many others, as will be hereafter more fully explained, fell rapidly to the builder's axe, victims to the insatiable avarice, and pride of man; and for one vessel which, in the beginning, was rudely, though ingeniously, formed out of a single tree, it soon became necessary to fell, what, comparatively speaking, might be called a forest.

CHAPTER

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CHAPTER THE FOURTH.

Of Commerce, and its tendency to promote Marine Architecture.

LUXURY and Avarice, the parents of Commerce, had scarcely made their appearance in the world, and sullied that original purity of mind, that primæval simplicity of manners, which are supposed to have existed in the period which the heathen poets describe in their beautiful allegory of the golden age, ere their offspring suddenly started into existence; and though it has disdained to own those between whom it was engendered, has, we fear too frequently, proved itself their truly legitimate child.

Remote colonization spreading into all the different climates and countries of that part of the world then known, soon introduced to the acquaintance of mankind an extensive catalogue of commodities, the production of those climates and countries which, though extremely limited in point of extent, speaking comparatively with our present knowlege of the globe, reached through a sufficient number of degrees of latitude, to furnish man with the means of heightening the comforts, and advancing what are called the elegancies of life, provided he could collect, within his own sphere, those extraneous articles which were not produced by nature in their highest perfection, except under climates materially differing, in point of heat or cold, from that inhabited by himself. From hence originated that species of intercourse between nations far distant from each other, which has since grown, by long use, almost into necessity, and has acquired the name of trade.

This powerful remedy to the supposed necessities of human nature soon acquired a political consequence in the world, and in so great a degree, as to become grafted, in its very infancy, on the principal state-stem of every nation that fostered it; imperiously demanding to be first succoured, even though its support should drain those material juices from the parent, which might soon impoverish, and, in the end, destroy it. For the truth of this assertion we need only to refer to the history of every country which has been rash, and hardy enough to cherish those specious advantages which it has promised, without being sufficiently

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cautious, sagacious, and provident, to balance carefully its benefits against the manifold inconveniences which have too frequently accompanied them.

We find ourselves on this occasion again compelled to have recourse to quote the example of that people, who must certainly excite the wonder of all who are acquainted with their history; and, though in some they may create contempt, from the remainder they will, in spite of prejudice, on many accounts extort reverence. The empire of China, extending one thousand three hundred miles from north to south, and affording all those various productions which can pamper the pride or appetite of man, saved the inhabitants the labour of exploring remote regions to feed either, and rendered them happily independent of all the rest of the world. With countries whose limits were more contracted it was otherwise; and avarice soon finding itself fed by the advantages it derived while ministering to the remaining follies of mankind, took the earliest opportunity of insinuating its poisonous tenets, of persuading the governing powers in every country where it was suffered to take root, that the existence, and prosperity of commerce, was essential to the welfare of every state placed by nature in the condition of fostering it, and even synonimous to the well-being of the state itself.

To this insidious representation we may ascribe the prohibitory edicts issued, in the most remote ages, by the governing powers of various countries who found themselves possessed of sufficient force to overawe their less warlike, or less numerous neighbours. To the same source we may also trace the cause of the greater part of those wars which, in different ages, have deluged the world with blood, in pursuit of a phantom, plausibly promising to be productive of imaginary happiness, while, in reality, it has ever proved itself the firm, the implacable foe to quiet, to public tranquillity, and to that purity of mind which mankind is supposed to have once possessed, but which, as we have already said, nothing so much as itself has tended to deprave and destroy. Commerce, say its strenuous advocates, has become indispensibly necessary in later ages, owing to the great progress of population, because when countries sent forth colonies of needy or enterprising adventurers into distant parts of the world, it was soon found that some articles not to be found in the new settlement, and to the use of which the emigrators had been accustomed, either in the way of luxury or utility, had been left behind in the quarter from whence they came; and, on the other hand, that they found many productions peculiar to their second abode, which might be extremely grateful and convenient to what was called, and to the present moment

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ment retains the same name, the mother country. This is certainly glossing over in the best manner, but it by no means does away those frailties, those desires, those (we had nearly said) vices, which gave birth to this pursuit; for reflecting on the mischiefs it has occasioned, the blood that has been shed for its protection, and the varied miseries it certainly has introduced into the human system, if our courage were equal to our wishes, we certainly should not fail to pronounce it otherwise than one of the worst kind.

As this intercourse was considerably aided by navigation; nay, as it was in many cases next to impossible it should subsist without some knowledge of that art, it soon became necessary to apply earnestly to it, and improve those means by which the colony itself had been originally conveyed to its new territory. The example of one nation proved, from the advantage derived by pursuing it, a species of precept to all the rest of the known world, and the mania of ambition, avarice and depravity, spread rapidly, like a pestilence, over the face of the earth.

Soon as the contagion had so far insinuated itself into the human system as to mingle with the habit, and become a kind of permanent or chronic disease, it was found necessary to cherish and encourage its progress to the highest crisis; just as a blain, which, though painful in its growth, is attended with care till it acquires its due height, because it is supposed to contribute to the health of the body: for this reason the arm of government was stretched forth, and the strictest, the most envious attention unremittingly paid to the creation of an avaricious monopoly, though the act was an invasion of the natural, and dearest rights of the human race.

Every commercial state formed round itself a vortex of greater or less extent, according to the power which raised it, and that, not unfrequently spreading by degrees, almost imperceptible, soon encountered others sometimes of superior, though generally speaking, of less influence than its own. Then arose the contest in which, as a natural consequence, the power of the weakest was, almost without exception, swallowed up, in that of the mightier foe: hence sprung the intimate and close connexion between commerce and war, an alliance, however strange and unnatural it may appear, which has been continued from very early ages down to the end of the eighteenth century.

The uniform conduct of the Phœnicians, who, as they were among the first, so did they soon render themselves the most powerful of all the ancient commercial nations, forcibly displays the truth, and may stand also as an account of the behaviour of all the rest of the world, when acting under similar circumstances. Almost in the infancy of their state, encouraged by their situation,

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situation, naturally advantageous to such an undertaking, they applied themselves with unremitting assiduity to trade and commerce, till by their unwearied application they rendered themselves superior, by sea, to all their neighbours, and in particular to the Syrians, who were less attentive. The latter, though nearly as ancient as themselves in the mercantile world, soon suffered their consequence as a maritime power to sink, by improvidently permitting an internal intercourse with the eastern continent of Asia, to divert their thoughts from the Euphrates, and the Mediterranean.

As to the Phœnicians, they were, as has been already observed, indefatigable; their whole genius was exerted in every possible attempt to advance their designs. They affected, entertaining the same ideas as the Hollanders once attempted in later times, to aspire to no empire but that of the sea, to aim at little or no extension of territorial possessions, beyond what was absolutely necessary to the furtherance of their designs, and to rest in tolerable content while they were permitted, without molestation, to indulge their own avarice, by ministering to the follies, the luxury, and the vices of all the rest of the world. There were few countries then known, however distant from them, and difficult the navigation, that were not explored, and carefully examined, as to their ability of furnishing or producing any new article of traffic. The British islands, supposed to be inhabited by the most barbarous and uncivilized people then existing, were neither remote enough, nor was the danger of such a voyage great enough, to deter them from venturing thither, and that too at a very early period. This circumstance is proved beyond dispute, or even doubt, from the name of Cassiterides, derived from the Greek word κασσίτερος, signifying tin, by which they were distinguished on account of their having furnished the ancients with that valuable metal.

After this strong instance of their persevering diligence and attention, it becomes almost needless to mention other quarters less difficult of access with which they maintained a constant intercourse. Among these were all the different colonies and nations settled on the shores of the Mediterranean sea; those inhabiting Spain, Barbary, the borders of the Euxine, or Black Sea, and the Palus Mæotis, now called the Sea of Asoph. In each of these places they are said to have had that kind of settlement, now called a factory, where their agents collected the various articles they were instructed to procure, and from whence they disposed of all those which were sent them from the principal mart. Thus, it is to be observed, did this industrious people, ever assiduous in the attempt of acquiring wealth, exercise all the branches of traffic; that is to say, they were, at one and the same time,

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exporters, importers, and transporters, or carriers of all commodities from one part of the world to another, from the barter or exchange of which any advantage could be derived. Their whole country was compared, by the ancients, to an immense storehouse, where all the different productions of the earth, that could either minister to the wants, the pleasures, or the luxury of mankind, were collected into one grand mass.

So jealous are they reported to have been of all foreigners, so fearful were they of encroachment on those supposed benefits which they wished to monopolise and engross entirely to themselves, that if at any time, when bound out on a foreign voyage, they observed a stranger in company with them, and found him endeavouring to pursue the same track, they immediately altered their intended course, using every possible means to avoid him, and prevent his following them; nay, it is even asserted, that they often purposely risked the loss of their vessels, and their own lives, rather than afford the inhabitants of any other country than their own the smallest opportunity of breaking into their monopoly, or holding any share whatever in the commerce of the world. It is moreover related that they were so fearful of rivalship, and so pertinaciously bent on keeping every thing to themselves, that, to add to the natural danger of the sea, and encrease such discouragement as might prevent other nations from exposing themselves to it, they became pirates, and declared themselves at war, by turns, with every country in the universe, whenever they met with vessels to which they thought themselves superior in force, and, consequently, able to overcome. This particular conduct is stated by some authors in terms rather of praise, and represented as a master-stroke of policy in a people who grasped at so injurious an appropriation of what may certainly be deemed the natural property of all mankind.

As well in ostentation of their naval power and consequence as to remind their countrymen perpetually of the means which created their greatness, their coins were, almost without exception, impressed with the figure of a ship's prow, or, as it was afterwards termed by the Romans, the rostrum or beak. From their antiquity, and the want of skill in the artists who executed them, very little information is to be derived from them: but on those which have been best preserved and transmitted to us, their vessels appear to differ very little indeed, except in ornament, from those of the Romans, when practice in after times had introduced a variety of improvements which added elegance to use, and taught mankind that it was not sufficient for the satisfaction of the human mind, if ingenuity was exerted to the

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ease of human necessities and wants, unless it were extended still farther, and the contrivance rendered agreeable to the sight also. After having for a considerable time exercised their unbounded tyranny, as it might be fairly stiled, over all the rest of the world, their arrogance received a fatal check, they fell, as they justly merited, beneath the superior power of the Persians, and, considered as a commercial state, were heard of no more.

The people who appear next in point of antiquity, and, indeed, power, were the Carthaginians, a branch or colony sent forth from Tyre, one of the most powerful cities in Phœnicia. Strictly pursuing the example, and manners of the parent state, they soon raised themselves into considerable notice, both as a commercial and a warlike nation: they rose, with a rapidity almost incredible, into the highest rank of political consequence, and were for many ages the arbiters of the world. At length, like most other cotemporary states, they sunk before the superior genius, the indefatigable industry of the Romans; and were, though not till after a long, a most animated struggle, completely swallowed up in the vortex of their rival's power.

A more extensive account of this brave but unfortunate people would lead us too far from our own particular subject, and prove rather a general history of the state itself, than of that abridged part of it which relates to the science of shipbuilding only. To speak the truth, the practice and method used universally at that time by all who were ranked among great and commercial nations, differed, we believe, in so slight a degree from each other, that it would certainly, at this remote period of time, be difficult, if not absolutely impossible, to trace or point them out. Of superior antiquity as naval powers, and cotemporary with the latter, considered in a commercial light, were the different states of Greece: trade indeed was but little regarded among them: the leading feature of their ambitious minds was that of raising themselves superior to all surrounding nations by dint of arms alone. They considered commerce as a mere secondary occupation, needing to be exerted but sparingly, and having for its only useful branch the power of supplying such articles, or stores, the production of foreign countries, as were necessary to the furtherance of their hostile designs against their supposed enemies. Commerce might be said, therefore, almost to sleep, far as respected them, and Carthage for a considerable space continued the emporium, till fate, as we have just observed, raised up a most formidable competitor in the Roman republic.

Useful, and even necessary, as commerce might be considered in the light of a state engine, that proud imperious people affected to hold it in the utmost contempt.

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contempt. Patricians were prohibited by law from exercising the occupation of a merchant, which was limited, and confined to the very lowest of the people. Its protection was, nevertheless, one of the first public concerns. Envious of the rival wealth of Carthage, and jealous even unto frenzy of its ability to defend it, every nerve was strained, every outrage against the natural law of nations was committed to defend the worthless cause. Wars succeeded to wars; contending fleets repeatedly met in dreadful conflict; and the civil, the peaceable institution of traffick quickly became, as we have before observed, one of the principal promoters of warfare and general desolation.

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CHAPTER THE FIFTH.

The Advancement of the Art, and its application to the Purposes of War.

SCARCE had the enterprising, the restless mind of man overcome the first terrors induced by adventuring on an element which appeared, as if designed by Nature, to be the fixt, the insurmountable boundary to its desires and ambition; when, owing to causes already assigned, it immediately endeavoured, with the utmost activity, to extend its views, and apply those discoveries to the destructive purposes of war and plunder, which, in their origin, promised to be productive not only of a much more innocent, but, as it might be thought, even of an useful end. To this inordinate lust of dominion and pillage may principally be ascribed the extension of the science of Marine Architecture to the invention of the galley, a species of vessel more peculiarly contrived than any before constructed, for the purpose of transferring to so unstable an element those scenes of furious contest which had, till then, disgraced the land only, and compelling it at least to participate in all the horrors of war.

So speedily was this purpose executed, that, as if by magic, the ocean was covered with immense fleets, and without servilely imitating the pomp of eastern language, became literally dyed with the blood of the slain. So little are the accounts given by ancient historians to be depended upon; so obscure, so contradictory is the information they afford us, that we dare not affirm, with any certainty, who was the bold adventurer to whose daring spirit mankind owes, as a primary cause, this ever-to-be-lamented perversion of the original use to which the buoyance of timber was first applied.

Philostratus asserts, that a certain prince, whom he calls Erythras, and whom many persons imagine to have been Esau, or Edom, the son of Isaac, rendered himself master of the Red Sea, and forbad the Ægyptians from entering it with any galley or vessel fitted for the purposes of war. He is said also to have carried his peremptory injunctions still farther, and to have even restrained their trade to one vessel only at a time: but that politic nation contrived to evade the force of this arbitrary edict, by building a vessel so large and capacious, that it

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it contained more merchandize, and articles of traffic, than a considerable number of those which, previous to that time, had been in general use, or applied to the same purpose.

This event, if correct in point of chronology, must have taken place about the year of the world 2220, near a century before the time when any of those personages flourished who are mentioned by other historians as having first acquired the dominion of the sea. Hercules, Perseus, Theseus, Cadmus, Prometheus, Janus, and many others among the fabulous deities and demigods, are among the subsequent candidates for this honour: nor must we forget the well-known enterprize of Jason, which certainly appears to give him some pre-eminence among those, whose well-known prædatory expeditions have entitled them to, or, we should rather say, have procured them so much renown. On this account Lucan, Seneca, Sallust, and several other ancient authors, wish to have him considered as the parent of warlike navigation*, when the art became so extended as to deserve that term. Armais, the brother of Sesostris, better known among the Greeks by the name of Danaus, who lived about the year of the world 2470, has undoubtedly some claim, at least to being ranked as a considerable improver of the science, though we must peremptorily reject allowing him the honour of having been the original inventor, for the same reason that we doubt the pretensions of Hercules, or Janus. Atlas, king of Mauritania, or rather Libya, who lived about the time of Moses, and

* Though very improperly, the argonautic expedition not having taken place till about the year of the world 2720. The following short account of it, may probably be, not improperly, introduced here. Pelias, the uncle of Jason by the mother's side, was appointed, by Æson, the father of Jason, guardian of the kingdom of Thessaly during the minority of his son: but having resolved, if possible, to secure the crown to himself, he sent a messenger to consult the Oracle on the properest mode of effecting that purpose. He received for answer, that he was to beware of a man without a shoe. It happened not long afterwards, as Pelias was sacrificing to Neptune, he called Jason, who was at that time on the opposite side of a rivulet to him; the young man hurrying to obey his uncle's orders, dropped one of his shoes in his haste, and of course appeared to be the person pointed out by the Oracle. Pelias, not appearing to regard the circumstance, asked Jason his opinion and advice, as to the measures to be taken relative to the person of whom the Oracle had ordered him to beware. Jason, without hesitation, replied, that he would advise sending him to Colchis, a country abounding in gold mines, strongly guarded, whence the origin of the well-known fable of the golden fleece. Pelias immediately closed with the proposal, and ordered his nephew to prepare for the expedition. The young hero chearfully assented, and having engaged a number of young spirited adventurers, from among the first families in Greece, to attend on an expedition which promised so much fame, and wealth added to it, procured a proper vessel to be built for him at Pegasa, by an artificer named Argus, in honour of whom the ship itself was called Argos, and the crew acquired the title of Argonauts. The result is well known, and indeed is immaterial to our present purpose.

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first introduced the science of astronomy, is also to be classed very high among those who were the principal improvers of the art of navigation in its infantine state; though contrary to the assertion of many heathen authors of antiquity, we by no means think it just to allow him the title of being its parent.

There appears, however, a personage, who, if we may be allowed to argue from reason, and the superior honours paid him, as if with one consent, by the Greeks, Romans, and other heathen nations, had a still stronger title to the honour than any of those already mentioned. It is almost needless to say we advert to the fabulous god Neptune, the reputed son of Saturn and Ops, the brother of Jupiter and Pluto; but there is much difficulty in deciding either as to the time in which he lived, or identifying who in reality he was. Some authors, among whom is Vossius *, suppose him to have been Japhet the son of Noah; and others, Rameses, king of Ægypt, who lived about the year of the world 2670; in which latter case either our former chronology is incorrect, or the preceding attribution vague. Diodorus Siculus, without taking upon himself any theological disquisition or particular definition of persons, only affirms him, in conformity with the plain heathen mythological account, to have been the god of the sea, and to have been the first personage who brought navigation to its utmost limits of supposed perfection, and followed the improvement by the equipment of a numerous fleet. This is an admission, or, rather, proof of those qualifications and exertions which were, we will not say the necessary preliminary to deification, but were, when found, almost certain to ensure it.

" * Japeto obtigere maris Mediterranei insulæ, et continens Europa, ut in quam ex insulis ulterius veniretur. Hujus igitur posteris duplici scientia opus fuit: nautica ad transmittendum vastum mare et equestri ut in loca venientes longe lateque patentia, sed inculta et sæpe sylvestribus, efferis et venenatis animalibus obsessa, celerius tutiusque quam maxima spatia conficerent, donec de locis maxime sibi idoniis satis despicere possent eaque inter se partirentur. Hanc esse causam existimo cur Neptunum quem Japhetum interpretor, non nauticæ solum rei, sed equestri etiam præfecerint."— *Vos. Theolog. Gent.* Lib. 1. Cap. 15.

The islands situated in the Mediterranean sea were allotted to Japhet, so was also the continent of Europe, as a territory into which he might pass after having colonised the former. There was, therefore, a consequent necessity his descendents should be complete masters of two sciences, that of navigation, the better to enable them to pass over the interspace of sea, and that of riding, so that when they should penetrate in all directions into uncultivated districts, which are frequently infested either by wild beasts or by poisonous animals, they might be enabled to traverse in security, as well as with expedition, an extent of country till they should arrive at a spot, fitted for their purpose, where they might settle. For this reason I suppose Neptune, whom I imagine to have been Japhet, is described (by the pagans) as the first inventor not only of the science of navigation but of the art of riding.

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Τῶν ἄλλων θεῶν (says he) τῶν ἐκ Κρόνε καὶ Ῥεας γενομένων φασὶν οἱ Κρῆτες Ποσειδῶνα μὲν πρῶτον χρεῖσασθαι ταῖς κατὰ θαλασσαν ἐργασίαις καὶ στολὰς σεσήσασθαι παραδοῦσ αὐτῷ τὴν ἡγεμονιαν ταύτω τε Κρόνε. "The Cretans say that of the gods descended from Κρονος (Saturn), and Rhea, Neptune first took upon him the empire or government of the sea, a power or authority conferred on him by his father Saturn." From the preceding extract it is very apparent that Neptune was not considered, even by the ancients themselves, as the inventor of the art of navigation, but as the first person who equipped a fleet of vessels fitted for war, aided by which, he assumed to himself the absolute dominion of those seas. It is also quaintly remarked, that Neptune could not possibly claim more than the invention of vessels fitted for war, inasmuch as neither Saturn, nor any of the inhabitants of Crete, now known as the island of Candia, or their ancestors, could possibly have arrived there, had not the science of navigation itself been previously known. Lactantius confirms us strongly in this appropriation of character and command. De Neptuni sorte manifestum est, cujus regni tale fuisse dicimus, quale Marci Anthonii fuit infinitum illud imperium, cui totius oræ maritimæ potestatem senatus decreverat, ut prædones persequeretur, ac mare omne pacaret. Sic Neptuno maritima omnia cum insulis obvenerunt. "In regard to the power allotted to Neptune, it appears to have been of the same nature with that decreed by the senate to Marc Anthony, who was invested with the supreme command over all the seas of the empire, that he might be enabled the better to extirpate pirates, and prevent the interruption of navigation as well as commerce. For this very end was the charge of the sea, and the safety of the islands surrounded by it, committed to the personage (Neptune) first mentioned."

The veneration paid by all pagan nations of antiquity to all renowned, all enterprising characters who started up among them, the honours they bestowed on them even while living, the love, the admiration, the fear with which they regarded them as heroes, rose to such an height as to render each country extremely zealous in maintaining the dignity, and exalting the renown of their favourite prince or leader. Their gratitude led them still farther; they worshipped them after their deaths as deities sent among them from heaven to support, to protect, or to instruct them; and as this grateful principle has been the cause of raising so many separate candidates for the honour of having been the original inventors of every science which is supposed to conduce to the welfare, the happiness, or even pleasure of mankind, so the firm, the strenuous zeal of their several constituents,

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in asserting the propriety, and maintaining the right of their favoured claimants, has rendered it next to impossible for us, at this distance of time, to settle the dispute with any certainty of being correct.

Although this contradiction in different authorities, and the remote distance of time, have rendered it, as we have just observed, extremely difficult, if not impossible, for moderns to fix the identity and pre-eminence of any individual person better entitled to it than the rest of his competitors, there can remain little or no doubt, first, concerning the real cause why such honours were conferred; and, secondly, why they were paid to such a variety of personages. Neptunes, or gods of the sea, were, not improbably, as numerous as the different nations which worshipped them, each assuming to itself, as a deity, the personage whose power and whose faculties appeared to entitle him best to their adoration. The circumstance of princes or chieftains, of the same description and character, making their way by the same means into countries remote from each other, may well account for the multitude of them; and the same reason too may well explain and reconcile the difference of opinion, both in respect to the true character and name of the person, as well as the time in which he flourished. On one point we may fairly rest, that the Neptune, or the fabulous god of the sea, worshipped by the different pagan nations, was either the bold stranger who had subdued them by means they deemed præternatural, or their own powerful prince whom they deified in consequence of his having delivered them, by the same supposed excellence or superior skill, from the ravage and depredations of some restless invaders.

Though we do not, for reasons already assigned, think ourselves in any degree justified in admitting Rameses to have been the most ancient of those personages on whom the appellation of Neptune and the honours attendant on his character were bestowed, yet we are clearly of opinion he was one of those conspicuous characters who were deified under that name, though a few centuries later than the first was. We need not instance a stronger proof than that it seems clearly established, he was the individual personage who assisted Laomedon in fortifying, with a wall, the city of Troy about the year of the world 2674 *. He is reported, in

* Schæffer remarks, that it is very evident both the Arabians and Phœnicians were expert navigators long before the time of the Trojan war, that they had founded a number of cities on the sea coast, and even passed into the Atlantic Ocean through what is now called the Gut of Gibraltar. He quotes Strabo, Book the first. " Θρυλλεῖ ταί χ οἱ φοινίκων ναυτιλια, ἡ καὶ τα ἔξω τῶν Ἡρακλείων στηλῶν ἐκπλεθεν, καὶ

in the fictitious allegory of those early times, to have delivered the princess Hesione from a monster, raised by some divine interposition out of the sea, and to which she was exposed by express command of the Oracle. The tragical conclusion of this story, in which truth and romance contend with each other, is well known. Laomedon refusing a recompence equal to the expectations, or probably the deserts of his former ally, was immediately involved in a war which ended in his destruction. The princess his daughter was bestowed by her former deliverer, on Telamon, the son of Œacus, who accompanied him, and who is falsely said to have afterwards been one of that renowned horde of freebooters already mentioned, and classically known by the name of the Argonauts *.

It is extremely easy to state, in the plain language of reason and common sense, the developement of this fable. Rameses, one of those personages honoured with the name of Neptune, being a chief of restless disposition, quitted Ægypt, his native country, incited either by a thirst of effecting some territorial discovery, or a lust of acquiring, by conquest, the dominion of some foreign country. Chance, or inclination, conducted him and his followers to that spot where their bravery as warriors, their skill in passing through a country by means then deemed præternatural by all not acquainted with them, procured them to be honoured and feared as beings of a superior or a divine rank. The marine monster we may very fairly interpret to have been a vessel, conveying to the same spot some unknown adventurers equally bold, but who, being less powerful, or less fortunate than themselves, fell before them an easy and inglorious conquest.

Sesostris, brother of Armais king of Ægypt, who, having dethroned the latter, possessed himself of the diadem, and reigned afterwards king of that country for many years, appears the first prince or potentate who rendered himself con-

καὶ πόλεις ἔκτισαν κακεῖ, καὶ περὶ τὰ μέσα τῆς Λιβύης." The Phœnicians attained to a very great excellence in the science of navigation; having passed beyond the columns of Hercules, they founded cities, and even penetrated into the middle of Libya. Schæffer proceeds to state, that even the Indian Ocean was not unknown and unexplored by the Phœnicians before the time already mentioned, as is very apparent from the gold and jewels which, on the evidence of Job, who is said to have lived long before Jason, (that is, about the year of the world 2400) were brought by them into Arabia from Ophir. This circumstance certainly places the Phœnicians among the earliest of the ancient navigators, the Greeks themselves having been almost totally ignorant of the science till the time of Jason. The Red Sea is supposed also, by the same author, to have derived its appellation merely from having been first navigated by the Phœnicians.—"Nam rubrum mare quid est aliud quam Phœnicium (in allusion to the famous red or purple dye of Sidon) a Phœnicibus qui suis classibus coloniisque illud frequentarent."—*Schæffer.* Lib. 1. Cap. 1.

* The argonautic expedition certainly did not take place till upwards of forty years after this time.

siderable

siderable at sea without having acquired divine honours. His reign is supposed to have commenced about the year of the world 2539, upwards of one hundred years before Rameses, who afterwards was king of the same country. This is a very singular circumstance, and proves strongly how vaguely divine honours were sometimes bestowed, Sesostris appearing best entitled to deification, as well on the score of priority, as having been a more powerful prince by sea than his successor ever was. He is said to have equipped a fleet of four hundred fighting vessels for an expedition into the Southern or Indian ocean, a circumstance which proves that the Ægyptians soon lost their pristine timidity, or aversion to the sea. He is reported to have afterwards caused an immense ship, or vessel, of cedar, to be built, which was ornamented and enriched by gilding and other embellishments, so costly as to have excited the admiration, and envy of all the world then known. It is stated to have been two hundred and eighty cubits, or about four hundred and twenty feet in length, more than double that of a British first rate; and if the same dimensions * were preserved proportionately to those in modern use, was of nearly twelve times the capacity; as this vessel, supposing that to have been the case, must have been in burthen more than twenty-four thousand tons of our measurement. We have given this short account, not because we believe such a vessel ever existed, but that we may not be charged with the careless omission of any circumstances or relations that may tend either to trace or elucidate the progress of the art or science we are treating of.

The next personage whom history has handed down as chronologically intitled to our notice is Minos, the second of that name, king of Crete. He appears to have been the next potentate who, under the degree of divinity, or, at least, the name of a demigod, equipped a fleet for the purposes either of war or colonization. Diodorus, Aristotle, Thucydides, and other ancient authors, all bear testimony to this fact. Diodorus speaks of him in the following terms: "Κτήσασθαι δὲ λέγουσιν καὶ δυνάμιν ναυτικὴν μεγάλην, καὶ τῶν τε νήσων τὰς πλείους καθαιρήσασθαι, καὶ πρῶτον των Ελλήνων θαλατοκρατῆσαι." "He is reported to have possessed great nautical power, through which, having subdued many of the adjacent islands, he became the first *Grecian* prince who acquired to himself the dominion of those seas." Aristotle confirms this evidence, and asserts, "Την θαλάσσης ἀρχην καθεσχεν ὁ Μίνως, καὶ τας νησους, τὰς μὲν ἐχειρωσατο, τας δὲ ὤκισε." "Minos became master of the sea: he subdued several islands, and colonised others." Thucydides also mentions Minos as having been

* Being however much narrower, it is calculated by Dr. Arbuthnot, to have been of no more than 7182 tons burthen.

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one of the most ancient potentates who were possessed of a fleet, through the assistance of which he rendered himself master of that, which was in his time called the Grecian Sea, and cleared it, far as it was possible for him to effect, of pirates. This appears to have been among the first incentives towards the equipment of fleets fitted for war, and the same measures being in later ages progressively pursued by the Corinthians, the Athenians, and, lastly, the Lacedemonians, as they severally advanced in consequence, are supposed to have been among the principal causes of that rank, as public states, which those republics attained to in lefs remote ages.

Casaubon, in his commentary on Polybius, makes the following obvious remark, " that the absolute dominion of the adjacent seas is an indispensibly necessary preliminary, as well to the erection, as the preservation of empire:" Thucydides also, who lived before him, proves, that those countries which employed their attention to that great purpose, never failed to procure themselves a very considerable political consequence, as well on account of their extended commerce, as of those distant islands which they were enabled to reduce under their dominion. These opinions may convince us in how splendid a light this species of power has been held, even from the earliest ages; a power which the most eminent authors (though we do not think their success has been complete) have endeavoured to rescue from the imputation of tending to promote the avarice, or encourage the tyranny of powerful states, by striving to attach to it the useful end, of having most highly promoted the comfort of mankind, aided by the benevolent consideration that it has softened the asperities of human nature by the general advancement of society, philanthropy, and happy intercourse between country and country.

It were certainly too bold an assertion to insist that Sesostris and Minos were the first princes who brought the art of naval war to a regular system. Cadmus, Bacchus, and others their predecessors, may certainly, in point of antiquity, supersede their claim; but as these were considered as deities, or demigods, they are scarcely to be classed with personages who attained not to so high a rank. The application, however, of the art being once known in neighbouring states and nations bordering on the sea, all, particularly those which had made any progress in what is called civilization, embraced the idea with avidity, and the experience of imperfections gave birth to daily improvement *.

* The invention of the mast, sail, and rudder.

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Having briefly recapitulated the names of those enterprising personages who offer themselves most conspicuously to our observation as the first discoverers, or, perhaps, we may with more propriety say, as patrons of the art of navigation, we pass, as by a natural transition, to those collected bodies of people which, having acquired the name of nations, rise to our view in regular progression as the cultivators and promoters of the same pursuit. It has been already shewn that the connexion between commerce and the art of naval war is so intimate, that the history of one, may in great measure serve for both; and it may be thought that having given the names of those nations which were the cultivators of the first, to enumerate those which properly belonged to the other class, would be a useless piece of tautology. This, though in a great measure true, is not so completely the fact, as to permit us to preserve the chain of history perfect and uninterrupted, without such recapitulation.

The Phœnicians, as they are in the commercial line entitled, on the score of antiquity, to priority of mention, so also are they, as the first naval power who appeared at sea, to defend their claim, and assert their rank by force against any who should be hardy enough to dispute it. To these succeeded a variety of competitors for fame and power at least, in the Grecian republics, which, though indifferent to what are called the benefits derived from commerce; from their natural love of warfare, and perhaps, from the necessity they became under, very soon after they had erected themselves into states, of establishing a force sufficient to defend themselves by sea, not only from each other, but from their powerful enemy the Persians, soon acquired a very elevated rank in the list of naval potentates. The perpetual feuds existing between them afforded such ample scope for practice, nearly uninterrupted, in naval tactics, that, for some ages, they appear to have been among the most experienced of all nations inhabiting that part of the world then known.

Carthage next presents itself to our view as a rising genius, whom indefatigable application first raised into a competitor for equal fame, which, in a very short time, she might be said to have almost totally engrossed to herself. Her triumphs, her consequence, were, however, but of short duration: Rome, as we have already shewn, her unwearied and jealous rival, suddenly burst forth with an irresistible rapidity, and, in the end, not only annihilated the naval power of Carthage, but that also of every country not too far distant to defy attack.

The history of Rome, which has been transmitted to us less enveloped in doubt, fiction, and improbability, than that of any other among the ancient kingdoms,

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doms, or states, affords us the strongest example of the habitude or turn of mind which has, on every similar occasion, actuated the conduct of all nations, or collected bodies of men, even from the earliest times. Ancus Martius, the fourth king of Rome, laid the first foundation of its naval power, and, according to Livy, set apart certain woods for the express purpose of shipbuilding, though it is very evident that enterprising people did not acquire any celebrity till a very considerable time after his death. The æra of its commencement is fixed by historians and others in the first Carthaginian war, Duilius being commemorated as the commander under whom they learnt to brave the perils of the sea, united with the efforts of their enemies, and who, consequently, was the first naval warrior who led them to renown and fame. The latter part of the story we readily give our assent to, but cannot, for many reasons, as easily credit, that they emerged from obscurity so suddenly, and blazed forth at once that sudden meteor of naval power which they are said to have done. We have, indeed, the evidence of history itself against the fact, for, in a treaty entered into with the Carthaginians, in the consulate of Brutus, immediately after the expulsion of the Tarquins, it was stipulated, as one of the articles, that neither the Romans nor their allies should sail beyond the Fair Promontory*: nor is this all, for, according to Polybius, the very author

* Επί τοις δε φιλίαν ειναι Ρωμαιοις και τοις Ρωμαιων συμμαχοις, και Καρχηδονιοις και τοις Καρχηδονίων συμμαχοις. Μη πλειν Ρωμαιους μηδε' τους Ρωμαίων συμμαχους επεκεινα του καλου Ακρωΐηριου εαν μη υποχειμαινος η πολεμιων αναγκασθωσιν. "There shall be (according to the modern term) a firm and lasting peace between the Romans and their allies, the Carthaginians and their allies, on the following terms and conditions: That neither the Romans nor their allies shall sail beyond the Fair Promontory, unless driven by stress of weather or the pursuit of their enemies." The treaty proceeds farther to stipulate, that if any vessel belonging to the Romans should be driven beyond those limits, it should not be lawful for the crew to purchase, or take any commodities on board, except such articles as were necessary to the refitment of the vessel, or making sacrifices, and that they should depart within five days. This stipulation relates merely to the naves longæ, or vessels of war, for in regard to such as belonged to merchants they were allowed extraordinary privileges in all the Carthaginian ports; they were exempt from paying any duties, or expences, except the hire of the person who sold the commodities, and that of the clerk, or register. The public faith was pledged for the payment of all monies due to the vender on Roman goods sold in the Carthaginian dominions: the law was, moreover, declared to be equal and open with respect to the Romans, and their own people. In one of the subsequent treaties it is agreed, that the Romans shall not capture the vessels of any country whatever, even belonging to those people with whom they should chance to be at war, beyond the Fair Promontory, the Pillars of Hercules, or the port of Tarseius, not improbably Tarsus, on the river Cydnus, now called Tarassa: the same place most persons imagine to have been the Tarshish of the Jews. Restrictive as this treaty was in some respects, and necessary too, perhaps, considered in a political light, it certainly raises the consequence of the Roman naval power to a very great height, even when that state was in its infancy. The immuni-

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author who endeavours to establish as a fact, that the fleet of Rome rose up at once out of the sea like a volcano, two treaties nearly of the same tenor and effect, were extant in his time, of both which he has given us transcripts.

There are besides these, many other collateral proofs of the mistake. In the consulate of Mævius, about the year 280 from the building of the city, upwards of two hundred years prior to the victory of Duilius, the port of Antium was forced, and the fleet belonging to that people, which consisted of twenty gallies, or vessels of war, being carried into the Tyber, was moored in a quarter said to have been expressly set apart for the construction of shipping. In the year of Rome 450, two new officers were created, at the instance of that great and revered character Decius Mus, then one of the tribunes of the people. To them all affairs relative to the navy were given in charge, an appointment too ridiculous for so wise a people to have made, had there been no navy for them to have regulated the concerns of.

In the year 475 from the building of the city, it is peremptorily asserted, that the fleet of Rome, which by the bye was then not very formidable, for it consisted only of ten galleys, appeared off the port of Tarentum under the command of Valerius, or, as others call him, Cornelius, one of the Duumviri, the first creation of which office we have just taken notice of. The Tarentines were at that time in secret league with the Samnites, and others, who were in actual open war with the Romans: imagining their treachery was of course discovered, they resolved to throw off the mask at once, hoping, that being superior in force, if they attacked, they ſhould make themselves masters of the Roman armament. They immediately put to sea with an enthusiasm bordering on fury, and assaulting their intended enemies, sunk one of their vessels, took four, but were not able to prevent the remaining five from making their escape.

From all these separate testimonies, and proofs, it seems very clearly established, that the Roman navy, far indeed from being formidable, was, nevertheless, in existence long before the commencement of the first Punic war; though, owing to their wars and contests, previous to that time, being confined to their own continent, they had applied but little to the art of navigation. The conquest of Italy, however, being completed, the designs, the ambition of the republic en-

ties and privileges granted to their merchants prove its respectability in one instance; and the clauses relative to their vessels of war argue, too forcibly for dispute or contradiction, that their navy was even then in a state of growing greatness, or no such restrictions need have been made. The first treaty was made in the time of Brutus and Valerius, the consuls immediately succeeding the expulsion of the Tarquins, the second in the consulate of Valerius Corvus, and Popilius, about the year of Rome 415

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larged with its success against the less powerful kingdoms, or petty states which surrounded it in its infancy. Then, and not before, it was, that the Roman navy raised to a most formidable height almost as if by enchantment, suddenly transferred the horror of its arms to unoffending countries, whose remote situations might otherwise have promised them uninterrupted quietude, commerce, and peace.

CHAPTER

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CHAPTER THE SIXTH.

The different Species of Timber used by the Ancients for the Purpose of Ship-building—Their Prejudices and Customs in respect to the Time of felling, and Mode of seasoning it—The Method of setting up the Frame or Skeleton—The Art of planking the Side briefly explained—The Situation and Form of the Row Ports—Difficulties which occur in attempting to investigate the Manner of arranging them—Description of the Galley from L'Escalier—Account of it taken from other Authors—Examination of the Assertions made by the Ancients, in regard to the immense Magnitude of some Vessels then built, and an Enquiry into the Number of Tiers of Oars with which they were worked—An Attempt to solve the perplexing Statement relative to the Galley of Ptolemy Philopater, which is said to have had Forty Ranks or Tiers of Oars—The Dimensions of the Ancient Galleys—Distinction made by the Greeks in the Terms applied to them, and those afterwards used by the Romans—The Names given to different Tiers, and varied Mode of fixing the Seats.

IT has been, we conceive, necessary to make the foregoing short review of the causes of the rise and fall of naval potentates in the early ages of the world, not because their history tends much to elucidate the subject we are about to treat of, but as it serves for a better basis, or foundation, on which the superstructural account of the art, or science, may be erected. After long practice, and the knowlege of those benefits which were experimentally found to result from the science of navigation, had so far introduced it to the general acquaintance of mankind that their ideal wants, outrunning their means, rendered the exercise of ingenuity necessary to supply them, nations began to apply themselves seriously to the study of Marine Architecture, so that, by the construction of vessels extensive in bulk, or burthen, the commodities of one country, as we have already shewn, might with the greater ease be transported to another. Experience soon taught the students of the art, that sails, applicable as they were to the ease of manual labour, were by no means proper to be used at all times in vessels intended merely for the purposes of war; the power, the force of the latter, depending entirely

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entirely on the celerity of their motion; while the benefits of the former, were derived from the greatest abridgement of expence, and trouble that could possibly be made. These pursuits being so totally different from each other, caused that manifest distinction in form which has been already pointed out between the vessels intended for war, and those built for the purpose of merchandize only.

An account of the materials used by the ancients for the purpose of shipbuilding has been already given. To the construction of the war galley, the slightest consideration must convince us, timber alone was applicable. The particular kind used by different states varied according to the production of those countries, as well as the inventive ingenious faculty of the inhabitants in forming tools proper to work it. In nations which were then called civilized, there was no deficiency or want in this particular: the Phœnicians, the Grecians, the Carthaginians, and the Romans, possessing every instrument necessary to the construction of such vessels built for war, as the imperfect knowlege of navigation in the early ages of the world enabled them to conduct or manage. The difference of those woods applied by them to that purpose was not indeed entirely occasioned by the productions peculiar to each individual district or territory, but by the experience of their different qualities. The fir was found to be the lightest as well as the easiest worked: the oak, on the other hand, though more difficult in application, proved the strongest and most durable: besides these, the elm, the cypress, the cedar, the pitch pine, the ilex (a species of oak), the ash, and even the alder, were severally tried. We believe, however, though many are ſaid to have been in high repute, few were in what could be called general use, particularly for the construction of large or warlike vessels, except the oak and fir, or pitch pine.

As the science advanced in general use and repute, practice and experience introduced certain maxims, some of which were really found necessary, while, at the same time, whim and caprice suggested others completely ridiculous, not to be accounted for, and absurd. Hesiod, for example, informs us, that it was deemed improper to fell any timber for the purpose of shipbuilding except on the 17th day of the moon's age, because, it being then in the wane, the sap or internal moisture, which is the grand cause of early decay, would be sunk, or, at least, considerably lessened. Vegetius extends the time, and allows, that if trees are cut down from the 15th to the 23d day of the moon, they will endure for a long time without perishing; but adds, if that limitation is transgressed, the daily practice and experience of all artizans may convince the world, it would become

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come worm-eaten or rotten in so short a space of time as to be almost incredible.

Some were ridiculous enough to think, that timber felled on the day of the new moon was absolutely incorruptible; they were also attentive even to the quarter from whence the wind blew whenever they had occasion to use the axe; and this rule varied with the different seasons of the year. For instance, in the beginning of autumn it was deemed improper, except the wind was westerly; or, in the winter, unless it blew from the north: these, with many other strange prejudices, were at times, however, not without their use; they infused an enthusiastic spirit into the people, and proper attention being paid to them, urged and caused greater exertions, on particular occasions, than in all probability could have been made had such strange persuasions not existed. To them is to be attributed the wonderful celerity with which the trees of the forest were converted into a navy in the consulate of Duillius, a period, as is reported, not exceeding seventy days. A fleet, consisting of two hundred and twenty sail, is said to have been built and equipped in forty-five days, by Lucius Piso, against Hiero, king of Syracuse, who had very suddenly declared war against Rome; and Scipio is also affirmed to have put to sea, in the second Punic war, with what is historically called a fleet, in forty days after the timber, with which it was built, was felled.

Many of the ancients were of opinion that the wood of the orange tree was most proper for shipbuilding: to modern conception the idea is as extravagant as it would be to use cinnamon for a bonfire; yet the term *citrum*, which is used, will not admit of any other interpretation. The qualities which rendered that wood so applicable to the purpose, were said to be, that, contrary to every other, it grew harder from use, and became daily more capable of resisting the efforts of the waves. To season it still farther, and render it, if possible, more durable, it is said to have been customary to lay it for seven days on dry corn, in order to extract the moisture, or sap, from the heart, a process which the ancients were ridiculous enough to imagine was extremely beneficial. Many other customs equally absurd, we might relate, were we to conceive that the best of them were of the smallest utility in modern practice.

The chestnut tree was among those in considerable request; nor did the durability of the cedar pass unnoticed by them. They found, however, some inconvenience in the use of the latter, which was not sufficiently compensated for by its best qualities. In respect to its being little susceptible of decay, they entertained so high an opinion of it, that, among the Greeks, it was called

Αἰωνιον

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Αἰωνιον δενδρον, the everlasting, the eternal tree or wood; and there was a strange tradition among the ancients, that an house at Utica, roofed with cedar, had been built twelve hundred and seventy-eight years without ever needing repair in that particular part *. It was nevertheless found but little applicable to the purposes of ancient Marine Architecture, on account of its not holding well together with nailing only, and being apt to become what is now called iron sick. It is said, notwithstanding, to have been occasionally much used by the Ægyptians, as well as the Syrians, owing to a scarcity of fir; and one particular tree is reported to have been felled in Cyprus, for Demetrius, the son of Antigonus, about three hundred years before the Christian æra, which was an hundred and thirty feet in length and seven in diameter.

The Cypress wood also was held in very high estimation, not only as being very durable, but because it shrunk, or contracted so little, after being felled, that vessels built with it, very seldom, if ever, became leaky.

The pine by no means stood in the lowest repute; to which we may in the same class add the elm, particularly for such portion of the hull as was constantly under water. The larch and the beech on the other hand were by no means in favour, being found little capable of resisting the force and agitation of the sea, as well as that they were liable to very quick decay: nevertheless the celebrated vessel, called the Argo, is said to have been principally built of the latter wood.

Among those which modern practice and experience has proved most applicable to this great purpose are the oak and the fir. The former, excellent as it is universally known to be at the present day, was not much approved among the ancients, because, though extremely strong and durable, it was found exceedingly difficult to be worked. This circumstance swelled prejudice to such an height, that it was held in disrepute among the ancient artizans on two grounds, both of which, unfortunately for the science and candour of antiquity, are extremely futile, and, indeed, totally destitute of foundation: the first was, that it was extremely liable to shrink and let in the water; and, the second, that it was very subject to early decay. On the other hand, the fir, which is far from being so well adapted to the purpose, was, as being lighter and easier of application, in much higher request and estimation. A vessel is said to have been built in the time of Caius Cæsar solely of this material; it was that in which the celebrated obelisk was conveyed to Rome, and is reported to have been of such extraor-

* Cælii Calcagnani commentatio de Re Nauticâ, cap. 3.

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dinary burthen, that it carried one hundred and twenty thousand bushels of corn merely by way of ballast.

The olive and oleaster, or wild olive, were much esteemed on account of some qualities they possessed, and rejected in respect to others. It was deemed on one hand too heavy and too flexible for the purpose, but on the other was found extremely durable, being scarcely susceptible of decay. The Egyptians, as it has been necessary to observe already, were extremely fond of using the acantha, or acanthus. Such was its reported durability, that the followers of Alexander the Great are said to have found at Tylus, in the gulph of Persia, vessels which had been built two hundred years, and were even then fit for the purposes of navigation.

It has been quaintly observed, that the hull of every ship consisted of three parts, the prow, or head, the poop, or stern, and the body, or midship frame: under the bottom, and along the center of the latter, passed the carina, or keel, so denominated from the Latin verb curro, signifying to run, inasmuch as by dividing the element on which the vessel floated, in an acute angle, it was found to contribute, in a very great degree, towards encreasing the celerity with which the hull passed through the water. At the same time it produced another good effect; it served as it does in modern use for the foundation of the ribs, or timbers, which formed the body, bearing no slight resemblance to the vertebræ of the back, in the animal and human frame; continuing up the head or bow of the vessel in a curve line, conforming to its shape, it became what is now called the stem: as well adding stability and firmness to the front most opposed to the assaults of the sea, as enabling it to divide and pass through the swell of it, with greater ease and velocity than the adoption of any other form would have permitted.

The keel is reported to have been generally omitted during the early ages of navigation, in vessels intended merely for commercial purposes. The form of these, from the most authentic descriptions, appear to have borne greater similitude to those at present employed in the same line among the Hollanders, than to any others now in use. They were flat floored, round, broad, drawing little water, and of very great breadth in proportion to their length, so that they might be capable of containing a larger quantity of commodities, than would be the case under the adoption of any other practised form. Their floor timbers were continuous; and with the addition of one futtock only on each side, (called by the Greeks ὀγκοίλια, meaning the ribs, or internal part of the animal body) the frame was completed. Some persons, indeed, have gone so far as to assert, that by a peculiar mode, known only to the ancients, the timber was rendered

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so flexible, that the frame was formed of one piece only. This secret, however, appears to have been nothing more than bringing it by force into its proper proposed curve, and confining it either till time had, in a great measure, subdued its elastic efforts to regain its original and naturally straight form, or as a more expeditious method, by adding cross pieces, now called beams, and bolting them strongly to the timbers, completed the vessel by one uninterrupted operation. This practice being soon found extremely laborious and inconvenient, was quickly discontinued with regard to vessels of burthen, and the keel universally and indiscriminately applied to them, as well as to vessels of war. To the keel, improvement and subsequent experience suggested the addition of the φάλκαι, or keelson, which confining the heads of the floor timbers, then in two parts, jointed into and divided by the keel, very materially contributed to the strength and safety of the vessel. Close to the keelson was the well, contrived as the receptacle of all that bilge water, which the working of the vessel through the rough sea caused the admission of, added to the impossibility of closing the joints or seams so completely by caulking, but that under such circumstances some must find its way. The part immediately above the keelson was called the κοίλη, or hold, and from thence is derived the English word keel, which forms the bottom of it. Aloft, beams were fixed, as already stated, which served to strengthen the vessel, and support that necessary covering well known by the name of deck. The frame, consisting of such timbers as formed the principal strength of the vessel, might now be considered as complete; but if it be fair to give any pre-eminence where two distinct parts mutually contribute to the support and perfection of each other, that which may be deemed the most material still remains to be described: this is the side or exterior planking of the vessel, which was termed by the Greeks ἐπιζώμα, in allusion to the vest, or garment, with which it was customary to cover the human body.

As the frame, especially in the midships, rose at right angles from the keel, so was the planking in former times, as now, put on, in a line nearly parellel to it, allowing, as was necessary, for the curve, or sheer of the frame: it completely enclosed it, being closely, as well as firmly attached and fastened to it by means of large nails, or bolts, formed of iron, some of which, as necessity required, passing through both, were bent or clenched, thereby rendering the whole structure firm and compact. As it was found impossible, particularly in vessels of large dimensions, to procure planks of sufficient length to extend from the stem to the stern, the danger or inconvenience that might otherwise have

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arisen from the end of either starting, was in a very great measure obviated, by the ingenious and useful introduction of what is now called a dovetail, a piece of wood, in form resembling two Greek Σ, placed fronting each other: this being artificially and carefully let into the ends of both planks, served to connect them so perfectly and securely, that little danger appeared to remain of their ever separating. The side was, as now, divided into different parts, and distinguished by different appellations: the lowest was termed by the Greeks θάλαμος, or the floor timber, the derivation and cause of which term is obvious; the second, corresponding to that part of the hull now distinguished by the term of second futtock, was stiled ζύγος, so termed from the junction of the timber at that part; the upper division θρᾶνος, signifying a bench, or seat; the deck, which was called κατάστωμα, was thrown over at the part now called the top-timber. In each of these divisions, that particular class of warlike vessels, called triremes, which, as they were the most frequent in use, so were they those which are most commonly noticed; and from which all deductions or descriptions, relative to the Ancient Marine, have been usually drawn, had, as is now commonly, though possibly erroneously thought, a tier or range of oars. The opening in the side of the vessel, through which these were worked, was called by the Greeks τρᾶφηξ, probably from τρέπω, to turn, and are now, when adopted in modern use, styled row, or row-lock ports *.

There exists some difference of opinion among antiquarians relative to the form and disposition of these ports: some peremptorily asserting, that the aperture was continuous through the whole range, an idea too absurd to be embraced; while others, with much more truth and reason on their side, are equally strenuous in attributing a distinct port to each oar. It is evident, this supposition is correct, not only from the obvious convenience and preference over the other mode, that must arise in the mind of the inhabitant of the most uncivilized country, but also from the term which we find frequently bestowed on them by the ancients themselves, of columbaria, or pigeon-holes, a term so congruous to their form, as to prevent all possibility of dispute or doubt. These different tiers were distinguished in the Trireme by terms analogous to their situation: the lower being called θάλαμια, the second ζύγια, the upper θράνια. As to those, if the fact is so, that were used in gallies of still superior rate, we are under no small difficulty in attempting to develope and attribute to each its proper term and denomination.

* Vulgo, Rullock ports.

Historians

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Historians and others have been so extremely vague, irregular, and contradictory in the accounts they have offered, not only of the particular form in which the galley was constructed, but also as to other points not less consequential, that investigation, were they to be implicitly relied on, would, if not impracticable, be at least extremely difficult. In aid of this inquiry, the curious have therefore had recourse to the very indeterminate information of coins, and such remnants of sculpture as the ravages of time, and the barbarous fury of invaders, have left to be treasured up in the cabinets of the curious. The information they afford, though founded perhaps on the most respectable evidence now existing, is at best extremely imperfect, it may almost as well be imagined, the whimsical figure intended to represent a ship, which is impressed on the gold noble of Edward III. can convey an adequate idea of the vessels composing the fleet with which that monarch invaded France, as to suppose that of the galley, exhibited on the coins of Greece, Rome, and other countries, is to be considered a perfect, or, in any extensive degree, a semblance of one.

Among the most probable, the most rational explanations that have yet been given, is one by a modern French author, M. L'Escalier. It solves many of those strange assertions made by the ancients of the magnitude of particular vessels, which throwing an air of fiction and romance on their descriptions, consequently induce posterity to doubt, if not totally discredit them. We have for a long time (says he) treated as a kind of visionary chimera, the account of three, four, five, and even eight tiers of oars, one above the other, by which the curious, who are unacquainted with naval matters, wish to explain the different appellations bestowed on ancient gallies, called Triremes, Quadriremes, Quinquiremes, and Octoremes. Whoever has the smallest idea of, or will give himself the least trouble to reflect on the subject, will very easily perceive the absolute impossibility of any vessel being able to carry even four rows, or ranks, of oars thus disposed. In the modern gallies, which have only one tier, and are in length equal to a ship carrying sixty-four guns, the oars, though the supporting point, or rowlock port, is as near the water-line as possible, are forty-four feet long. Allowing a space of four feet and an half between the lower tier of row-ports, and that immediately above it, the oars of the second must, pursuing this rule, be seventy-seven feet in length, those of the third an hundred and ten, those of the fourth one hundred and forty-three, &c. Where can we, as is judiciously remarked by this author, either find wood proper for the formation of these oars, or men powerful enough to use them? Even the third tier could not be managed properly, were not the vessel

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vessel perfectly straight, or, according to the English term, wall-sided. The oars of the lower rank too must have been extremely short, so as to act on the surface of the water at a very small distance from the side of the vessel, in which case it must be remarked, that it is very evident they could not be of any service except in a dead calm.

Snelling, in his account of the celebrated galley built by Philopater, king of Ægypt, thus expresses himself, "Remi longiores ad puppim inserti: horum maximi, cubitorum triginta octo, tractatu et remigio in usu faciles, ob plumbum ad manubium additum: The oars, which were near the stern of the vessel, were considerably longer than those in the midships, the largest being thirty-eight cubits, or about fifty-seven feet in length; they were rendered more manageable by a quantity of lead attached to the handle." As to the Quadragintiremes, or vessels usually described as having forty ranks or tiers of oars, we cannot reconcile the report to our understandings, except by supposing them nothing more than galleys fitted with as many oars in each rank. Those who pretend to impose the former interpretation are certainly as ridiculous as an author in future ages would be, who attempted to prove, that a modern ship of war, mounting eighty guns, had as many tiers of cannon one above the other.

Some persons who imagine they can solve this problem by supposing the oars of ancient galleys were disposed in diagonal ranks, or, to speak more intelligibly, that the seats on which the rowers sat, resembled a flight of stairs, (the French call it *en échiquier*, like the chequers on a chess board) and that they were not, strictly speaking, one above the other, can understand nothing either of the construction of vessels, or the mode of working them. Do they recollect that the oars in the lower tier, or row, being placed as close to each other as is possible to be effected in any given space, allowing room to work them, it is impossible to introduce one at the intervallum, in the upper tier, or, according to the French phrase, chequer-wise, without losing the advantage of that first rank, or tier; consequently, nothing would be gained by this pretended discovery. A circumstance which militates still more strongly against this supposed mode of construction is, that such a distribution of the stages, or what may be called the decks of the vessel, is incompatible both with its strength, and those communications through the several parts of the hull, or body, which are absolutely necessary.

A third common solution of this perplexing enigma is scarcely more satisfactory to us, although, perhaps, less unreasonable and contradictory to some particulars which

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which our own judgment is ready to admit the existence of. The Biremes, say the advocates for this explanation, were those vessels in which each oar was managed or worked by two men. The Triremes were galleys in which three were employed for that purpose, in the Quinquiremes five, and, to conclude, in the Octoremes eight men were allotted to execute the same service. This explanation is at first sight subtle enough to induce our acquiescence in the propriety of it; but its fallacy is, nevertheless, on a closer investigation, easy to be detected.

The galleasses, used in subsequent times by the Venetians, which were by no means equal in point of size to the first rate galleys of the ancients, had nine men employed in working each oar; and, as a still stronger refutation of the pretended explanation alluded to, in all the descriptions given of the latter by ancient authors, the words precisely are, "Remorum ordines et remigum gradus," words which certainly can bear no allusion to the number of men employed at each oar.

After reading the various treatises written with a view of elucidating this subject, after viewing the different designs collected with much care from the Roman antiquities for the same purpose, though they afford us in themselves nothing decidedly satisfactory, we may boast of having, in some measure, developed from them, if not the absolute truth, at least a reasonable system or explanation. This has been a matter of no small difficulty: these learned dissertations and investigations, compiled chiefly from the labours and evidence of ancient sculptors, who attended neither to exactness nor proportion, are extremely contradictory, and it is very evident that, for the most part, they convey to us a very false idea of the gallies of ancient times.

It may probably not be unentertaining (says L'Escalier) to explain this opinion more fully; even should it be deemed erroneous, it will be some consolation to reflect it is not the first error the investigation of this subject has given birth to; and as it is merely a matter of curiosity, the mistake, even if it prove one, cannot be material.

The Uniremes may be supposed to have been those galleys or vessels which had only one row of oars extending between their masts, or, perhaps, the entire length of the vessel, like the modern felucca of Barbary; and consequently required only one rank of rowers.

The Biremes had one tier of oars between their masts, and another abaft the main or principal mast.

The

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The Triremes appear to have been galleys of a still more formidable description than the preceding; having one tier of oars extending between the masts, a second abaft the main-mast, and a third forward, near the prow or stem, before the fore-mast.

The Quadriremes had their oars ranged like the Triremes, with the difference of having two tiers of oars one above the other abaft the main-mast.

The Quinquiremes were also of the same description, with the addition of a second tier of oars forward.

The Octoremes had two tiers of oars in the midships, and three at the stem and stern, making in the whole eight. It cannot be denied that some vessels had three entire tiers of oars; this is indeed established to have been the case from the evidence of a multitude of ancient sculptures: but there is no certain proof of any having been constructed with a greater number. With regard to Octoremes themselves, they were enormous floating structures, built merely for the purposes of luxury, and to gratify a ridiculous ostentation, so unfit for war, or even navigation, that they could not venture to sea without manifest danger. Of this description was the celebrated galley of Philopater: such also was that constructed by Archimedes, for Hiero, king of Syracuse, and presented to Ptolemy; and, lastly, of the same class may that built in the reign of the emperor Caligula be supposed to have been, which foundered in the reign of Claudius, and was irrecoverably lost in the port of Ostia.

The foregoing explanation, which appears perfectly simple and conformable to reason, enlarges our idea of the marine, or naval force of the ancients, which has hitherto been very much misrepresented, or misunderstood. It is generally supposed that their ships or vessels were extremely imperfect, and ill constructed; so that moderns have little, or, indeed, nothing to regret in the loss of a perfect knowlege of the principles of an art rudely practised by these renowned predecessors: this idea is, in all probability, erroneous.

Is it to be conceived, (says L'Escalier) that a great commercial people, such as were the Carthaginians and Phœnicians, who undoubtedly undertook long voyages, having doubled the Cape of Good Hope, as well as atchieved many other feats in navigation equally bold and extraordinary, should not have been provided with vessels well put together, and capable of effectually resisting the impetuosity of the waves?

Can it be believed, that rival nations, like Rome and Carthage, which for such a length of time, and through a series of wars, disputed the empire of the sea;

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sea; or that Greece and Ægypt, who have left us such evident and irrefragable proofs of their perfection and ingenuity in every other art and science, should have made no progress in that of Naval Architecture? Have we, because the art of navigation was imperfect, and that in consequence of the non-discovery of the compass the ancients seldom ventured out into the open sea, any just reason to conclude their vessels were bad sailers, and difficult to be worked with promptitude and exactness? Their peculiar exigencies rendered well-constructed vessels indispensably necessary to them, for to say nothing of the qualities or requisites capable of resisting hurricanes or tempests, the neighbourhood of the coast is much more subject to be affected by sudden gusts of wind than the open sea, and the shore continually attended by shoals and shelves, which are exceedingly dangerous, not to say destructive to shipping. It is an absolute certainty, that the ancients adapted a number of wonderful machines to the use of their marine, the very name and form of which we have, in many instances, totally lost. The character of Archimedes, to whom they were principally indebted for their mechanical discoveries and inventions, is too firmly established to render their powers, wonderful as they were, a matter even of doubt. It is a well-known fact, that the Romans transported by sea, from Ægypt to Rome, obelisks, formed out of one single piece, of a length and weight so enormous, that it would be impossible to put them on board any modern ship whatever. It cannot moreover be denied, that, in aid of their naval wars, they had a variety of resources, and the greatest industry in providing curious expedients, which have become needless, since the discovery of gunpowder, and the invention of cannon.

No author, Vegetius excepted, has afforded us any scientific information, at all satisfactory relative to the ancient marine. He too wrote in a time * when the history of it was nearly lost; for it is evident to all, that it does not enjoy the same advantage with other sciences, and is incapable of being transmitted, with perspicuity, to posterity, on account of that peculiarity of language, and the abstract terms, unknown in every other branch of mechanical art which, by custom, have become indispensably necessary in explaining this. We can nevertheless collect enough from this author to impress us with a favourable idea of their extensive knowlege and skill in it: to his evidence we cannot refuse joining the testimony of a crowd of ancient historians, and the descriptions, vague as they may in some instances be, which they afford us of the vessels of their times. These accounts, exaggerated as they certainly are in sundry respects, incontestibly

* The reign of the emperor Valentinian, about the year 380 of the Christian æra.

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prove, that many of the vessels of antiquity were of dimensions infinitely larger than modern ships, of what are called the line; to say nothing of the very splendid manner in which they were decorated, which indeed is very little to the present purpose. To conclude, we may venture to assert, as a certain fact, that the galleys of the ancients were longer than any modern ships of war, though very narrow, and much less raised from the surface of the water, if we except the Octoremes, vessels with eight ranks, or, as some will have it, distinct tiers of oars.

Though the foregoing account is extremely ingenious, perhaps we may with justice say, more so than the greater part of those hitherto published; yet it is far from satisfactory in all points. Did not the express term of *remigum ordines*, or tiers of rowers, so frequently used in ancient accounts, stand in our way, the best solution that perhaps could be given to the difficulty would be to close with the idea which has prevailed with many, that the terms Trireme and Quinquireme, meant vessels of such classes as required three or five men to work each oar. This explanation, however, for the reason just given, will not bear us through, to our own satisfaction, as militating in direct opposition to a particular point in the ancient description which is given us as peremptory. The Trireme and the Quinquireme, but more particularly the former, occur as the most frequent class in general use; but, as has been already stated, were we to attempt establishing any certain description from the authorities we dare refer to, or indeed from any of the most valuable remnants of antiquity, the table of dimensions would be too ridiculous for the attention, or belief, of a single moment.

In proof of this assertion, it will only be necessary to state a few of them measured by the most accurate scale, a scale constructed on the datum which it is very fair to assume, that the rowers were of the height of five feet six inches, and such certainly cannot be objected to, as an unreasonable supposition, or allowance. Pursuing this idea, which, though it is in some points the most reasonable, is certainly in others highly extravagant, we shall suppose the tiers of rowers, to bring them strictly under that description, were separated from each other by partial decks, or thwarts, laid from one side of the vessel to the other, and allow, in conformity to the suggestion of many ingenious men, that the rowers were disposed chequer-wise, or on seats resembling a flight of stairs.

First then, the perpendicular height of the upper edge of the side, taken at the midship frame, from the lower edge of the keel, was, in a Trireme, depending on the proof just stated, only six feet three inches; the length, from the extremity of the

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the stem, or cutwater, to the stern, including the rakes of each, sixty-five feet; length by the keel fifty-seven; the extreme breadth, nine feet only. The dimensions of a Quinquireme, taken from the same boasted authority, were equally ridiculous and repugnant to common sense: in particular, the oars of the upper tier were seventy feet in length, and not two inches in diameter at the handle. What judgment then, or description, can we frame, relying on the same authority, of those vessels which are reported to have been furnished with six, seven, eight, and so on, through the different ranks, or rates, up to thirty tiers of oars; what of that of Ptolemy Philopater, which is said to have been of still greater magnitude? Of this ship Athenæus gives the following wonderful, and, to modern conceptions, incredible account in his fifth book. "It had forty ranks of oars, according to the common interpretation (Τεσσαρακοντήρη ναῦν κατεσκεύασεν ὁ Φιλοπάτωρ) was two hundred and eighty cubits in length, equal to about four hundred and twenty English feet, thirty-eight cubits, or fifty-seven feet, in breadth, from entrance to entrance, and nearly eighty feet in perpendicular height, from the aft rail, or tafferel, according to the modern term, to the keel. It was furnished with four rudders, or steering oars, forty-five feet each in length, and the longest of the oars with which it was impelled were, in length, equal to the extreme breadth of the vessel. The crew consisted of upwards of four thousand rowers, and four hundred, or, as some accounts say, three thousand other persons were employed in the different occupations of navigating so immense a floating fabrick."

Many objections are made by commentators and criticks to this account. If, say they, the height of the vessel was forty-eight cubits, how could an oar only thirty-eight in length touch the water? But this is not the most forcible argument against the correctness of the above description, for we may deduct at least half that height, for the part of the vessel under water, and the rise of the tafferel above the upper row-ports, so that if, according to the suggestion raised by some, the oars were not in vessels of that magnitude obliquely extended into the water, according to that idea or method with which we are most conversant, but were, as some have thought, used as impellers, being kept parallel to a perpendicular, raised from the keel to the centre of the deck, and worked by a handle fixed into it at a right angle, the length of the oar becomes sufficient for the purpose it was intended to answer. But here again a fresh obstacle arises in the impossibility of working those impellers with effect, except by a rotatory motion, which is, on many accounts, absurd to suppose, and even impracticable in the

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xecution, except by the addition of some mechanism, the principal of which we are totally unacquainted with. In short, difficulties appear to start up and multiply whenever any attempt is made towards solving them, for, admitting the perpendicular height of the vessel from the keel to have been no greater, and the deductions already stated, properly calculated, the distance between the center of one tier of row-ports, and that immediately above it, supposing such to have been their disposition, could not have been more than eleven inches, a circumstance that must completely convince us there is an error in some part either of the calculation, or description.

Vossius, who, however contemptuously he may be spoken of on account of some of his writings, has certainly not failed in his Dissertation on the Ancient Marine, bestows considerable pains in attempting to give us such an account of this memorable vessel, as shall be reconcileable to our senses, and very candidly states all the various points which appear to militate for, and against his own opinion. " If we compare," says he, " the oars that must necessarily have been used on board this vessel, with those by which the modern galley is worked, and allow for their different proportions in respect to length, we must also keep in view a similar comparison in regard to their size and thickness, and we shall then have a correct idea of their relative dimensions, as well as their strength." Having then proceeded to an arithmetical calculation, which is omitted, as being of little use to the present investigation; he adds, " Let us now examine in what manner the four thousand rowers, which are said to have been employed on board this vessel, were employed or stationed at the forty banks of oars. It is not my intention (says he) to combat or examine what a number of very learned men have already written on this subject, both in France, and in other countries. Their opinion is certainly correct, in respect to the tiers of oars being placed obliquely over each other. Existing remnants of antiquity convince us clearly of the fact; but there still remains a much heavier difficulty to be got over: it is, in what manner the oars of the upper tier could be worked and managed by one person only, for it is denied that more than one was stationed to each oar, and the perplexity of the enigma is not a little encreased, by the assertion that a very small part of the oar reached within board. It is well known, that there are no weights whatever, which by the proper assistance and combination of mechanical powers, may not be moved even by a single person; but this we are at the same time certain, that the greater the weights are, so much the slower can they be moved. Oars, it must be remem-

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remembered, become almost useless, unless they are impelled with quickness and spirit, as well as brought back to their original station, for a renewal of the stroke, with equal celerity. The mechanical powers are of no use in this instance, as the law remains fixed and immutable, that if any operation, which, in the ordinary course of things, requires ten men to perform it, and one only is employed about it, it may indeed be executed by that one, but will require a period ten times as long to perform it in; for nature will not suffer herself to be deceived, or her laws perverted, by any such vainly hoped for advantage."

That the various inconveniences and obstacles, which attend the system of allotting one man only to work the higher tiers, may be clearly understood, and further, that we may fully satisfy ourselves what can and what cannot be done, let us enquire into the size and weight which it is necessary the oars in the upper tiers should, and indeed must have been. Those who wish to allow as little distance as possible between them, have never ventured to assign less than eighteen inches: it follows, therefore, that the uppermost tier would be no less than sixty feet from the surface of the water; in which case, it is very evident, as has been already observed, that an oar, being in length only fifty-seven feet, could not even touch it. To pursue the subject as closely as it ought to be, and state precisely the necessary length of an oar, whose fulcrum, or row-lock port, is raised sixty feet above the surface of the water; it is very evident, that the length of an oar should be three times that of its perpendicular height, from the water itself: this will give no less than one hundred and eighty feet, exclusive of the handle, and such part as reaches within board.

The position and arrangement of the rowers is next to be considered, the interspaces that were left, as well between them as the row-lock ports, together with the disposition of the seats on which they sat. The coins of the ancients, on which the representations of the Trireme, and that class of gallies, called Liburnæ, are very frequent, afford but little assistance, because (it is said on account of the smallness of the scale) it is not possible ever to express on them more than one tier of oars. On the coin, however, of the emperor Gordian, two are very conspicuous; on the Trajan column, as well as other remnants of ancient sculpture, positive proofs occur of three tiers of oars, placed obliquely above each other. From this vague and very inconclusive evidence, many very learned men have been induced to believe and assert, that those vessels which are represented in ancient history as of superior rate to Triremes, rose in regular progression with regard to their number of tiers, up to that (the existence and form

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form of which has been so much doubted and combated, and so repeatedly mentioned by authors quoted in the course of this chapter) the forty banked galley of Ptolemy Philopater. These lucubrations have been productive of many opinions highly absurd, and a suggestion of a variety of principles and dogmas, which cannot, in the nature of things, be otherwise than erroneous and false.

Vossius is of opinion, that no vessel ever had more than seven tiers of oars, and confirms his opinion by that of Pollux, a Greek writer, who lived in the reign of the emperor Commodus. After having declared his thoughts on the subject, he proceeds, in support of them, to scrutinize the assertions relative to the vessel of Ptolemy, and to examine the probable distance, as well between the banks or tiers of oars in that particular vessel, as in others of inferior rate and magnitude. In modern gallies, the shortest distance kept between oar and oar is three feet, and the greatest four; but it has been asserted by some who have pretended to be, and really have proved themselves possessed of no inconsiderable knowlege, particularly in the construction of vessels belonging to that class of which we are now speaking, that an interspace of two feet six inches between the rowers is sufficient, inasmuch as the legs and arms of the men, when extended in this occupation, do not require more. In answer to the objection that might be started to such cases of great emergency and exertions, as require a much greater interspace, in order to render the stroke longer and more forcible, it is observed, that the exertions of all being uniform, and the rower stretching forward as well as bending backward, as far as the rower who sits next behind him, it alters not the case in the smallest degree; but it is confessed to be the opinion of those best informed, that the effluvia proceeding from men so employed, and placed so near each other, would have been extremely injurious to their health, and consequently, that the seats were placed at a still greater distance from each other.

The interspaces in the ancient gallies were not (as is insisted by many) always, if ever, influenced by considerations similar to these. Supposing the rowers to have sat directly over each other, the distance between them is said to have been no more than two feet six inches, or at most three feet; but that if the same rose obliquely, the rowers sitting as on a flight of stairs, the distance between the oars in the same line, or tier, was at least seven feet. That this statement is absurd, or that the account given by Memnon of an Octoreme galley, which had one hundred oars in each tier, is false, might be apparent to the most

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Fig.1.

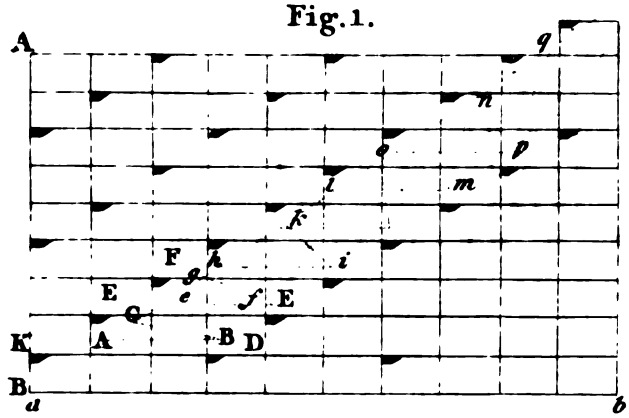


Fig.2.

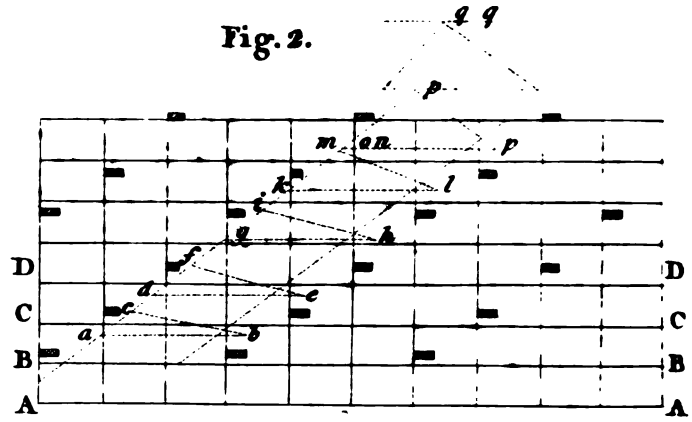
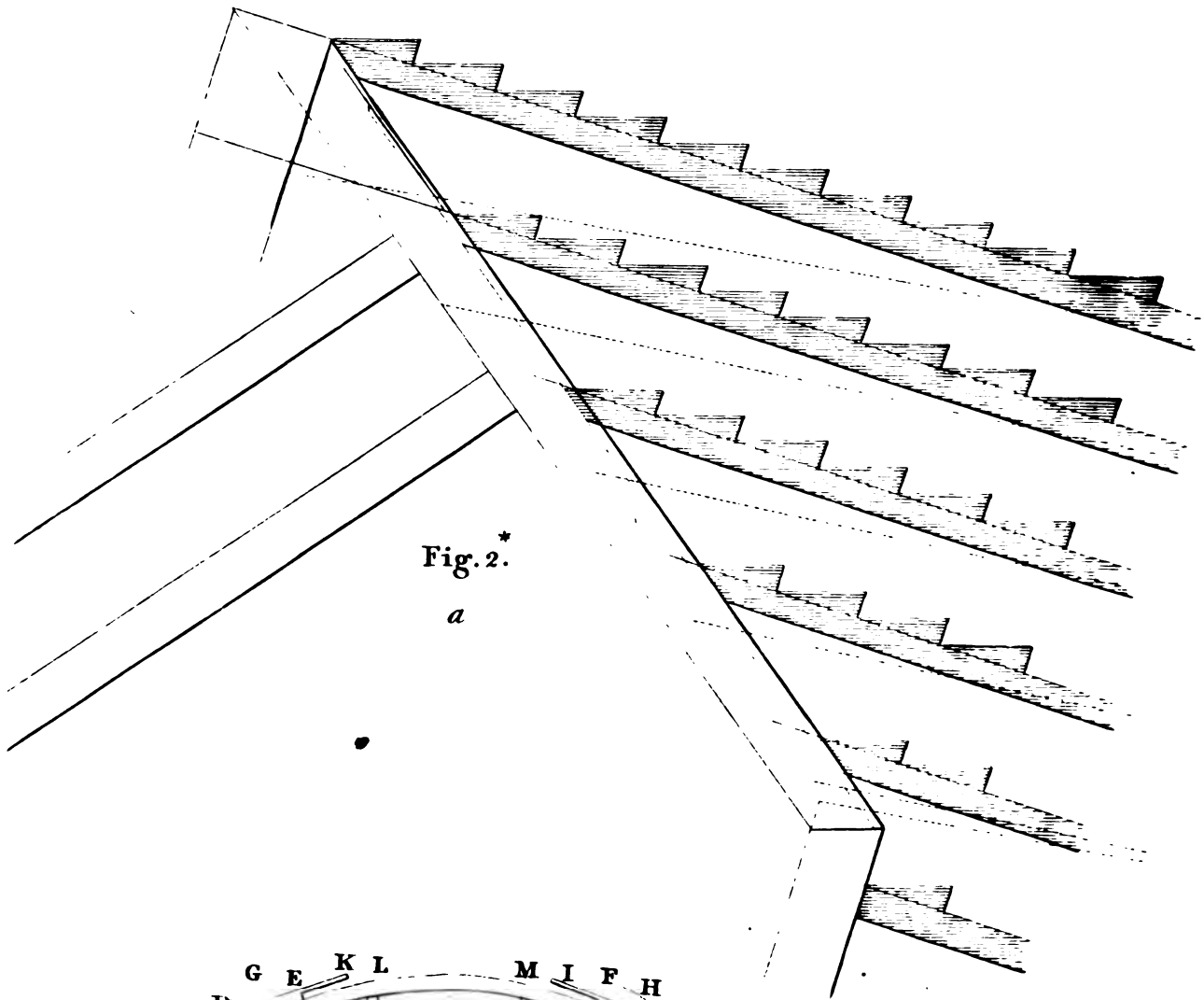



Fig.2*.

a



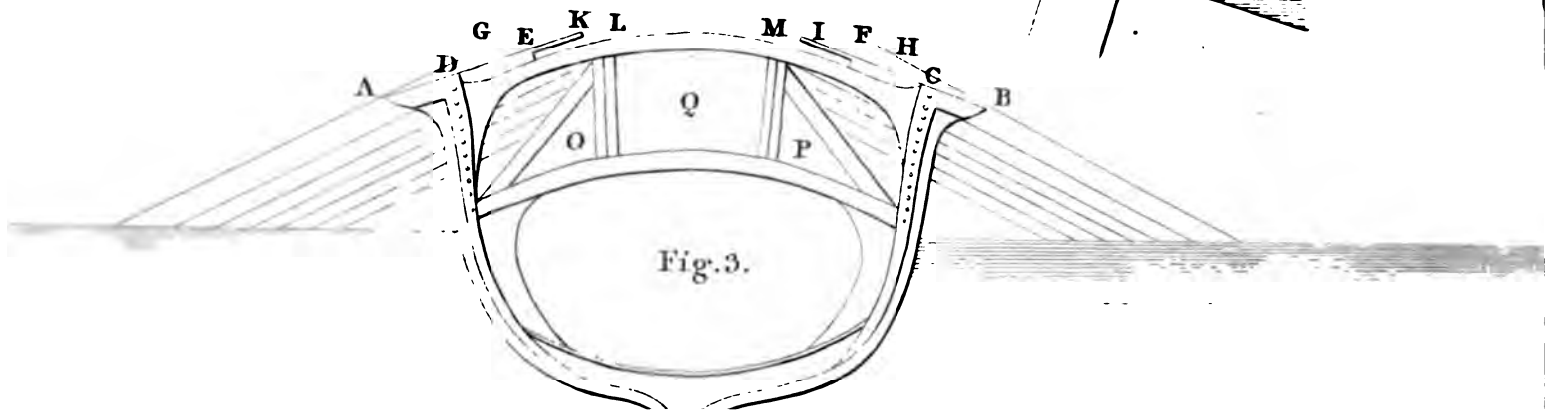


Fig.3.

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most superficial consideration, as in that case, the vessel in question must have been more than seven hundred feet long, without reckoning that additional length both of the head and stern, in which no oars were worked. This extent, it is shrewdly and properly remarked, must have required a breadth of beam nearly equal to an hundred feet, in order to render it capable of being navigated with safety. From hence it may be fairly concluded, either that there really was only one tier of oars, and that eight persons were stationed to each, which, but for reasons already given, might easily be admitted, or that there were three tiers, disposed in the manner we shall now attempt to describe from Vossius, though we candidly confess, we do not, in the smallest degree, comprehend either his meaning, or reasoning, as far as that description is concerned.

"The first, or, to speak more correctly, the lowest tier, (says he) was formed by those placed in the θάλαμος, (the situation of which has been already described) the second, third, and fourth, by those occupying the ζύγος, or middle space of the vessel's side, the four which remain, by the thranitæ, or those stationed in the upper part. In consequence of this arrangement, you will have a vessel of great magnitude indeed, but not more than three hundred and fifty feet long, or probably not more than three hundred, if you contract the distance between the rowers to somewhat less than three feet.

"In the celebrated galley of Philopater, however, it was not possible such a disposition could have been made; for if there was only an interspace of three feet allowed between each oar, the part necessary for them could not have exceeded one hundred cubits, leaving a space of no less than one hundred and eighty (making two hundred and seven feet) totally unoccupied, which is directly contrary to the established principles of the science, since in all vessels using oars they extended at least three parts in four of the whole length. Athenæus states that not more than fifty rowers sat on each of the tiers, or rows; from thence we may easily conclude, that they were disposed in an oblique parallelogram." It is said, that the upper tiers were not elevated more than nine feet from the surface of the water, and the annexed Figure, Plate 1, Fig. 1, is a representation from the same author, Vossius, of the supposed arrangement. Let the letters A B represent a space of nine feet, we shall soon find how many seats it will contain. In the modern gallies, the seats are in general twenty-two inches in height, which has been found, experimentally, to be the most convenient standard; inasmuch as, if they were higher,

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higher, the rowers would stand, rather than sit, and then be deprived of part of their impulsive strength; if they were lower, they must be obliged to rise in the action, and their force be equally abridged by the contrary cause. The dimensions apparently most proper to adopt are, that the steps, or resting places, for the feet of those who worked the upper tier, shall be four inches lower than the seats of those in the second tier, and the interspace between the seats themselves eighteen inches, nine feet sufficing to contain six seats.

Let the seats be moved so far forward before each other, that a rower sitting at E in the second tier from the bottom, may touch with the flat or sole of his foot, the foot-board fixed under the seat of the rower in the lowest tier at D; and in like manner, the rower on the seat F may touch the foot-board under the seat E, and so on. It will readily be seen by this oblique disposition, that between each seat there should be, on the base of the parallelogram, a distance of two feet four inches, which will afford a distance of seven feet between the seats D and K, which are nearest each other on the same line. The breadth of the seat itself, and the foot-board, amount to one foot: the oar itself will require to be pushed forward, at the time of any great exertion, four feet six inches: the breast of the rower projects nine inches; and the knees of the person in the tier above as much: these being added together, make exactly seven feet.

The required space for the motion of the oars must render it very evident, that they could not possibly be placed nearer each other than what is here allowed. No small difficulty, however, occurs in the attempt to explain by what means so many tiers or banks of oars could be worked. This mystery has indeed carried with it so much weight, as to induce many persons to treat as a fiction the accounts given by the ancients of the many distinct tiers of oars rising above each other, either in a direct or oblique line. It is to be hoped, therefore, that an attempt to explain this problem, which has so long distracted the minds of the inquisitive, will not be thought labour entirely thrown away.

In the annexed Figure, the rower sitting in the lower tier on the bench K, pushes forward the handle of the oar from A to B; and by a second motion, from thence to G; the handle having reached that point, the blade then takes the water, the surface of which is represented by the base line *a b*, the seat being about one foot lower than the seat of the bottom rank. The handle of the oar is forcibly pulled back from G to A, whence it first commenced its motion; and the resistance of that space of water, through which the blade passes with some degree of rapidity, will be found to afford a proper and sufficient share in

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in the impulse of the vessel itself. The rower in the second tier sitting at L, moving his handle from *e* to *f*, and from thence to *g*, where it takes the water, by drawing it back in like manner with the former, produces a similar effect. In the third tier, the rower sitting at M, and moving his handle from *h* to *i*, and afterwards to *k*, will, on drawing it back to *h*, be nearly as fortunate in the attempt to afford his portion, or share, towards the general impulse.

The fourth rank of rowers becomes almost useless, because it is very evident, that the immersion of the oar must rather retard than promote the course of the vessel, unless the stroke which followed it was more forcible than appears possible for it to have been. The slightest consideration will be sufficient to convince us, that the handle, pushed forward in its proper direction, from *l* to *m*, must be raised to *n* before it can take the water, and that being drawn back, as it must necessarily be, in a line from *n* to *l*, the assistance it affords the general purpose cannot in the smallest degree avail.

The fifth tier becomes still more unfortunate; for, after the handle has been pushed forward from *o* to *p*, it must then be raised to *q* before it can touch the water, and will, even admitting that to be practicable, in much greater degree impede than accelerate the motion of the vessel, in the attempt of bringing it down to its first station.

If any person should be hardy enough to pursue the idea still farther, and suppose tiers additional to these, the difficulty will be found to increase in a ten-fold ratio: of course, the absurdity, indeed the impossibility of the project will become most glaringly conspicuous, in consequence of the extravagant height to which the handle of the oar must of necessity be raised above the horizontal line of impulse, so that the blade shall touch the water. Nothing, therefore, can be more ridiculous, than the opinion entertained by many, that a vessel having forty banks so arranged ever existed, since it is very evident, that all tiers of oars beyond three must tend more to impede than promote the course of the vessel.

If it should be supposed, in conformity to the opinion and positive assertion of some, that the handle of the oar did not extend far within the row-port, the difficulty is by no means lessened, and the absurdity is still increased, for how is it possible that a spar of magnitude sufficient to form an oar of such wonderful length as it must necessarily have been, could be managed by one man, when it is well known, that the oars of modern gallies, which (speaking comparatively with those now alluded to) are of very diminutive size, cannot be

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worked with any effect by one man only, even though he is placed at the distance of twelve feet from the row-lock. But if the same person were fixed at the distance of one foot only from the port, it is too well known to admit of dispute, that he would only possess one-twelfth part of the power, or force, he did in the former station, and would scarcely be able to move the oar a nail's breadth; for it is the fixed and immutable law of statics, that one man placed twenty feet from the fulcrum, or supporting point, possesses exactly the same power twenty men would do who were placed at the distance of only one foot from it.

Seeing therefore that there are so many difficulties and absurdities in the systems proposed by others, which are of a nature not to be overcome or reconciled to our understanding by any devisable explanation, let a fresh opinion be started, which appears to explain them all, "at least," says Vossius, "such is my idea." Let us suppose, that in the lower tier one man only was stationed to an oar, which being short, and but trivially elevated above the surface of the water, he might be able to work without much difficulty: The oars in all superior tiers, as they increased in height from the water, increased also in length, within board as well as without, leaving room for a greater number of rowers to work each in progressive proportion to their length, so that we are not to look for a solution of the decereme, quindecereme, and quadragesireme in so many tiers of oars, but in the number of seats for rowers comprised in one oblique tier. In contradiction to the general opinion which has prevailed, that the seats of the rowers were parallel to the surface of the water, we must beg leave to suppose, that they raked inclining towards the row-ports, in conformity with the range of the deck, and were also placed obliquely, as they progressively rose in height, each seat being fixed in such a situation, that it fore-reached that below it at least eighteen inches. If these alterations are admitted as probable, every difficulty appears to give way, as will be rendered more apparent on referring to the Figure No. 2, Plate 1.

It exhibits, as the first, a parallelogramic section, shewing the supposed situation of a sufficient number of seats, reformed according to the new system. A A represents the surface of the water; the line B B the range of the lowest tier of row-ports, which are continued, at equal intervals, on the different lines to that of D D, which is nine feet above the water, the interspace between each of the tiers being eighteen inches: the seat of the rower, working the lowest, is placed four inches higher than the row-port, and four feet within the vessel,

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in order to allow the greater purchase for working the oar. If the handle is impelled by the rower from *a* to *b*, and thence raised to *c*, it will then take the water; and being pulled back forcibly on the line *c a*, will, as a natural consequence, produce its share of impulse on the vessel. Of the two rowers who work the second tier, the highest and innermost is placed seven feet within board, and the seat being raised as many inches above the row-port, the handle of the oar they work will describe the lines *d e f*. Of those in the third tier, the innermost and highest will be raised ten inches above its row-port, and as many feet within it, the handle of their oar describing the triangle *g h i*. Preserving the like proportion, the upper rower in the fourth tier sits thirteen inches above the row-port, and as many feet within it, he will have to move the handle *k* to *l*, and from thence to *m*, where it will meet the water. The interior rower in the fifth tier is seated sixteen inches above the port, and as many feet within it, and extending his oar handle from *n* to *o*, and from thence to *p*, will, by drawing it back with spirit, produce the effect required of him. Let us imagine all these tiers to have been placed under the upper deck: the sixth and uppermost was, as may be supposed, worked on the upper deck itself, the innermost rower sitting nineteen feet within the port, and as many inches above it; but though still so much more elevated above the surface of the water, this was a task of no more difficulty and labour than that of working those in the fifth tier, because the handle of the oar being raised to the height of the line *q q*, might be brought down from any point thereof to its first station with much greater ease than in any of the lower tiers, in which it was absolutely necessary that the extremity of the handle of each oar should describe fixed and determinate lines, inasmuch as, otherwise, the stroke would have been interrupted by the seats, or what was of still worse consequence, the rowers would have impeded each other.

It must appear very evident, on inspecting this, and the diagram, Fig. 1, that it was scarcely possible to extend the tiers of oars, rising above each other, to more than six; not only because the operation of rowing must become nearly useless, on account of the great degree of elevation to which it was necessary to bring the handle of the oar in order to form the stroke, but also, as the oars would of necessity become so long as to be unmanageable, even if the objection first mentioned did not exist.

That it may be, if possible, ascertained still farther, with something like precision, how many benches, or ranks of oars there were in a ship of the largest rate, and how many rowers could with convenience sit on each bench, let us

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take the dimensions of the longest oar of which any mention has been made. Its length is said to have been equal to fifty-seven feet, and it appears to be the opinion of those who are best informed on the subject of ancient naval tactics, that it was necessary one third part of the oar's whole length should be within board, which would give nineteen feet from the fulcrum, or supporting point of the row-port, to the extremity, or end of the handle. In modern galleys, it has ever been the custom to adopt the following arrangement:—If the part of the oar within board amounts to seventeen spans in length, ten nearest the end are always allotted to the rowers, and the length of the remaining seven spans being that part nearest the row-port, is always left vacant, experience having proved, that the utmost exertion of human labour, on a part so near the supporting point, would be of little or no avail, through the want of sufficient purchase. Hesychius informs us, that nearly the same regulation was adopted by the ancients, at least in all vessels having only one rank, or tier of oars, adding to his explanation of the term Ἐπταπόδης, used by Homer to signify a thwart, or seat, seven feet in length, which was sufficient for five rowers, that a seat of the dimensions just given required the handle of the oar to be twelve feet in length from the row-port. The space of seven palms exceeds five feet only by three inches, in oars, however, of still greater length, a greater purchase is necessary, and on that account it must be allowed, that the interspace was extended nearly seven feet between the rower who sat nearest the side and the side itself. When this deduction is made, there will still remain a length of more than twelve feet, which will be sufficient to hold ten rowers, allowing fifteen inches to each individual, a space completely adequate to the purpose, for the opinion entertained by some, that a rower required a length of two cubits, or three feet, to extend and contract his arms in the necessary exercise of his function is manifestly very erroneous. In modern galleys, where the rowers are by no means crowded, never more than eighteen inches are allowed to each, and very frequently no more has been allotted for the supposed proportion in days of yore. The persons occupied in the act of rowing observed carefully to follow each other, so that the action of the uppermost should not, if possible, in the smallest degree, precede that of those next below them. By these means, the whole work was carried on with the greatest facility; for if, in passing over or under they cleared each other only half an inch, it was sufficient to effect the desired purpose.

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If, nevertheless, it should be thought proper to allot a larger space to each of the rowers, it may be done by deducting somewhat from the vacancy between the first rower and the side, retaining still the number of rowers and seats originally stationed to the first oar, which, from its immense length and size it appears to demand. In the five inferior tiers, less difficulty will occur with regard to them, on account of the decreasing size of the oars, the number of seats required on each bench, ending at last in unity, will very manifestly point out the number of persons that were employed on each. The annexed Figure will well explain the disposition of them: the lower tier having one, the second two, the third four, the fourth six, the fifth eight, and the sixth, which is the highest of those placed under the deck, ten seats; so that the whole of the six tiers contain thirty-one ranks, the vacant space, marked *a*, left between the ends of the different benches, was destined for the reception of the provisions, and such stores as were necessary. It also served for the lodging of those mariners, or rowers, when off duty, who were employed in working the vessels.

As in conformity with the foregoing system, it is concluded the tiers of oars were not ranged perpendicularly over each other, but according to such a disposition as has been already described, it follows, that they were placed in a doubly oblique direction, one with regard to the head and stern of the vessel, the other relating to the breadth. As to what some authors have thought proper to add, relative to the under props, it seems immaterial to the purpose, and is therefore passed over.

The seventh and highest tier, or rank of oars, being those which it is to be supposed were worked above the *transtra*, or beams, passing from one side of the vessel to the other, is next to be considered. Although the situation of these may at the first glance be thought to have been higher than those which were under the beams, the fact will be found to turn out otherwise, the oars of the sixth and seventh tiers being both at an equal distance from the seat, and the row-ports of both preserving one uniform line; but that this position may be the more clearly understood, it will be necessary to give a short description of the beams themselves, and also of the upper deck. The nature and position of the beams have been already briefly given, but it must be remembered, that although, in the strictly classical and literal sense, the word *transtra* implies the upper seats of the rowers which were so called, while those beneath them were, as before mentioned, stiled ζυγα, or *juga*; yet as those beams while they on one hand served

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to stiffen and strengthen the vessel, were at the same time applied to the purpose of seats for the rowers, they from that circumstance acquired the name of θράνοι, or *transtra*, the indiscriminate use of the words becoming general, were bandied about unceremoniously on every occasion. In this general use and acceptation of the word, not only those timbers, or beams, which passed across the ship from one side to the other, were called *transtra*, or transoms, but those also were so named which projected beyond the side, and were not only of use to the rowers, but served very materially to strengthen, and connect firmly together, those vessels, which, on account of their immense length, would, but for the addition of this aid, have been extremely weak. The gallies of war being in breadth only one part in seven, sometimes one in eight, of their length, they would by no means have been able to weather even a trivial storm, had they been destitute of this support. In ancient sculpture, as well as on coins, such projections rarely, if ever, are discernible. This happens from the representation being, in general, not that of the midship section, the head, or the stern, in the adoption of either the prominence would be easily seen: but the case is materially otherwise in the view of the side, or what is now called the sheer draught. Nevertheless, few persons can entertain the smallest doubt of the fact, if they will take the trouble to examine the figure of the ancient galley, as given by Bayfius, the projection of the rafter and bracket is there very distinctly and correctly given. The truth of this fact may also be collected from the vessel built by Archimedes, in which Athenæus informs us, that the bands, or fillets, (similar, it may be supposed, to those projections now called wales) as well as the row-locks, or row-ports, were at a considerable and convenient space beyond the side of the vessel. It was customary in the more remote ages, as it is at the present time, to give different terms, or names, to that projecting part of the deck just described, in proportion to its approach either to the head, or stern; but these, as well as some other particulars equally trivial, may be passed over, as being very little to the present purpose: it must nevertheless not be forgotten, that, according to Demetrius, the rudders were fixed to this projection, which served as their fulcrum, or point of support. Thucydides, indeed, and many other ancient Greek authors, whose testimony is received as far more authentic than that of the author before quoted, assert, that brackets, or other projections, made of wood, were also placed near the stern, intended to answer the same purpose; but the Greek term Επωτίδες, which is used, is supposed

posed by some to have signified what are now called hawse pieces, and by others, fenders, intended to prevent the injury that might otherwise happen to the side of the vessel, in consequence of the anchor fluke rubbing against it. This will appear an opinion by no means lightly taken up, when it is remembered, that the ancients were accustomed to anchor indiscriminately, as occasion required, either from the head or stern of the vessel.

That part, continues Vossius, which was properly called the deck, or *catastroma*, was laid over the *transtra*, or beams, yet not so completely as to cover them from side to side, the center part remaining open, as is the custom even in modern times, except that among the ancients the aperture appears to have been larger than that of the hatchways. After a few remarks tending to establish the certainty of this fact, which common reason will very readily lead to the admission of, our author states, that the deck not only extended over such part of the vessel as was nearest the side, and would now from its breadth be called a gangway only, but also stretched a considerable length beyond it, as far as the beams themselves which overhung the sides, and were supported by the brackets as already described. As to the assertion made by Thucydides, that very many of the gallies were without decks, previous to the Persian wars, that information is to be understood as relating only to the interior, or part within board, for it is an absolute certainty, that the most ancient of the Grecian gallies were always furnished externally with that kind of platform just described. Homer himself fully establishes the truth of the idea, and Eratosthenes, as well as other authors, assert, that the Argo, early as the age was, in which she was built, and unpractised as the artists who constructed her must have been in the science of ship-building, was nevertheless furnished with that kind of deck, or to speak more properly, that projecting platform which has been just described, and without which it was perhaps not possible the navigation of a galley could be carried on. Therefore, when Thucydides affirmed that the ships built in the early ages of the Grecian states were without decks, it meant only that the part within board remained open, as is the case with many gallies built even in later days, all of which were invariably provided with a projecting platform, for the soldiers to stand on and fight. Vessels of the most inferior rate and size were, for the sake of strength, furnished, even from the earliest times, with a similar addition, merely for the purpose, as before observed, of strengthening and enabling them to bear the shock of the sea; nor, if we may rely on the testimony of Thucydides himself,

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backed by the information of other authors of equal authenticity, were even fishing boats destitute of it.

The brackets bolted to the sides and beams reached to the utmost extremity of the latter, the upper row, or row-lock ports being placed at the edge of them. The brackets, or, as they rather ought to be called, the shoulder pieces, were supported by struts and under-props bolted to the side of the vessel, and passing obliquely to the extremity of the shoulder piece. Athenæus affirms, that in the ship built by Hiero, these supporters were each nine feet long, occupying the whole space of the side from the upper tier ports: they contributed very materially to the decoration and beauty of the vessel, the upper part being in general curiously carved, so as to represent the heads or busts of men, and serving as caryatides, or supporters, acquired from thence the significant term or appellation of Atlantes, derived from Atlas, the king of Libya, who has been already noticed, and is well known in the heathen mythology, as having derived, from his skill in astronomy, the title of supporter to the heavens.

In respect to the upper or seventh tier of oars, which subject it is necessary should now be resumed, the row-ports, it has been already said, were not higher than those of the sixth, which were worked under the beams of the deck. The persons who worked them sat, according to the opinion of Vossius, not above the beams, but on the same level with those who sat highest on the sixth tier. As his explanation of this part of his system is perhaps least intelligible of the whole, it will be best to give it as nearly as possible in his own words. See Fig. 3. A B represent the transom beams planked over from E as far in board as D, and from F to C: the row-ports of the sixth tier are at A and B, (that is to say, in the side and work under the projecting platform); those of the seventh tier are at E and F on the edge of that platform, so that, in consequence of the cambering of the platform, the row-ports both of the sixth and seventh tiers were at an equal distance from the surface of the water, (to wit, about thirteen feet six inches:) the extremity of the handles of the sixth tier reached to G and H, of the seventh to I and K: the seats of the upper rowers reached from K to L, and from I to M, so that there being a vacant interspace of seven inches from L to E, and from M to F, similar to the practice already described with regard to the lower tiers, the length of the oars was equal to the tier below it, and its purchase was also as great, though, on account of the oar working on the outer edge of the platform, the handle did not reach

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reach so far within board by the whole breadth of that platform, as those of the sixth tier did. Finding, therefore, as it will prove on investigation, that the oars of both were the same size and magnitude, it remains only to enquire what number of rowers were employed in the upper tier, or rank. It has been shewn, that the six inferior tiers required thirty-one persons, constituting, according to the term used by the ancients, as many banks. It follows then, that if to these are added an equal number with those which may be supposed to have been employed in working the sixth tier, that forty-one were occupied on all the seven.

It is evident, from the testimony of Athenæus, that the celebrated galley of Ptolemy Philopater had fifty oars in each tier, which, multiplied by seven, will produce three hundred and fifty: this product, doubled and multiplied by forty-one, will give, according to the very strangely incorrect arithmetic of Vossius, four thousand one hundred rowers; but, by a proper mode of reckoning, not so many by six hundred. This circumstance is a convincing proof, that the author has omitted some remark, or piece of information, which would have served to explain his meaning more fully, and perhaps to the satisfaction of his readers. He proceeds by observing, in order to reconcile his system, which it must be candidly confessed has a great deal of ingenuity in it, with the testimony of ancient writers, that, speaking in round numbers, although a vessel really had forty-one banks of oars, it was termed a forty banked ship, and the number of rowers which it required, agreed according to his calculation with the greatest nicety, to the information of the author *, on whom he appears much to rely, and who asserts, that it contained upwards of four thousand persons employed in that kind of occupation.

With regard to the beams of the deck, between which the oars of the sixth tier were worked, they were seven feet apart from each other; and, as has been before mentioned, the vacant spaces marked O and P, under the benches, or banks of oars, were appropriated to the stowage of provisions, or stores of various kinds, as well as to divers other uses. The middle deck, to which there was a descent of many steps, is marked Q: the two side decks (if they may be so called) extended from D to E; they were contrived, as has been already explained, to serve as platforms, on which the soldiers, who were to defend the vessel, might stand for that purpose, as also did the rowers employed in working the upper tier.

* Athenæus.

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As, on account of the great number of person sengaged in the occupations last mentioned, the passage to and fro was rendered inconvenient, and indeed difficult; projections, or as they were whimsically called, decks, were added at certain distances, for the purpose of facilitating it: they extended on each side the gangway about ten feet, and in breadth, spreading towards the middle of the vessel, seven feet. Although this addition is not particularly mentioned by Athenæus, it is sufficiently noticed by Plutarch, and other authors, to prevent any doubt being entertained of it. The depth of water drawn by these vessels is not any where clearly ascertained: it is known, however, that it must to a certainty have been more than twenty feet, for the ship of Hiero, which was of far inferior dimensions and burthen, was of so heavy a draught, as to be incapable of entering the port of Syracuse. Notwithstanding a variety of other particulars (says Vossius) might be collected from Athenæus and others, it remains at present only to consider such points as relate merely to the rowers, and the number of tiers in which they were disposed, so that some definitive conclusions may be drawn for the information of posterity, as well in relation to the galley of Ptolemy, as to all other ancient vessels, whether Triremes, or of still superior rate. There are not wanting some persons, who though they possess considerable learning, and it might be natural to suppose the absurdity of the idea would be too apparent to admit its being seriously entertained by them for a single moment, are nevertheless tenacious enough of their self-created opinion, to insist, with no inconsiderable degree of peremptoriness, that all oars whatever were worked by a single person. An idea which has generally gone forth, that those persons who worked the upper tiers of oars received much more pay than those did who were in the lower ranks, because the labour was much greater, has betrayed men into the belief of the foregoing absurdity; but the increased pay of the persons alluded to, was given in consequence of the laborious position in which they were obliged to work the oar: first, by raising it above the head, as we have seen the rowers in the upper tiers were compelled to do; and secondly, because it was impossible for them to preserve a sitting, which was the more easy posture, as the thalamitæ, or lowest rank of rowers always did. Those critics are also mistaken who found their opinion on the supposition, that no mention is made by any of the ancient writers, of oars worked by more than one person. They have fallen into the error, in consequence of not recollecting, that the word remus, signifying, in its literal sense, an oar, is not only

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to be so interpreted, but as a rower also; in the same manner as the word navigium, signifying the act of working a vessel, is frequently taken for the vessel itself. This observation is made very apparent by Cicero, in his speech against Verres, where he affirms, that the Syracusans threw a number of pirates into the sea, out of the vessel in which they were taken, and which according to him was, " Factum sex remorum numero :" meaning *literally* having six oars. This certainly cannot in common reason be otherwise interpreted than as having six persons to manage each ; for inasmuch as it must be concluded, that those gallies called Myoparones, and all other vessels built for piratical purposes, were very low in the water, and like the gallies of the present day; they certainly could not have had six tiers rising above each other, because their form would have been inconvenient, and a vessel of so much expence and magnitude must be considered as extremely ill adapted to its employment and occupation. If, on the other hand, it should be imagined this vessel had only six oars, this solution is, if possible, still more absurd than the other; first, on account of its contemptible size and force, secondly, because pursuing a parity of reasoning, a Trireme, or a Quadrireme, would signify a vessel having three or four oars only.

This misinterpretation of terms has been among the first causes of that doubt, that diversity of opinions relative to the ancient marine, and that want of decisive information which has attended every attempt towards regular investigation : for instance, Livy, in his thirty-third book, makes mention of a ship belonging to king Philip, which " sedecem versus remorum agebant :" in plain English, was impelled by sixteen banks of oars. It having been shewn, that in the nature of things, sixteen banks, or tiers of oars, in a perpendicular, or even an oblique direction, could not possibly exist; it thence becomes very manifest, that the word remus is used to express the person, instead of the thing, and therefore the foregoing information ought to be taken as though it had been said, that sixteen persons were employed in each tier of oars, either reckoned direct, (that is to say, perpendicularly) or obliquely. The calculation will be found to accord exactly with the system first started, allotting one person to each oar in the lower tier, three in the second, five in the third, and seven in the uppermost; but this suggestion, it must be candidly confessed, is mere supposition.

The assertion also of Florus, that the gallies composing Marc Anthony's fleet, at the battle of Actium, were from Hexeremes, upwards, to Nonoremes,

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is to be taken in the same light. The opinion of a number of learned men has not escaped me, (says the author) relative to the assertion of Pausanias, concerning a certain vessel belonging to Delos, which had nine tiers of rowers from the deck, or καταστρωμα, downwards*. In answer to this, it is nevertheless to be observed, that it was a general custom to begin reckoning from the bottom, and not from the top; therefore, the proper interpretation to be given the text is, that the tier employed nine persons at each oar who worked on the deck itself. Vitruvius has prescribed what he calls a correct method of collecting a ship's dimensions, or length, on which every other part depended: by calculating the interspace between oar and oar from the number of persons employed in the upper rank. The length of the celebrated ship of Delos may from thence be accurately collected, as he asserts; together with that of the first gallies in Marc Anthony's fleet, supposing them to be Nonoremes: but this is far from being the case, for the number of oars in each tier not being stated, it is impossible to say what the length of the vessels was. Of the vessels composing the fleet of Augustus Cæsar, we might speak with more certainty, they being all, or nearly all, of that particular class or description known among the ancients by the name of Liburni, the largest of which were Hexeremes, the smallest Triremes.

As the subject has been just started, it will probably not be inopportune to give a short description of that particular class of vessels just mentioned. Although in the most remote ages, vessels were built of the description just treated of, and which, it has been already stated, were styled Myoparones, intended principally, if not entirely, for purposes of piracy, they were nevertheless always deemed unfit for the purposes of regular and open war, because they were not only without decks, but were destitute of rostra, or beaks, on which the annoyance of a powerful enemy in great measure depended. They continued, for the above reason, to be very little used till the time of Augustus Cæsar, when they acquired the name of Liburni: and on account of the very singular service they rendered at the time of the battle of Actium, obtained so great a celebrity, that scarcely any vessels but what were constructed on similar principles, were ever used in any of the subsequent ages during the existence of the Roman empire. Suidas states their form to have differed very materially from the Trireme: in the latter, the oars were disposed in tiers, rising above

* Pausanias asserts this was the largest vessel he had ever seen!!

each

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each other; but experience taught navigators, that the oars, raised high above the water, contributed very little towards impelling the vessel forward; and on the other hand, the nearer the row-ports were to the surface of the sea the greater was the impulsive power of the oars. The tiers were therefore all reduced into one, the oars of which were in a medium length between those of the lower and those of the highest rank. The length, according to the account given by Vegetius, was nearly of the same proportion with that of the modern galley, the oars of which were worked with three, four, or five persons, according to the size of the vessel. As to gallies which were of such inferior dimensions as to require only one person to an oar, as well as those to which more than five were necessary to the management of each, reason itself, in both instances, according to the number of persons employed, may point out nearly their size and principal dimensions. Among the vessels built on the construction we are now speaking of, the largest supposed to have been ever contrived was that of the emperor Caligula, called by Suetonius a Decereme, because, according to that idea which has been already so frequently repeated, ten persons were employed at each oar; these, it is by no means unfair to suppose, were of the same size with those used in the galley of Ptolemy. According to the regulations adopted in the construction of vessels of this class, there were eighty oars on each side, and in the whole, sixteen hundred persons employed to work them: but although the number both of the oars and rowers was extremely small when compared with Ptolemy's galley, it by no means follows that it was capable of being rowed faster, for very forcible reasons before given; among the strongest of which is the great elevation of most part of the oars used in the latter. The galley of Caligula, which Pliny commemorates, speaking of the remora, and states to have been a Quinquireme, having four hundred rowers, was of that class we are now describing. Here then is no inconsiderable solution of the term which has, both among commentators and artists, occasioned so much dispute. This Quinquireme is said to have been fitted with eighty oars on both sides, each of which oars was worked by five persons. These vessels were of much greater length than gallies of any other description built at that time, not only on account of the very superior number of oars with which they were fitted, but also because they were at a greater distance from each other. The account given by Vegetius of the vessels used in his time is, that though they had only one tier of row-ports, there were nevertheless many ranks of rowers employed in working the same oar; a description which very sufficiently proves, that the

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use of Triremes, according to the general definition of the term, had ceased long before his time. Zozimus, who was nearly his cotemporary, (Vegetius having flourished in the time of Valentinian, and the former in that of Theodosius the younger) asserts, in positive terms, that Triremes had been laid aside so long before his time, that, though commemorated by Polybius, even the mode of constructing them was unknown at the time he wrote. Vegetius adds, that the Romans derived their knowlege, relative to constructing the vessels in question, from the inhabitants of Jadera, a town in Dalmatia, built on the river Jader, which falls into the Adriatic sea. This circumstance is the more remarkable, because the Venetians, who in times more modern were among the first people who acquired celebrity as a naval power after the irruption of the Goths, derived their first instruction through the very same channel, in consequence of the frequent wars which took place between them.

This fashion of construction did not remain confined merely to the Adriatic, but extended over the whole Mediterranean: the Genoese, and many other states, who were ambitious of becoming maritime powers, following the same example. The form is supposed not to have varied very materially from that which had been so much in fashion and request during the reign of the Cæsars. The dimensions very probably exceeded the greater part of those in use among the Romans, for many vessels are recorded in the early part of the Venetian annals which required one thousand rowers to work them. Of these there will be occasion to speak more particularly at a future time; and however that obscurity, which is natural to mechanical description, may prevent, on some occasions, a perfect comprehension of the foregoing account, or reason may obstinately resist an unqualified reception of it, there is certainly no inconsiderable degree of attention due to it, as it must be allowed to smooth some objection, so rigid that at first view they are almost sufficient to completely alienate the mind from any attempt at serious enquiry.

Let us examine other attempts which have been made by inquisitive men to unravel this enigmatical problem in ancient mechanics. Some, we have already observed, suppose the vessels were denominated from the number of persons (which appears at first sight rather probable) necessary to work the larger oars: others, with equal firmness, insisting, that the name of each different rate was derived from the number of oars in the tiers, or ranks. Forcible objections may be advanced and supported against each; among the strongest are the very words made use of by the ancients in their descriptions: these are " Remorum ordines,

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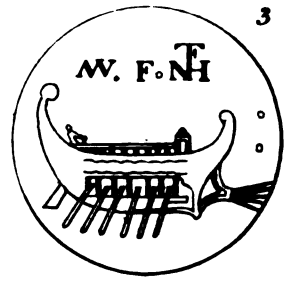

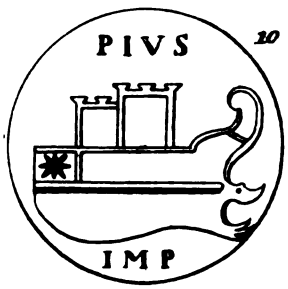

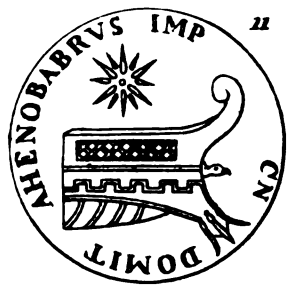

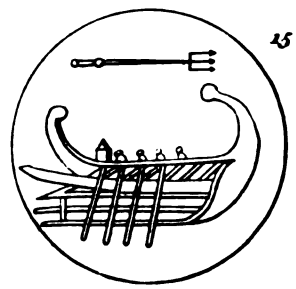

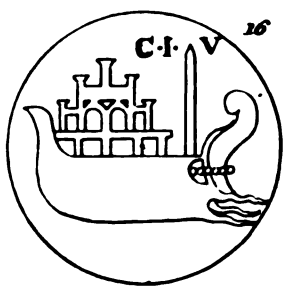

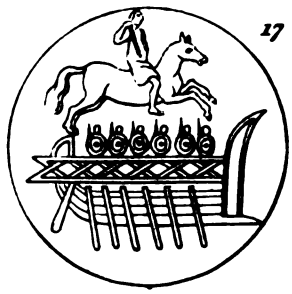

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Representations of Gallies from Ancient Coins

ordines, et remigum gradus *," terms which many critics will not suffer us to apply in any other sense than as signifying so many distinct rows, or tiers of oars. This explanation is, indeed, strongly confirmed by the collateral diction and phrases used by the ancient poets and others. Virgil in particular thus expresses himself in the fifth Æneid :—

> " Ingentemque Gyas (*agit*) ingenti mole chimæram
> Urbis opus, triplici pubes quam Dardana versu
> Impellunt, TRINO consurgunt ORDINE remi."

The learned insist, with much peremptoriness, that the vessel above described was a mere Trireme; but to this assertion it must be objected, that to call it a chimæra, an *ingens moles*, would have been a ridiculously affected, and pompous phrase in so great a poet, which it can scarcely be supposed he could have used. As to what the term *terni ordines* appears to imply, it cannot be by any means established on the boasted evidence of coins and ancient sculpture, that any vessel had more than three complete and perfect rows of oars, so that, granting to antiquarians those points they insist on as positive evidence, the distinguishing terms of Quadriremes and upwards, must be referred to some other regulations than the tiers of oars, or to certain particulars relative to construction, with which points, moderns are not as yet very accurately acquainted.

It is rather a singular circumstance, that, as has been already said, no coin, or piece of sculpture, at present existing, or of which the representation, or verbal description, has descended to the present time, conveys any proof of vessels having had more than three banks of oars—by far the greater part have only one. In proof of this, twelve Figures in Plate 2, are all of them representations, taken from coins, of ancient gallies, Phœnician, Grecian, and Roman, struck, as the fashion and appearance may easily convince the greatest sceptic at a long interval of time from each other, nevertheless, they wonderfully agree in this point. Fig. 13 and 14 are galleys of Sidon. Fig. 15 is the form of a vessel taken from an Athenian coin. Fig. 16 a vessel of Chios; 17 and 18 two differing very immaterially in form from the rest, though belonging to some country, the name of which is not, with any degree of authenticity, correctly known.

* The latter term, however, is perhaps not unsatisfactorily explained away by Vossius, and other antiquarian commentators or researchers.

The

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The most plausible suggestion that in all probability has hitherto been offered, in the attempt to solve this seeming enigma, is, that the oars were, even in vessels of the largest size, disposed in three ranks only, or rows extending from stem to stern. The row-ports, however, were not at equal distances from each other, as many have supposed, but in ranks, or, if we may be allowed the term, classes, consisting of four, or, in the largest vessels, five each, with an interval nearly equal to that occupied by the ports themselves; so that a vessel of the first magnitude in some degree resembled a modern three-decked ship, which shows the same arrangement of interstices between its gun-ports. Pursuing this idea, we may place thirteen banks on the lower tier, as many in the second, and fourteen in the third, allowing that addition for the advantage gained in length by the raking of the stem and stern. There will be by this arrangement two hundred oars on each side; and, allowing on an average ten men to each oar, exact employment for the number of persons our crew is stated to have consisted of. Plate 3 is the ideal representation of a vessel of this description; and however ridiculous it may appear on some accounts, it certainly militates not against the foregoing principles so forcibly as many other schemes of arrangement. The length of it answers extremely well by a fair calculation of the disposition, and the room necessary to work the oars. Let it be supposed, for instance, that five row-ports, at nearly ten inches each, required four feet, and the distance between each port to have been four feet also: this multiplied by thirteen, the number of banks in the lower tiers will amount to two hundred and sixty feet: to the intervals between the banks must be allowed ten feet, and twenty for the distance between the fore part of the first bank and the bow, with the same distance for the space between the aftermost row-port and the stern: these, added together, amount exactly to four hundred and twenty feet. The same calculation and proportions will be found to hold perfectly consonant to the dimensions given of all the other rates, if it be granted that no vessel under an Hexereme had more than one tier of oars.

This opinion appears to be in no small degree cherished by that of others, for whose diligence of research, and solidity of judgment, enquirers cannot but entertain the greatest respect. In proof of this, Plate 4 represents an Heptereme, or vessel having seven banks of oars, taken from Bayfius, and is called by him a galley in that rank or class, said to have belonged to Pyrrhus, king of Epirus. To confess the truth, the boldest assertions are in all probability little more than con-

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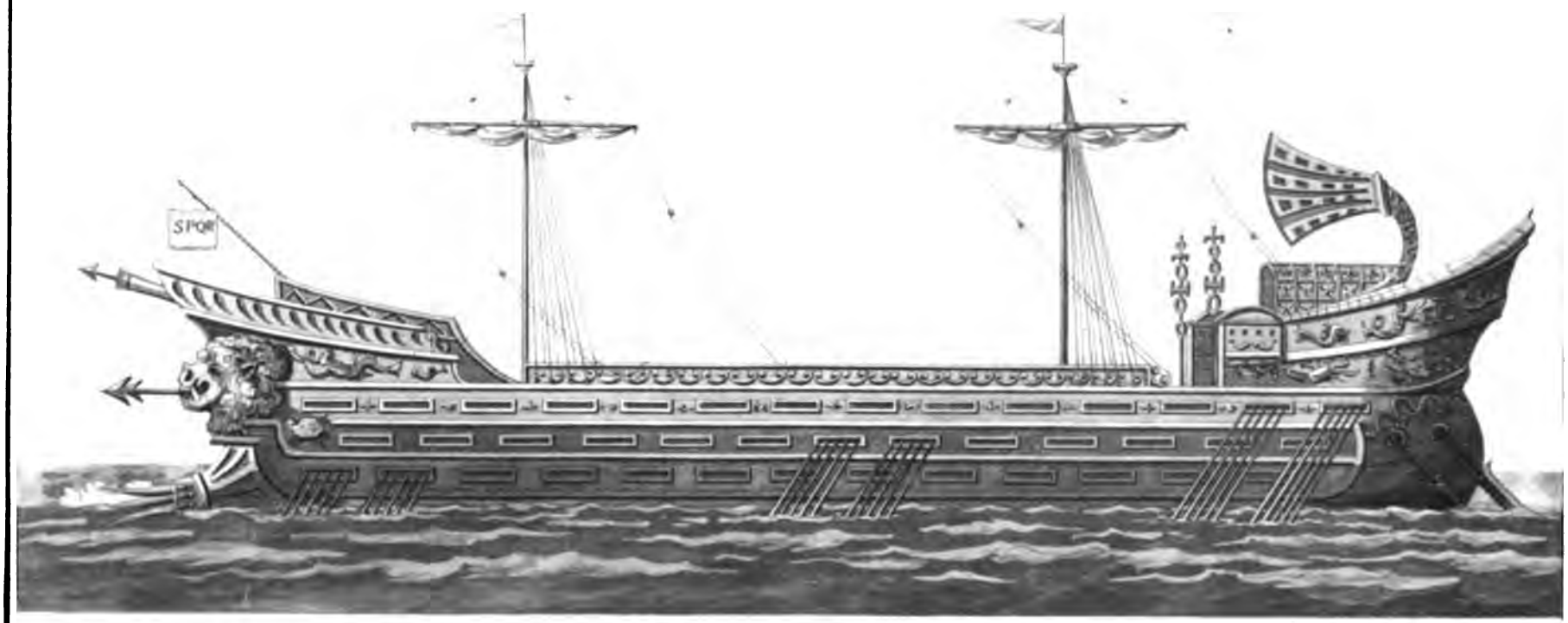
Plate 21

Supposed form of an ANCIENT GALLEY of the first magnitude or Line having forty banks of Oars.



Scale of Feet

P. Pinnock del.

C. Tomkins sculp.

Published as the Act directs Nov.r 10 1796. by R. Faulder Bond Street.

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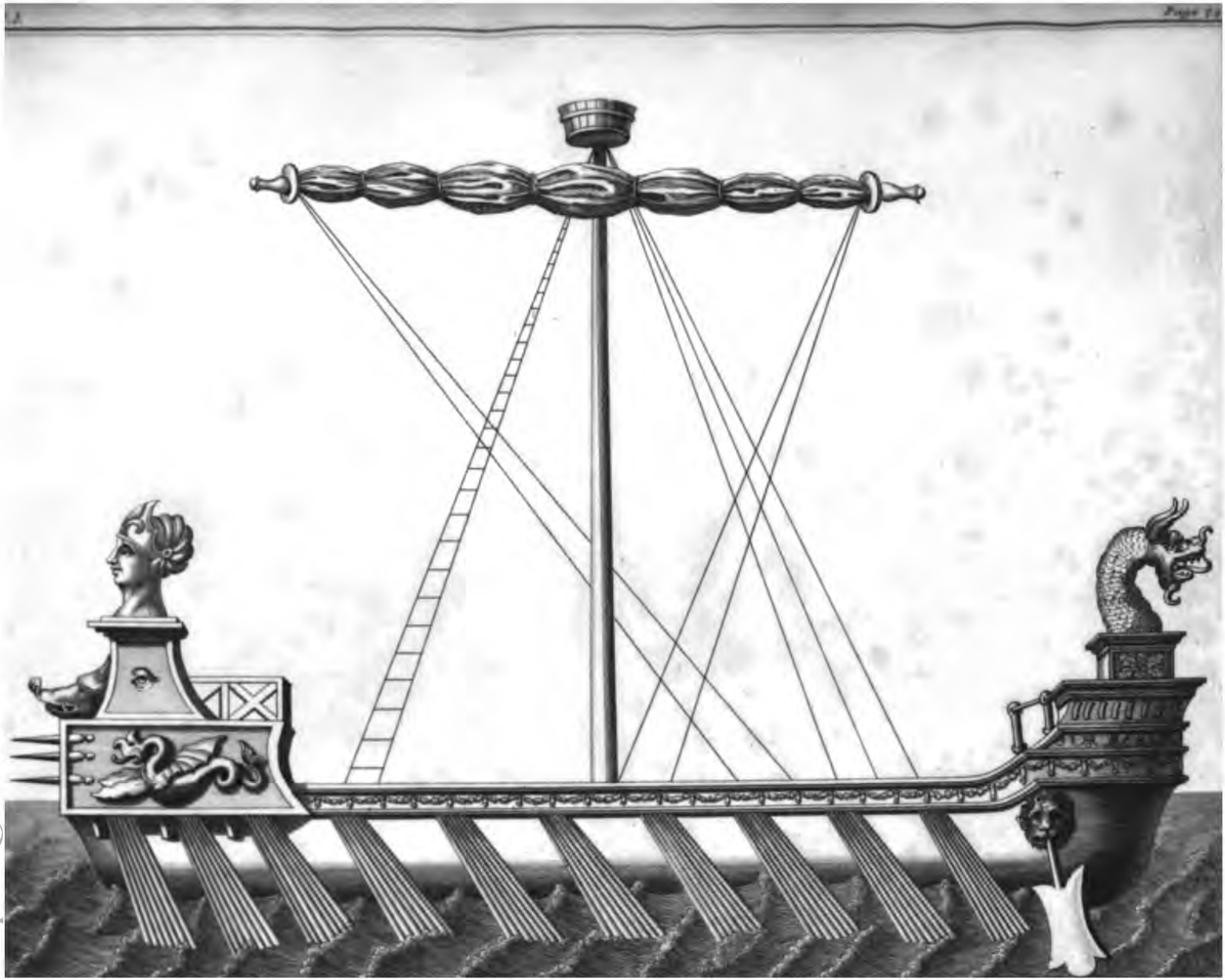

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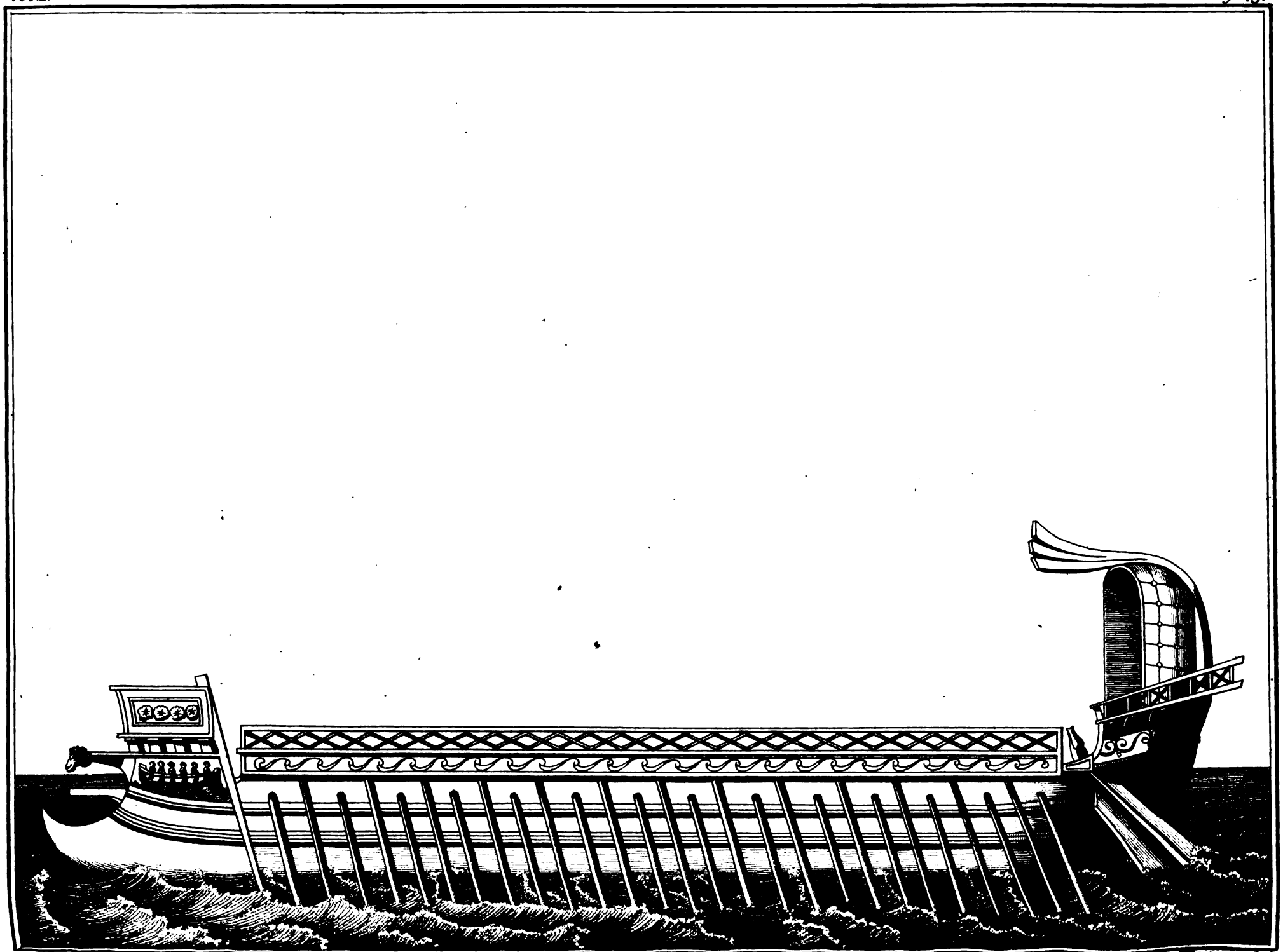

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conjecture; inasmuch as, had any determinate grounds existed, on which a clear and positive statement could have been formed, there is no necessity of argument to convince the world, that the points would, long ere this, have been very satisfactorily settled.

The Greeks made only two principal distinctions in their appellative terms: their gallies with one tier of oars, which they called Monocrota, and those of superior rate, which were indiscriminately named Polycrota. In the latter class were consequently included all those stiled by the Romans, Biremes, Triremes, or Quinquiremes, as well as others of still increasing magnitude, up to that most formidable of all floating structures, at least in ancient times, built by Ptolemy Philopater. Meibomius, whose opinion, in some respects, has been rather closely followed by l'Escalier, in his account of the ancient gallies, asserts, that in the Bireme, or vessel having two ranks of oars, the seats of the rowers, as far as regarded one tier, were small pieces of board, fixed to the side of the vessel, of sufficient breadth and length that one person might sit on it commodiously, and that for the other, benches were fixed athwart ship to the same end and purpose. In the Trireme, two rows, the upper and lowermost, were seated on the steps, or projecting boards, affixed to the sides, and the intermediate rank on the cross benches.

He proceeds farther to state the different arrangements made in the gallies of superior size precisely in the following terms: in the Quadrireme, two ranks of rowers were seated on the steps affixed to the sides, and two on the cross benches; in the Quinquireme, three were ranged on the side, and two on the thwarts; in the Hexereme, there were three rows, or ranks, of each description. The same regulations were adopted in all those vessels of superior size, which are mentioned by ancient authors, from the Heptereme up to that of Ptolemy, with its forty banks of oars. There are, however, many, and indeed very forcible objections, to great part of this opinion and distribution: objections, which, having been already stated at some length, will, it may be concluded, fully prove their futility. The Trireme, like the modern ships of the line, in the middle or third rate, was of the class, as has been before observed, most in request and use; for, though the mention of Quadriremes and Quinquiremes occasionally occurs in the account of ancient fleets, the lines of battle, it is generally, nay universally, admitted, were principally composed of Triremes. Comparatively speaking, all other large gallies were not more frequent than the first and second rates of the present age. The Biremes served as frigates,

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or vessels required for any light service, and those with one tier of oars, as sloops of war, supplying the place of scouts and advice-boats.

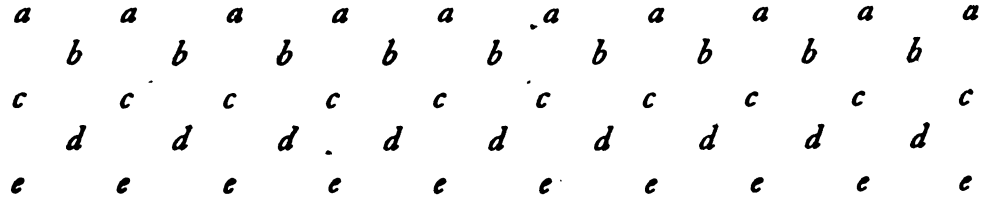
The same author, whose account, not as deserving implicit belief of its correctness, but, as containing more arithmetical statement, appears better to be adhered to, than any other, after having, with no small degree of labour, endeavoured to clear a long existing doubt, and fix a true standard to the ancient measure, adds some interesting information relative to the seats themselves. "The thwarts, or seats, (says he) which were placed across the vessel, were either boards fixed for that purpose on brackets fastened to the lining, or benches regularly propped, and extending either partially or intirely from one side of the vessel to the other." These different arrangements were dependent merely on the size of the galley: in such as were of inferior force and dimensions, it is evident there could not exist that necessity for under propping, which, if the thwart was of great length, was unavoidable. It is, however, an opinion, which has been most generally held, that the thwarts, even in gallies of the greatest breadth, extended completely from one side to the other, and being firmly bolted to the frame itself, served, not only, in its first intention, for the accommodation of the rowers, but also, in a secondary point of view, most materially to strengthen and support the whole fabric. That this was the twofold application, may be very fairly collected from Eustathius: *διὰ τὸ συμβεβηκέναι, τοις τοιούτοις ζυγοῖς ζυγοῦναι τε τους των νεων τοίχους, καὶ εἰς καθέδρας χρησίμευειν τοις ἐρέσσουσι.* "It happens, therefore, that the *ζυγα*, *anglice* thwarts, served as beams to strengthen the vessel, while at the same time they are principally intended as seats for the rowers." Again: *ὡς ζυγῶν λεγομένων των μεγάλων ξύλων, των τοὺς τοιχους δεσμούντων και συναγοντων, δίκην ζυγου,* "the beams were called *ζυγα* by the Greeks, because, like couples or ties, they served to strengthen and keep together the sides of the vessel."

Some few persons, indeed, among whom is Meibomius himself, seem rather to waver in their opinion concerning these juga, or transtra, as they were indiscriminately called, and trace the etymology to the structure and position of the thwart itself. They declare it as their idea, that it was called jugum, not from the verb jungo, signifying to join, as others imagined, but from the similarity which its form, consisting of a plank supported by two uprights, bore to the jugum *, under which it was customary with the Roman republic, and its rivals, to

* Two spears stuck in the ground, and a third tied across on the top of them.

decree,

decree, that those enemies who laid down their arms, and surrendered to them, should pass in token of submission. According to the supposition of this dissenting class of antiquarians, the juga were supported, as before described, from the bottom of the vessel, and did not extend nearer to its sides than within two feet and an half of each. From the same authority an opinion has been broached, that in the smaller gallies the distance between each rower amounted to two feet six inches, and in the Trireme to three feet: an interspace which was progressively encreased in vessels of still higher rate, and superior dimensions. After much repetition of what he had before laid down as facts, the same author proceeds to state, in conformity with the opinion of Vossius, and other learned men, though contrary to that of l'Escalier, that, in all gallies having more than one tier of oars, the seats and thwarts were disposed like a flight of steps, according to the arrangement beneath, which is given as that of the Quinquireme, and differs not from what has been already described with more precision: each rower sitting in the interspace between those in the tier above him.



According to this description, the tiers *a c* and *e* were managed by rowers sitting on the short seats affixed to the side of the vessel, and on such as are marked *b d* by those occupying the thwarts. There are, however, so many objections to this ideal arrangement, on grounds which have been already assigned at some length, that it may be very fairly dismissed without the smallest discussion. Passing over, therefore, a repetitious farrago, tediously explaining the difference in quality and situation between the sedile or tabula, and the transtrum, that is to say, the bracketted seat and the thwart; he proceeds to give their different dimensions: to the first he assigns the length of two feet, and the breadth of one foot three inches: to the latter, or thwart in the Trireme, a length of seven feet, and the same breadth as that of the sedile: a calculation which will come nearly to the same point with that already given by the same author, as the length and breadth of that particular species of vessel which is now the subject of description. In the Trireme he supposes this thwart

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to have been fixed in the manner described in Plate 5, Fig. 1 and 2, and to have been elevated to the height of two feet, and nine inches, from the keel, or bottom of the vessel. The absurdity of this supposition is alone sufficient to overturn the whole theory of his system: for, if it be admitted that the thwarts on which the rowers in the middle tier sat were not raised from the bottom of that vessel to a greater height than that just given, what must have been its draught of water, or, what could have been the elevation of the lower tier, as well from the surface of the water, as from the bottom of the vessel itself?

Some persons, in the laudable hope of solving this almost inexplicable enigma, have endeavoured to apply the different terms, by which the rowers are distinguished, to different parts of the vessel lengthwise: supposing that the *thalamitæ* were stationed at the stern, the *zygitæ* in the midship part, and the *thranitæ* at the head, conforming to those appellations now given by moderns to different parts of the hull. This idea also meets with very forcible objections: objections quite sufficient to destroy its validity, though it appears, it must be allowed, on many grounds, far less absurd than that which preceded it. To close this vain and almost impossible attempt toward reconciling contradictory auhorities, and the vague statements already given, reference may be had, in part, at least, to one very intelligible to common understanding, the description given by Vossius of Ptolemy's galley: since authentic testimonies prove, that however inconvenient even such an arrangement as that is, may seem to moderns, three tiers of oars were frequent among the ancient gallies of war; and such difficulties as present themselves, in opposition to the belief, yield, to the suggestion there started, more, perhaps, than to any other that has yet been offered.

There seems, however, some reason to suspect, that the difficulties which have arisen in this so long subsisting controversy have been, in no slight degree, encreased, by supposing that the shape or contour of the Roman gallies was in some measure similar to that of a modern strait sided ship. The total absence of any treatise on the ancient marine, or description of the mode of construction, written at the time, or soon after the vessels, so described, were built, has rendered the subject extremely obscure; and left the speculative enquirer, in modern times, to follow his own idea as temper shall incline, or information supposed to be most perfect, shall guide. Yet few have ever happened to conjecture, that the ancient galley bore a much stronger resemblance to that in modern use, bearing the same name, than to any other. This fact appears,

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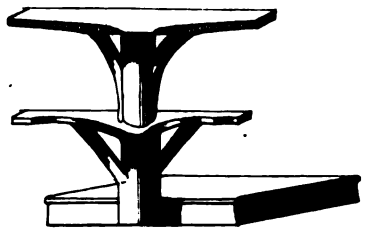
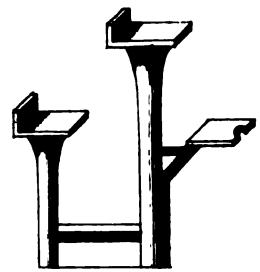
Front Elevation of Seats.



Side Elevation of Seats.



Plan

Fig.2.

Fig.1.

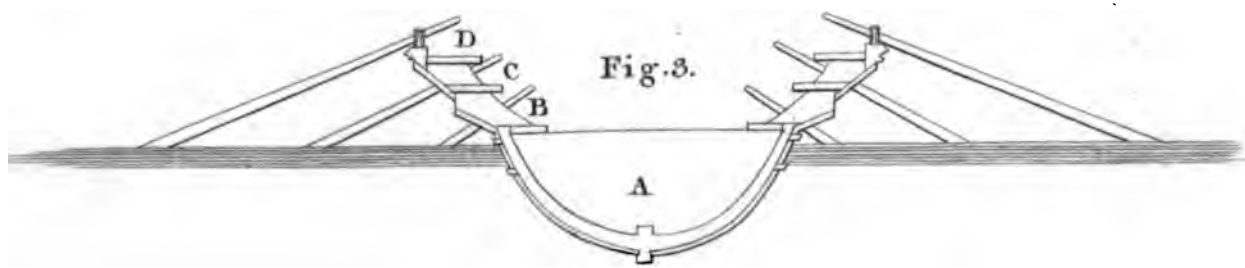


Fig.3.

Fig.4.

Newton sculp.

London. Published as the Act directs. April 15th 1801. by John Sewell, Cornhill.

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appears, in a great measure, proved beyond controversy, by the model of a Roman vessel, found in the Villa Matthei, which, though very improperly termed a galley, partakes sufficiently of its peculiarities to leave very little doubt, that, though modern improvement in Marine Architecture may have suggested some alterations in the structure, the leading characters of it have never been materially changed.

If this is really the fact, and, to speak very seriously, there seems but little room to doubt it, the mist, which has so long enveloped this controversy, will be greatly dispersed. Fig. 3, Plate 5, represents the demi-section of a modern galley, and of one which, supposing the idea just started to be correct, may be considered as no very imperfect representation of its ancestor, which existed two thousand years before. The fashion of the modern vessel appears, as it were, to invite a triple tier of oars; and the principle may certainly be extended without risk, in proportion as the bottom of the vessel was enlarged beyond that of a modern galley, which, it must be supposed, those were which are commemorated as the wonderful floating structures, possessed by Ptolemy, and others. Taking this suggestion, A, Fig. 4, will be the κοιλία, or hold; B the θαλαμος, or lower tier; C the ζυγος; and D the θρανος, or upper tier. It is by no means impossible, that the number of tiers might, on particular occasions, by adopting this principle, have been encreased, and considerably too, beyond that number which has just been provided for: but certainly not to such an extent as can completely solve this problematical enquiry.

Perplexing as the foregoing disquisition has invariably proved to all who have attempted to pursue it, better success cannot be expected than those very learned persons have experienced, who have already attempted an enquiry, which has not proved satisfactory even to themselves. Before one difficulty is completely conquered, another starts up with a still more formidable aspect, and precipitates into absurdity those points which inquisitive men, with much earnestness, have laboured to establish: compelling them to retract with disgrace, or obliging them to support, on the best foundation they can find, those theories, which have generally little to recommend them, but their novelty and bold contradiction of what had before been received as certain facts. This part of the enquiry may therefore be dismissed, with observing, that the idea no vessel had more than three tiers of oars is probably correct; for if, in pursuing this subject farther, that system, when applied to vessels in most common use, as the Quinquireme, and those of still superior size, should be thought

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thought to militate against general opinion, it must be observed, that there does not perhaps exist any certain refutation of it: nor, indeed, should any, short of some well preserved remnant of antiquity, sufficiently authenticated by either its inscription, or its general appearance, as being the representation of some particular object of our controversy, be very readily admitted. It is an old and trite maxim, but not the less true, on that account, that men with difficulty comprehend mere description; and are scarcely satisfied as to the existence of any thing that they do not actually behold.

The principal dimensions of different classes of vessels in use among the ancients, as well as of those which were of such extraordinary magnitude as to be extremely uncommon, and rarely constructed, have been transmitted to posterity with much apparent certainty and precision. The celebrated Ægyptian vessel, called the Isis, is said to have been in length one hundred and eighty feet, in breadth forty-five, and in height, from the upper edge of the deck to the bottom of the well, forty-three feet. The well-known ship of Hiero, king of Syracuse, was of nearly four thousand tons burthen. The rules of construction in general use, for those which were usually employed in commerce, after the art had progressively advanced toward, what was then supposed perfection, were in the following proportion: supposing the breadth twenty-five feet, the length was one hundred. The gallies which were intended intirely for the purposes of war, were twice that length, but of the same breadth; nor can that very extensive difference be deemed incredible, or even wonderful, when it is known, that, even in modern times, vessels, no less extravagantly proportioned, have been built for particular purposes, and have proved by no means ill adapted to them.

Meibomius gives the following dimensions of the ancient Roman Triremes: "They were," says he, "in length one hundred and five feet; in breadth eleven; but, according to new regulations, adopted after the time of Julius Cesar, they were built only ninety feet in length, and ten in breadth: the Quadrireme was one hundred and twenty-five feet long, and thirteen broad: the height of the Octoreme, (as the same author asserts) measured, from the upper surface of the deck to the lower edge of the keel, eleven feet: the Hexereme nine." Their first requisite, as there has already been occasion to remark, was swiftness: on that principally depended the success of all their naval encounters *; and every

* There cannot therefore be much wonder at the same principles being adhered to, on some occasions, in later times.

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other quality was of little consequence to them. For this reason, the minds of those ingenious men, who considered the science of constructing vessels as a national art, which the well-doing of their country particularly demanded should be carefully cultivated, were constantly applied to the discovery or advancement of some improvement. As soon as it was practically found, that the narrowness of their vessels contributed, in a great degree, to their swiftness, and this was established as a fixed, an invariable principle, the next care was to dispose the rowers so commodiously within the vessel, that they might not, in the first place, impede each other in their motions, and in the second, that no part of the side should be left vacant where it was possible to employ or work an oar. The attainment to this degree of perfection is attributed to the Sidonians; and the variety of the different services, which repeated warfare created, gave birth to all those different classes into which the ancient gallies were divided.

The extravagant length, in proportion to their breadth, that the Grecians, as well as Romans, were accustomed to give their war-gallies, was not adopted merely with the same design as that which modern refinement has occasionally supposed eligible, under the idea that the length of a vessel, provided the principle is not stretched too far, contributes materially to its swiftness. A secondary reason might have encouraged the original practice; but, certainly, the first that suggested it, was the opportunity it afforded of augmenting the number of oars in each tier beyond that which could have been employed, had their war-gallies been no longer than those which were solely built for commercial purposes. The utility of this principle has been fully established by the practice of after-ages; for it is by no means uncommon, to find even at the present day gallies belonging to different states bordering on the Mediterranean sea, the length of which is nearly seven times that of their breadth, or 175 to 25; between which, and the proportion, said to have been established by the Romans, there is no very considerable disparity.

To these remarks, urged in defence of historical information, it may be added, that the ancients seldom ventured far from the shore, or quitted their ports at those seasons when hurricanes, or weather sufficiently tempestuous to endanger their safety, might be reasonably expected; so that, however strange and improper a vessel constructed according to the proportions already given, in respect to breadth, may to some modern artists appear, the closest investigation

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tion will discover nothing so absolutely repugnant to the service and uses for which they were severally intended, as to justify an opinion that they have been incorrectly transmitted to them *.

* No inconsiderable portion of controversy, of doubt, and obscurity, has been raised with regard to the principles of Ancient Marine Architecture, by an attention to the translations of accounts, instead of consulting the originals themselves in the language in which they were first written. There is a description of Ptolemy's ship now extant, where mention is made, among many other wonderful circumstances, that it was furnished with fountains, gardens, a theatre, and *four markets!* The attribution of the last very singular appurtenance to a ship, has been caused by the translator having mistaken the words *quatuor foros*, (meaning *four decks*, with which there is but little doubt the vessel was furnished) for the plural number of forum, signifying a *market*. A variety of similar absurdities and mistakes might no doubt be discovered on diligent enquiry, but one example, so striking as that adduced, may probably be considered as sufficient.

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CHAPTER THE SEVENTH.

Description of the Vessels employed by the Grecians for the Purpose of transporting their Army, preparatory to the Siege of Troy—Addition of Decks to Gallies—Nautical History of the Athenians, the Lacedemonians, and other Grecian Republics, with an Account of the different Improvements made by them while they continued to flourish as Maritime Powers—their Wars with each other, and their total Annihilation by the Romans—Description of the different Materials used in the Construction of Gallies, independent of the Timber itself—the Nails—the Method of preventing the Water from penetrating through the Seams—the Use made of Flax for this Purpose—Practice of paying and sheathing the Bottom, proved by Trajan's Galley raised out of the Lake Riccio—Opinion of Vossius as to the fittest Place for the Rudder—Modern Controversies on the same Subject, and on the Situation and Size of the Masts as well as Yards—the aboriginal Vessel of different Countries described—the Rates, or Raft, invented by the Egyptians, and afterwards adopted, as well by the Phœnicians as the Ethiopians—the Discovery of various Countries by Persons navigating Vessels of this Kind—the Canna, or Canoe, first used by the Inhabitants of that Part of Europe now called Germany—the Derivation of the Term—an Account of the various Modes practised by Countries far distant from each other, in constructing Vessels bearing this Name, and an Enquiry into Etymology and true Meaning of the Word—The different Dimensions and Proportions in the Vessels adopted by the Ancients.

THE trivial variation which existed between the vessels of different countries, in the early ages of navigation, renders it almost needless to adopt any division of accounts with regard to them. But the case is far different with respect to the maritime history of those countries: for although the brief and summary notice already taken of their progressive acquisition of naval empire, as it were in chronological order, might pass, with many, as sufficient, yet, as forming a proper chain of connection to the whole, it becomes necessary to enlarge, in some measure, that short recapitulation already given, which, notwithstanding it may serve to convey a general idea of the nautical history of the world, previous to the usurpation of Cæsar, is far too desultory to afford that degree of information necessary to be given, of the various additions and improvements which experience and necessity, aided by ingenious invention, gradually introduced.

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The early ages may, without much hesitation, be passed over, for serious history should not only decidedly avoid entering into the regions of fiction and romance, but also act with extreme caution, whenever contradictory reports, doubt, or surmise, appear to cloud the face of narrative, and render it mysterious, or even obscure. It seems universally agreed on, that previous to the Trojan war, all vessels, however large their dimensions might be, were entirely open: of this description were those employed in the transportation of the Grecian army; for the useful addition of decks was a contrivance which certainly did not take place till many years subsequent to the event just mentioned. The reports of immense fleets equipped on various occasions, throwing the quality of the vessels which composed them out of the question, though they may have been considered by many persons as hyperbolical and incredible, by no means tend to weaken the fact, which, on meeting with those reports, might at first be doubted by those who considered them in a mere cursory manner. However high the genius of the Greeks may stand in public opinion, with respect to literature, and the polite arts, it certainly may be assumed, without offence to their consequence, or the opinion of the most zealous advocate for the dignity of ancient knowlege, that their skill in mechanics, particularly such as related to maritime affairs, little exceeded that of the more ingenious classes of inhabitants among the newly discovered countries in the south seas.

Is it not probable that there are actually at this moment princes and chieftains in that part of the world now called New Zeeland, or even in many other countries of less note in the same quarter, who could collect, on the spur of the occasion, a fleet of four hundred fighting vessels, or twice or three times that number if necessary; and what reason is there to suppose, that the armament under Agamemnon was composed of vessels superior in description to those just mentioned? The supposed pre-eminence which in popular opinion one country maintains over the other, consists, perhaps, in nothing more than that the warrior of the south seas has been destitute of an Homer to hand down his exploits, embellished with the necessary elegance of poetry and fiction, or of a Thucidides to write the history of his wars. At least, if any such have ever existed, they still continue in embryo with respect to European discovery.

The word naves (ships) being indiscriminately used for all vessels, whether mere boats, or such as were of the most extensive dimensions then built, it becomes almost impossible to discriminate between the Isis of the Egyptians *,

* See page 17.

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and the most inconsiderable cotemporary ship, (if such must be the general term) occupied in the same manner. After having trod the same ground which the greater part of all authors or commentators have felt themselves compelled to pass over; after attributing as well to Jason, to Hercules, to Minos, and others, taken individually, together with the Egyptians and Phœnicians, as a people, that rank of inventors and improvers in the science of Marine Architecture, which it is universally admitted they were severally entitled to, it seems very evident, that the Grecians having, after the conclusion of the Trojan war, enjoyed a long and continued peace, their population began to encrease so rapidly, as to render it advisble, if not actually necessary for them, to send forth distant colonies, for the mere purpose of easing the mother country. Settlements were accordingly made in Asia Minor, and many of the adjacent islands, where, captivated by the fertility of the soil, as well as the salubrity of the air, they founded twelve most flourishing cities, and called the country Ionia *. The natural affection subsisting between the new, and the parent country, laid the foundation of so perfect an alliance between them, that they formed, as it were, one state; and, relying on that naval power which in those early ages of the world was considered as extremely formidable, hesitated not to wage war against the most powerful princes and governments.

The inhabitants of Peloponnesus, in a short time after this event, pursued the same measure, and detaching colonies to the westward, gained a footing on the southern parts of Italy, where, having founded Crotona, Tarentum, and other cities of the first consequence, that country acquired, from the new settlers, the name of Græcia Major. The power, the consequence necessary to carry these measures into effect, must of necessity have been great; nor was it in war and colonization only that the Greeks became so formidable and conspicuous: commerce attracted their notice in a very considerable degree; so that notwithstanding their history is more enveloped in doubt than that of any other coeval state, or nation, yet no one can deny their marine to have been the most consequential in the universe, at a time when the greatness of Carthage was in embryo, and the Roman name had not commenced its existence.

The Corinthians, according to the best authors, rose into consequence as successors, or rather rivals, to the rest of their Grecian neighbours. The com-

* Now forming a part of Anatolia.

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mencement of their naval empire is fixed at the distance of four hundred years from the destruction of Troy, and consequently near fifty before Rome itself was founded. They are said to have been the first people who established a regular system for the construction of vessels, and to have been the authors of many of those contrivances or additions of beams and timbers, which, contributing to render vessels more capable of enduring those rude shocks they were in all probability destined to encounter, consequently lessened, in no small degree, all the manifold dangers to which the early navigators were more particularly exposed. The Corinthians are moreover said to have been the first inventors of triremes; and the acquisition of this power almost naturally, without intending a sarcasm, produced ambition, with the desire of conquest. The inhabitants of Corcyra, an island now called Corfu, felt the first effects of this impulse. They had for many years held a distinguished rank as a maritime people, while the art of navigating, as well as constructing vessels, had been confined to a more humble sphere, but compelled to yield to the superior skill and power of their assailants: they were driven from their settlements, which were occupied by the invaders.

The just and retributive punishment due to so flagrant and unprovoked a violation of the law of nature, as well as of nations, fell on the Corinthians. The inhabitants of the new colony, naturally pursuing the same steps and measures which the mother country had taught them the means of practising, soon acquired a knowlege and consequence which enabled them to give considerable disturbance to the parent state. The feuds, the disputes, which existed between them, were continual. If Corinth boasted of her triremes, the Corcyrians were equally proud in possessing vessels scarcely inferior in force and dimensions. To such an height did their confidence soon rise, that after some preparatory altercation, they commenced a regular naval war against their parent. The Corcyrians were indeed subdued; and the contest is the more entitled to notice, on account of the naval combat which took place in consequence of it, which stands on record as the first contest of that particular kind which had then ever happened since the creation of the world. It is supposed to have taken place A. M. 3295, or thereabouts, nearly one hundred years after the foundation of Rome.

From this epoch the system of naval war may be said to commence; for though much earlier mention is made of ships, and even fleets, having been fitted out by different personages, and on different occasions, yet there is no evidence

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dence whatever of two naval armaments having ever entered into contest with each other, previous to the æra just mentioned. Minos, king of Crete, is indeed, with good foundation, said to have reigned master of the sea nearly six hundred years before that time; yet there is no proof whatever, of his having met with any opposition to his projects. The pirates, or plunderers *, whom he destroyed, or put to flight, either fled at the first intelligence of his approach, or surrendered without opposition, being awed into submission by the terror of his power. The countries which he is reported to have subdued having no naval force to withstand him, surrendered to the might of that which was sent against them, or his fleet acting merely as transports, the soldiers whom it conveyed, effected the conquest without any additional aid. The allied Grecian fleet, which proceeded to the attack of Troy, according to chronologists about the year of the world 2767, seventy years subsequent to the reign of Minos, is to be considered as having acted on the same principle; and the different expeditions of Sesostris, Hercules, with their different cotemporaries, or rivals in fame, were uniformly successful, because uniformly unopposed.

The situation of Corinth was peculiarly well adapted to the acquisition and maintenance of naval empire to a very considerable extent. Built on the isthmus, which connects Peloponnesus, now the Morea, with Attica and Bœotia, or, in other words, with the continent of Europe, the Sinus Corinthiacus, and Saronicus, now called the gulph of Engia and Lepanto, afforded them an easy passage into the two opposite quarters of the ocean, east or west. The peninsula of the modern Morea was completely at its mercy, all intercourse with Greece, and indeed with any other country in the world, being absolutely restrained, if Corinth thought proper imperatively to forbid it. Athens and other states, placed in what might be called the continent, were scarcely in a superior situation, till the continued application of a series of years enabled them, in some degree, to rival the power of their tyrant.

The seed, however, of naval contest being once sown, the plant began to thrive and encrease with a rapidity almost incredible. The augmentation of the size of vessels, and the improvements progressively made in the mechanical construction of them, naturally led both to the extension of commerce, and of warfare. The Ionians soon became, if not rivals, at least competitors: they braved, they held in contempt, the threats of the most powerful monarchs.

* See page 32, et seq.

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A very interesting anecdote is related concerning these enterprising people: Crœsus, the well known king of Lydia, having taken some cause of offence, appeared determined to crush at once, by the force of his arms, a state which he considered as almost too inconsiderable, and contemptible to excite his augor. Bias, one of those personages who were distinguished by the honourable appellation of the wise men of Greece, happening to enter the king's presence at the time when his choler was most vehement, being asked for news, very dryly answered, that the Ionians, whose principal strength lay in their combined insular settlements, were on their march to attack him with an army consisting of ten thousand horse. The king could scarcely refrain from laughter at the fictitious intelligence, which he was credulous enough to receive as fact, declaring, at the same time, that he desired nothing more than that they should afford so fair an opportunity of punishing them for their temerity. "Nor," rejoined Bias quickly, "would they wish for any more favourable occasion of chastising you, than that you should attempt, by fitting out a fleet, to contend with them on an element, where they must have so manifest a superiority over you." Crœsus, struck with the observation, turned his anger, perhaps still more unfortunately, against Cyrus, the Persian; and the affront, whatever it might be, which the Ionians had offered, passed over unnoticed.

The same spirit of arrogance which had led this people to despise the threats of Crœsus, caused a similar conduct with regard to Cyrus, his conqueror. The latter, however, more wary than the Lydian, adopted a different system of warfare. The Ionians, flushed with their late advantage, for such it might be called, were led, in no less degree, to contemn the threats of Cyrus, because they knew him to be destitute of any naval force. He was himself aware of the deficiency, and accordingly ordered one of his generals, with a sufficient army, to attack such of their cities as were situated on the continent itself of Asia Minor. The Phocæans fell the first victims to his vengeance; but they scarcely waited the attack: for having embarked their wives and children, together with the most valuable part of their property, on board their fleet, they proceeded, in the first instance, to Italy, and quickly afterwards passed over into Spain. From thence they again removed to that part of France where Marseilles is now situated; and after a variety of fortune rendered themselves of sufficient consequence to have their alliance coveted by the Romans, when the republic was in its most flourishing and encreasing state. Cambyses, son to Cyrus, having succeeded to that great and magnanimous prince,

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prince, acquired, by conquest and by industry, a naval force, which enabled him not only to make war on, but to conquer various states, and at last, to turn his army against Greece, as well as against the Athenians themselves.

The latter indeed were the aggressors, prevailed on by the artful insinuations of Aristagoras, an Ionian, who having been driven from his government by the army of the Persians, possessed sufficient address to persuade the people of Athens, that it was incumbent on them, as the inhabitants of the parent state, to avenge the cause of their much wronged colonists. The resolution for war was taken in an evil hour. The Persian having collected the whole naval force of the Phœnicians to his own side, attacked and made himself complete master of Samos, Chios, and many other islands in the same quarter. The Ionians, however, fell not tamely beneath his yoke: they equipped their whole fleet, which is reported to have consisted of three hundred and three gallies, properly armed for war, resolving at least to contend for their liberties, with a firmness and intrepidity which certainly merited a better fate. The force of Cambyses, added to that of the Phœnicians, amounted to more than six hundred vessels; and the superiority of numbers, after an obstinate contest, prevailed. The consequence of the victory was the destruction of Samos, the massacre of the people of Chios, and the total depopulation of all the neighbouring islands, whose inhabitants, either by consanguinity or treaty, were in any degree connected with the principals in the dispute.

In consequence of this dreadful vengeance, the very name of the Persian became terrible all over Greece. His preparations hung over the minds of the people, notwithstanding their natural spirit and contempt of danger, as somewhat more to be feared than the stroke of death itself. Early in the ensuing spring, Mardonius, the Persian generalissimo both by sea and land, having drawn together an immense fleet, principally from those countries which, though stiled the allies of Persia, were in fact mere tributaries and vassals to her, commenced the dreadful scene of warfare—the Cilicians, the people of Cyprus, the Phœnicians, and many others, all joined, through compulsion, in the enterprize of intended destruction. Providence, however, as it were in punishment of human arrogance, decreed its failure. A violent storm destroyed, at one stroke, three hundred vessels, which passed under the denomination of triremes, together with all the military engines and implements stored on board them, as well as the whole of their crews, amounting to twenty thousand persons. This information, provided it is correct, affords no incon-

inconsiderable insight into the equipment and force of the ancient marine. The numbers of the unfortunate victims, for such they might be considered, divided by that of the vessels lost, amount to sixty-six and a small fraction, as the crew of each, for the destruction is said to have been so fatally complete, that none of the persons employed either as mariners, or soldiers, on board them, are said to have been preserved. The foregoing forms a sad, though curious circumstance, which renders the modern apportionment of individual numbers extremely easy, and adds strongly to those objections already made, as to the common acceptation of the term trireme, and the supposition that it implies a vessel of three tiers of oars, placed above each other. Without again entering into any repetition of controversy, it must be evident, that sixty-six persons could not suffice to work even nine oars, (three in a rank) so arranged; but that a crew, not more numerous, would be quite adequate to the task of impelling thirty on each side, divided into three ranks of ten each *, placed in one line. In a subject so extremely open to mere opinion, and supported by what must be considered at best as doubtful evidence, every collateral circumstance tending, in the smallest degree, to elucidate it, cannot fail of being otherwise than highly consequential.

It were a needless, not to say impertinent, waste of time, to enter on the various transactions either of this war, or that which followed it, under the direction of Xerxes, the son and successor to the former prince. The only circumstance that appears to demand particular notice, is the wonderful account given of the fleet possessed by the latter, which is made, by ancient historians, to have consisted of four thousand two hundred vessels, twelve hundred of which are said to have been triremes: of the remainder, the largest were furnished with fifty oars each, and those of the smaller rate with thirty. The vessels of the latter description, which acted merely as transports, contained, according to their burthen, from eighty, to two hundred and thirty soldiers, or mariners, each. The operations of the son were attended with no less a degree of misfortune than those of his father had been. Four hundred of his gallies of war were destroyed by a sudden tempest, together with so great a proportion of his store-ships and transports, that one third part of his whole force was completely destroyed ere it arrived in the presence of its apparently devoted enemy. Against the remainder, the Athenians displayed prodigies of valour, but supe-

* See page 72.

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riority of numbers prevailed, after a bloody contest, which continued three days, over courage and intrepidity. The fleet of Greece, confederated against a common enemy, soon obtained its revenge; for having been enclosed as an almost certain prey at Salamis, it became, after a most desperate and unequal conflict, completely victorious over the Persians. This success was principally attributable to the genius and abilities of the great Themistocles, who, in that infancy of naval tactics, had discernment enough to perceive the advantage, and judgment to make the best use in his power, of the weather gage.

Thus was the impending danger, temporarily averted, but the cause of it was not destroyed. The Persian, rendered furious by his discomfiture, and fearful of recommencing a dispute, without some farther extraneous aid, against a warlike people, who, though perpetually disunited, when suffered to remain unmolested, possessed sufficient sagacity to enter into a firm confederacy against so dangerous a foe, addressed himself to the Carthaginians, a people rising, at that time, rapidly, into consequence. So earnest did the crafty insinuations of the king render his new allies, that it is confidently asserted, though the account certainly borders, in no slight degree, on the marvellous, that they contrived to draw together, after an immense expence and labour, an army consisting of three hundred thousand fighting men, and a fleet of five thousand sail, two thousand of which were gallies, the remainder transports, or vessels, laden with different naval or military stores. The same current of misfortune which had so repeatedly pursued former attempts, ceased not, on this occasion, to be at least as rapid as those which had taken place at any earlier period. Amilcar, on whom the chief command of this mighty force was bestowed, was overtaken by a violent storm, in which the whole of that division of transport vessels, having war chariots or horses on board, were wrecked. The remnant got into Sicily with some difficulty; and being there attacked by Gelon, the Syracusan, the whole of this once tremendous armament was completely reduced, twenty vessels excepted, which, having been ordered out on some occasion the day before, held on their course to Carthage. As if, however, fate had determined that the destruction should be in every respect complete, all these vessels suffered shipwreck on their passage, a very few persons only out of all the crews being fortunate enough to preserve their lives in the boats, reached Carthage as the unwelcome messengers, bearing with them this series of repeated disasters.

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Such was the extent of the Persian naval power at this early period, in conjunction with that of its allies: such also was, according to report, that of the deluded friends of Xerxes, and such was the miserable and scarcely to be lamented fate of both. Foiled as the Persian monarch had found himself in every attempt he had hitherto made, not only against Greece, considered as a confederated corps of republics, but Athens itself, though standing singly in opposition to his power, he resolved not yet to abandon hope. His third attempt was in its nature still more unprincely, and indeed unmanly, than either of his former had been. Dreading the Athenian arms, he determined that the only prospect which remained by which he could subdue them, would be by dividing the society, and arming Grecian against Grecian. For this purpose, he set on foot a project of corrupting the Lacedemonians, and engaging them to act as his allies. Failing in this attempt, he employed the treasure destined for the former purpose, on an expedition which he sent to Egypt, in the hope of driving out of that country the Athenians, who, having entered into an alliance with the inhabitants of that country, had transported thither a considerable land force, for the purpose of creating a diversion to the Persian armament. After a contest, which continued six years, the Grecian adventurers were completely overcome, and those who survived the ravages of war, considered themselves as being extremely fortunate in effecting their return to Athens in small parties, as chance and good fortune permitted them.

Megabazus, the Persian general, is reported to have effected a project in the course of the preceding contest, which fully proves the *ships*, as they were called, of the Athenians, must have been but of very inconsiderable burthen. They had fled for refuge to an island supposed to have been situated in the eastern branch of the Nile, and the Persian general, by causing a small canal to be dug from thence in a direction convenient for the purpose, is said to have left the whole of their fleet aground in the space of one night. This ill-fated people experienced, soon after this time, the melancholy truth of that very old proverbial expression, that one misfortune rarely comes unattended by another; for being unacquainted with the real state of distress to which their countrymen in Egypt were reduced, and imagining they only needed some trifling succour, to enable them once more to make head against their enemies, they sent to their relief a fleet of fifty triremes, which being suddenly attacked by the Persian, became, with a very trivial exception, his prizes. The miserable

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serable remnant which escaped, returning back to Athens, carried thither the first intelligence of the misfortune which had befallen the armament, and of the wretched state to which their then surviving companions were reduced.

It was very shrewdly and properly remarked, that the Athenians, had they exerted the wisdom which it appears they very undeservedly acquired the character of possessing, might have derived more advantage from the useful lesson which this unfortunate expedition afforded them, than would have completely counterbalanced its want of success: that could they have learned to fix proper bounds to their ambitious desires, they would have been content with their own territories, would have confined their means of defence to them only, and not aimed at the conquest of distant countries, in which project, should they even prove successful, they must of necessity lessen the ability of defending their own. They contemned, however, the doctrine of experience, and by that means voluntarily effected, some years afterwards, through their own obstinacy, the total destruction of one of the most powerful republics at that time existing in the world.

Such was the origin, such the history, and such the fate, of the Athenian marine. It is apparent, from the testimony of many writers, that the vessels which composed it, were, during the earlier ages of the republic, little better than mere open boats. To the genius of the renowned Themistocles, who died about four hundred and fifty years before Christ, they were indebted for the first points of improvement, both in the mode of fitting gallies so as to render them more capable of defence against, as well as of offence toward, their enemies. His ideas were rendered still more effectual in respect to this purpose which they were intended to answer, by the zeal and ingenuity of Cimon, who first introduced the custom of decks, or constructing a platform in gallies, which extended above the rowers, from the stem to the stern, serving as a proper footing, or place, for the soldiers to stand on, who defended the vessel. Previous to this necessary addition, even the triremes of the Athenians were so contemptible in respect to force, that at the battle of Salamis, which took place only thirty years before the death of Themistocles, the largest of the Grecian vessels carried, according to the testimony of Plutarch, only eighteen soldiers, exclusive of the rowers, and persons occupied in working the galley. The ingenuity of Cimon was immediately productive of the most decisive advantage to his country; for having suddenly attacked the Persian fleet, which consisted of six hundred triremes, two hundred of them were lost,

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and the greater part of the remainder sunk, or rendered so unfit for farther service, that very few were able to effect their escape, bearing the melancholy intelligence of their own defeat.

The Spartans, or Lacedæmonians as they were indiscriminately called, envious of that character and consequence which Athens had acquired, endeavoured, by reiterated contests, to weaken and depress her. They had a manifest superiority with respect to their army, but this was at least counterbalanced by the excellence of the Athenian mariners; the skill which their commanders possessed in naval tactics, and above all, the scientific manner in which, speaking by comparison, their gallies were constructed. Equal, therefore, as they might be considered in respect to force, and animated with a mutual animosity towards each other, the contest became dreadful, and continuous. The conclusion and public agreement to a truce during a given time, proved insufficient to secure the tranquillity of both countries, even during that short period; for though the respective governments of each country forbore to act hostilely towards each other, private warfare, and depredations were so constantly committed by the inhabitants of both states against each other, that nothing was wanting to an open and avowed state of hostility but the name itself. Rarely, however, was the scene of combat transferred to the ocean: the Lacedæmonians, conscious of their own inferiority, constantly and carefully shunned that mode of decision, which they dreaded as fatal to them.

Although that peculiar species of inclination which severs and distinguishes the pursuits of one country from those of another, naturally, as it were, swayed the Lacedæmonians to military pursuits, and rendered them averse to all maritime enterprize; yet the persuasion of necessity at length induced them to attempt, at least, the formation of something like a marine. "Dimidium facti, qui cæpit, habet." A state which has once engaged in a pursuit, may be considered as having half accomplished the end of it. Thus was it with the Lacedæmonians; for in a space of time wonderfully short, from that when they first commenced marine architects, they appeared at sea with a fleet which might, to nations unacquainted with the true principles of naval war, have appeared formidable.

It is a natural effort of the human mind, when it considers itself unequal to the task of contest on the score of science, to attempt remedying that deficiency by the apparent superiority of force which it brings into action. Thus was it with the

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Spartans. Skilful as they knew their rivals and antagonists were, they feared the issue of a conflict, if they themselves were not provided with vessels larger than those of their opponents, and they accordingly, by endeavouring to render victory certain, in great measure courted their own defeat. The first memorable naval engagement which took place between the two rival republics, happened off the island of Zacynthus, now called Zante. The Lacedæmonian gallies were lofty, unwieldy, and extremely ill adapted to that mode of contest then practised, added to which, their own want of skill in working them rendered the natural defects of these vessels still more grievous. The difference in appearance between the two contending fleets, is represented as having been somewhat similar to that, which in times far less ancient appeared on the shores of Britain, in the contest between the armada of Spain, and the fleet of England. The issue of the contest too, was exactly similar in both instances. The Spartan gallies, towering high above the surface of the water, as though in contempt of their adversaries, lay incapable of motion, an easy mark for the desultory attack of their light, and active enemies; so that while the latter could in an instant retreat, advance, tack, or turn about, as the favourable opportunity of attack presented itself, the floating castles of the Lacedæmonians, for so, comparatively speaking, they might be termed, could effect neither of these operations, or manœuvres, except with the extremest difficulty, and much loss of time.

Phormio, the Athenian commander, quickly discovering the inexpertness of his opponents, surrounded, as it were, their fleet, which drew itself together into one solid compact body in the center of its foes. This resolution, though considered by the uninformed Spartans as the most powerful method of opposing their enemy, which they were arrogant enough to suppose would not have the audacity to attack them, was the most ridiculous they could possibly have adopted: their sails, their beaks, their oars, became entangled with each other; so that when on the springing of a breeze of wind favourable to the activity of the Athenian manœuvre, and the lightness of their vessels, that desultory mode of attack, in which they were peculiarly expert, commenced: the Spartans, unable to fly, or to fight, fell easy victims to their own mismanagement, and the superior skill of the Athenians. Twelve of their largest gallies were captured, one of them so considerable in magnitude, and so splendid in point of equipment, though extremely ill adapted to the purposes of war, as to cause the utmost admiration in the conquerors, and occasion a doubt

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in them which they ought most to wonder, the folly which had caused such a useless waste of labour, or the skill displayed by a people, till then, totally unpractised in the science of Marine Architecture, in putting together so enormous a floating structure.

Diodorus, lib. xii. after mentioning this victory, relates, that the vessel in question was consequently dedicated, as a spolium opimum, to Neptune. A second contest quickly succeeded to the first; for the Spartans, bearing too arrogant a spirit to sink under the pressure of the first misfortune, strained every nerve to send forth a second armament; so that a second Lacedæmonian fleet made its appearance at sea, ere the rejoicings had ceased for the defeat of the first. The conflict which took place was checquered, perhaps, with more varied success than had ever before occurred in the history of naval war. The Spartans, notwithstanding their want of skill, which they very strangely and blindly appeared very little conscious of, having attacked their enemy with a great superiority of force, succeeded in making themselves masters of nine gallies, out of twenty, which composed the Athenian fleet; but pursuing as an almost certain prey the remainder of their routed adversaries, and attacking them somewhat incautiously, six were captured, several sunk, and all the rest of their companions driven on shore. To conclude and render complete the disasters of the Spartans, their nine prizes, first taken, were recaptured, and Phormio returned once more to Athens in all the pride of victory.

Misfortune, however, appeared still incapable of damping the natural courage of the Lacedæmonians. A far greater armament was speedily collected after the ruin of the second, in force so powerful, that the Spartans meditated an attack on Piræum, the port belonging to Athens, and the only place from whence she had it in her power to send forth a navy. It would to a certainty have been carried into execution, and not improbably with success, had it not been prevented by a sudden and unfortunate change of the wind. One of the most extraordinary feats that is recorded in history, appears to have been effected by the same people very soon after the failure just mentioned. Having attacked and carried the city of Corcyra, now Corfu, they retired towards the isthmus, which joins Leucate to the main land of Acarnania: on this spot the city of Leucate stood; and an Athenian armament, consisting of thirty triremes, dispatched in quest of the plunderers, arriving in the opposite sea, the very narrow isthmus just mentioned separated the contending parties. The pursuers delayed not to proceed round the promontory to attack their enemy; but some time being necessarily

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necessarily required to effect this purpose, the Lacedæmonians, making the best use of their time, by mere manual labour conveyed their vessels over the low narrow neck of land, and sailing with the utmost expedition to their own country, effected their escape. The Athenians, on their part, terrified, almost, at the singularity of the event, and finding their expected prey escaped, hardly knew whether to believe the whole affair a matter of enchantment, or attributable to the natural power of man.

Two interesting circumstances are deducible from the foregoing historic fact: the first is, that the gallies, or vessels, employed by the Spartans on this desultory expedition, must have been of very inferior size to those which they possessed at the time of their first battle; the second is, that the ancients must, at that time, have acquired a most perfect knowlege of the different mechanical powers, their uses and their effects.

The foregoing singular transaction first raised the Spartans into renown, and rendered them respectable for their skill in maritime affairs, not only in the eyes of the inferior states of Greece, but even of the Athenians themselves. The cruelties inflicted by the latter people on the revolted island of Scio, which, throwing itself under the protection of the Lacedæmonians, abandoned the friendship of the former, naturally caused a renewal of contest; but after a long continued scene of warfare with their ever jealous rivals, the efforts of the Spartans were compelled to sink before the unremitting industry of their opponents; for they were obliged to submit to the very humiliating stipulation—"Ne cui Spartano, nave longa navigare liceret, sed oneraria tantum eaque parva:" "that the Lacedæmonians should use no gallies or vessels fitted for war whatever, and such as were employed in the transportation of merchandize should be of very limited dimensions." That rapid fluctuation, however, of power, which occurs in the history of almost every state and government, from the earliest ages down to the present moment, once more raised the fallen Spartans into respect and eminence. The descendants of those benevolent men, who had so long, though unsuccessfully, endeavoured to stem the torrent of Athenian tyranny, had the temporary satisfaction of seeing the fate of their ancestors avenged: Athens having fallen a prey to the voracious appetite of all-devouring Rome, and the sword of the sanguinary Sylla; while Lacedæmon, although depressed considerably below that pinnacle of greatness which she had once reached, continued to hold a less dangerous and more quiet station, in

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in the midst of those tumults and conflicts which almost uninterruptedly distracted Greece.

Although the Athenians and Spartans, more particularly the former, held the highest rank as maritime powers among all the Grecian states, yet several others, less formidable, members of the well known Achæan league, indeed moved in an inferior, but far from an ignoble sphere. The fate of Corinth, however, decided that of all the cotemporary continental states, parties to the same confederacy, as that of Athens did of those islands and republics which had so long contributed to support her insolence, and her tyranny, more in the character of her vassals, than of her allies. The Phœnicians, on the opposite shore, who had made so conspicuous a figure, among the first people addicted to maritime pursuits, had totally sunk under the power of Alexander, who despised all glory but what he could obtain through his own prowess, and that of his soldiers.

Such was the origin, such the progressive history, and such the final period, of that maritime power, which the different states, whose territories were washed by the Ægean, the Ionian, the Carpathian, and in short all the other seas, into which the eastern part of the Mediterranean was nominally divided, had acquired in the early ages of the world. Their secluded situation, the narrow limits of the different territories over which the power of each individual republic, or community, extended, and the rising consequence of Carthage, as well as Rome, prevented any of them from acquiring more than a local consequence, the effects of which were not felt beyond the very narrow sphere to which the causes just assigned, confined it. The Assyrian and the Persian empires, the kingdoms of Egypt, and of Macedon, were addicted to no other pursuits than those of a military nature, and could scarcely be said to aim at any conquests, but such as were atchievable by their soldiers only. On all occasions, when fleets became necessary to them in the execution of their projects, they were obliged to be content with asking, or demanding such succour from the Phœnicians, the Cretans, the inhabitants of Samos, Chios, or other islands in that quarter, either in the quality of their allies, or their slaves, as they chose to afford, or the power of their masters thought proper to exact.

The summary account of the marine history of Greece, and the neighbouring states, absorbed as they all became, first, into each other, and secondly, into the very superior vortex which the Roman republic, when in the zenith of its greatness, formed round itself, naturally includes all that is necessary to be said, in an historical

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historical point of view, of a very considerable part of the ancient marine. The fleets and power of Carthage, and of Rome, which not having existed till that of many which have been already commemorated, were much in the wane, and some of them in an absolute state of decay, necessarily demand a future and distinct notice, for the purpose of preserving a chronological order as correct and perfect as may be.

The consideration of those commemorated facts, the relation of which has been transmitted to modern times as authentic, furnishes very sufficient evidence of some points, which afford no inconsiderable insight into the state of Marine Architecture, as it stood at different periods. These have been already slightly hinted at, but it will, probably, not be irrelevant or improper to enter into a short detail of those facts, and the conclusions which may naturally be drawn from them. The fleet employed at the siege of Troy almost exceeded in numbers what reason feels herself inclined to allow, or credulity itself, stretched to its utmost limits, is ready to believe. This scepticism, however, has been in great measure occasioned by an aversion which the human mind feels to separating ideas, which custom, and long use, have associated with particular objects. When even a fleet of twelve hundred vessels is mentioned, the modern reader scarcely knows how to allow, that these vessels were of any inferior description to triremes, and consequently, that each of them required a crew equal to a galley properly fitted for war. The fact was, in reality, far different. In the early ages of navigation, even before the introduction of gallies, or the custom of entering into manual contests, on board them, took place, fleets were far more powerful, if numbers only be considered as constituting force, than proved the case in after ages, when improvement had rendered the system of naval architecture less artless, and considerably augmented the expence, as well as labour, of fitting out vessels intended for warlike purposes.

Stabrabates, the opponent of Semiramis, who is supposed, by many historians, to have lived seven hundred years previous to the siege of Troy, is said to have collected a fleet consisting of four thousand vessels, for the purpose of resisting the invasion of his territories by that aspiring woman. The Grecian fleet, collected on account of the expedition against Troy, amounted, according to Thucydides, to twelve hundred vessels, some of which were so capacious as to contain one hundred and twenty men, and the smallest carried fifty. It must, nevertheless, be at the same time remembered, that they were all of them, notwithstanding

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their superiority in dimensions, of no higher description than open boats; decks, it is well known, being an addition of much more recent date. The manner in which the voyage was executed, with the shortness of the passage from one country to another, occasioned by the frequency of islands in those seas, rendered the want of covering no material impediment to the service in which they were occupied. Improvement and addition caused, in process of time, the diminution of numbers, in proportion as the science became more complex. A fleet of eighty triremes became as formidable an armament as that, had before been considered, which amounted to eight hundred. The Athenians, when in contest with the Persians, built two hundred triremes at one time, owing to the advice of Themistocles; and the fleets equipped by that single republic, not unfrequently exceeded three hundred gallies. In later times, however, an armament of thirty or forty was considered of material moment, and one of eighty, as demanding the utmost exertions the state was capable of making. Yet all these vessels, different as their description might be, were indiscriminately stiled, in the different languages, peculiar to the countries which possessed them, what answered to the Latin term, naves, as observed at the commencement of this chapter. Such was the appellation bestowed on the rude diminutive vessels of Stabrabates, as well as on those which Athens possessed when in its zenith of power, and the arts were cultivated to the utmost height of what was then supposed perfection.

Exclusive of timber, which was certainly of the first necessity, the different materials used by the ancients in the construction both of their war gallies, and all other vessels built by them, are no less worthy of attention than is the peculiar method and form in which those materials, taken conjunctively, were put together. The nails, or bolts, certainly possess an interesting claim to notice, the mode by which the beams and planks were confined to their respective places, or duties, being scarcely less consequential to the formation of a vessel than the timber itself. Iron, on account of its abundance, was first applied to this purpose; but the ancients, as has since been the case with the moderns, experimentally found, that, applicable as it really is, on many accounts, to this purpose, its use is not unattended with disadvantages, on others. While the cheapness with which bolts and nails were forged out of iron, proved an incentive on one hand, its propensity to rust, and early decay, more than counterbalanced the encreased expence occasioned by the substitution

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tion of brass in its room *. The latter was found to be very little affected by corrosion, in comparison with the former; and in addition to its consequent durability, the grievous evils and misfortunes frequently produced by the planks becoming iron sick, were totally prevented from taking place. Under the system of construction first used, vessels, otherwise in a complete state for service, became leaky, and to that inconvenience, rapidly increasing till it became almost insupportable, quickly succeeded, destruction.

The gallies thus built, being found, after much sad experience, equally incapable of resisting the attacks of the human foe, or the assaults of those common enemies, the waves and the winds, the substitution, already related, naturally took place, and might be said to prevail in general use till the irruption of the Goths. The destruction of the Roman empire which it produced, then gave, as it were, a natural check to all scientific discoveries, or improvements, and compelled mankind, when again emerging from a state little short of barbarism, to commence their researches, as from a state of almost total ignorance.

Close as the junctions between the planks might, through the care of the artificer, be made, the water still found means to force its way between them. To obviate this great inconvenience, the operation now known in Britain by the term caulking, was adopted. In the early ages of navigation, the method so strangely misunderstood by some authors, and which, notwithstanding its being an imperfect remedy for the evil, is still partially practised by the Chinese †, suggested itself as a remedy. The first application consisted of nothing more than sea-shells in their natural state, which being reduced into a fine powder, and formed into paste with water, was found, on being carefully introduced into the chinks, or seams, to exclude the water, when first applied, with a tolerable degree of perfection: having, however, no very strong propensity towards adhesion, it soon cracked, and, owing to the natural strain of the vessel, falling out by degrees, the water soon found nearly as easy an admission through the crevices, as though the operation had never been performed. The necessity of some alteration, or improvement, gave rise to the very early practice of burning the shells, and converting them into lime, previous to their mixture.

* Vegetius, lib. iv. cap. 34, speaks of this substitution as having taken place long before his time, and assigns, as a very natural cause for the alteration, that brass was so much less liable to corrode than iron. Such was the practice, according to the testimony of Athenæus also, as far back as the time of Nero.

† See page 10.

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This proved, though an alleviation of the mischief, by no means a remedy for it. Wax and pitch were afterwards substituted to the same purpose, but the disease still remained lurking in the system, though the violence of its effects were in some degree corrected.

At length, accident perhaps, rather than study and attention, (for authors, owing to the high antiquity of the practice, have omitted to inform us when, or by whom, it was first introduced) gave birth to the general practice, which has been continued, with little or no variation, down to the present moment. Pliny, lib. xix. cap. 1, briefly but very clearly explains the whole process:—"Stupa ea lini pars quæ, proxima cortici, malleo stupareo contusa, stipatur inter tigna, et rimas navium dehiscentium:" the coarse part of that plant producing what was called by the ancients linum, and by the moderns flax, being that which is nearest to the bark, or outside covering, was bruised and properly divided by being beaten with a mallet, and driven in between the planks and seams of vessels, which would otherwise have admitted the water. Curtius, in his tenth book, affords a corroborating proof of this custom, observing, that the kings of Cyprus were commanded to provide, as a tribute to Alexander when he meditated, after having conquered the east, the subjugation of the whole world, brass, or copper, flax, (stupa) and sails sufficient to equip the fleet of septiremes, which he ordered to be constructed in the ports of Syria, from the timber felled on the mountains of Lebanon: the plant known by the name of the mat weed, being prepared in the same manner, was also applied to the same purpose.

Pliny, with much precision, and apparent attention to correctness, states, that the Belgæ, inhabiting that part of Europe now called Holland, were accustomed to use and apply the fibres of an aquatic plant, common in that country, to the same purpose; but it is most probable, that very plant was nothing more than a particular species of flax, the peculiar production of that low and marshy district. This material, observes the same author, being introduced into the seams, answered the purpose of caulking them, or excluding the water, much more perfectly than the former method, of paying them with pitch, which may be supposed to have then become exploded. The inhabitants of Banda, according to Pontanus, were accustomed to beat or bruise, with a proper instrument, the bark of the plant called clappus, till the fibrous parts became separated from each other, and the whole mass was in consequence rendered flexible. Having undergone this operation, it assumed,

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in great measure, the same appearance with flax, not improbably what is now called paut, and being properly introduced into the seams, those were payed over, as an additional precaution against leakiness, with a paste made of lime, prepared, most probably, as already stated, and which possessed the peculiarly useful property of resisting water.

In addition to all this care and attention, it was customary, in times far remote, to pay or coat over the whole of the bottom with melted wax, or rather pitch, the mode of collecting and preparing which, varied nothing from the modern practice. It has been already observed by Maurice, in his volume of Indian Antiquities, speaking of the vessels belonging to the ancients, "that they were accustomed to use hides, properly prepared and hardened for the purpose, which being stretched, and firmly attached to the bottom, served as a species of sheathing, which being well payed, or covered with a sufficient coat of resin, or pitch, proved a very considerable protection to it against those injuries which would have arisen from the salt water being in constant contact with it." This custom of sheathing, which has been supposed by many persons to rank among the most modern inventions, was certainly of very ancient date, for it is at least nearly coeval with christianity itself. The authenticity of this supposition is fully proved by the discovery and rescue of Trajan's galley from the lake Riccio, where it had remained under water for more than thirteen hundred years. Leo Baptisti Alberti, who records the circumstance, states, on his own inspection and knowlege, "that the pine and cypress, of which it was built, had endured and were then in so sound a state, as to be nearly incredible: the bottom was, according to the modern, and easily comprehended scientific term, doubled: the seams had been evidently caulked with linen, and the whole of the external part carefully smeared, or payed with a coat of Greek pitch, over which was brought an exterior covering, or what is now called a sheathing, formed of lead, rolled or beaten to a proper thinness, and closely attached to the bottom by a sufficient number of small copper nails."

Locke, who has noticed the above circumstance in his History of Navigation, prefixed to Harris's Voyages, observes, "here we have caulking and sheathing together above sixteen hundred years ago; for, (adds our author) I suppose no man can doubt, that the sheet of lead nailed over the outside with copper nails was sheathing, and that in great perfection, the copper nails being used rather than iron, which, when once rusted in water with the working

working of the ship, soon lose their hold, and drop out." To this observation may be added one other remark, which contributes very materially to raise the character of the ancients, not only as marine architects, but as being very considerable adepts in those refined parts of the science, which may very justly be considered as improvements. Soon after the restoration of king Charles the Second, a project for sheathing all ships with lead was introduced to public notice, and no inconsiderable pains were used to render the adoption of it general, in the British navy. The attempt, however, failed; but though subsequent experience may have introduced a more efficacious system, and led moderns to despise a practice which would evidently have been less beneficial than that which recent improvement, and extended experience, has rendered general, yet it must be allowed, that the principle of preservation is in both instances precisely the same. It certainly matters not, in respect to the primary method of contrivance for preserving a ship's bottom, whether the material employed, is a thin plank of deal, a sheet of lead, or a plate of copper.

Philosophical as the investigation certainly is, and ill adapted to the pursuits of early navigators, they seem to have bestowed the most marked attention to the rudder, and to have applied themselves, with the utmost earnestness, towards the discovery of those interesting arcana which produced its effects. Not satisfied with the advantages derived from discovery itself, they stopped not till they considered themselves in possession of that theoretical knowlege, which explained to them all its laws of action. The ancients found, by observation and experiment, that the fluid which opposed the passage of the stem, or prow, was raised to a greater or less height in opposition against the bow, in proportion to the velocity with which a vessel was impelled, or driven through the water. Reflection also taught them, that such increased height of fluid, so raised and divided by the prow, and afterwards by the sides of the vessel, again joined at the stern, and fell in constant succession into that cavity, or vacuum, which the passage of the floating, moving body was necessarily making without intermission. Though totally uninformed, perhaps, of the doctrine of centripetal forces, their observation had taught them, that all bodies acquired a progressive velocity in proportion to the length of their descent; of course, that the fluid acquired its utmost rapidity when it approached so sufficiently near to the stern, that it was not affected by that eddy, or revulsion of the fluid, if the words be allowed, which will be more clearly explained to moderns by the term dead water.

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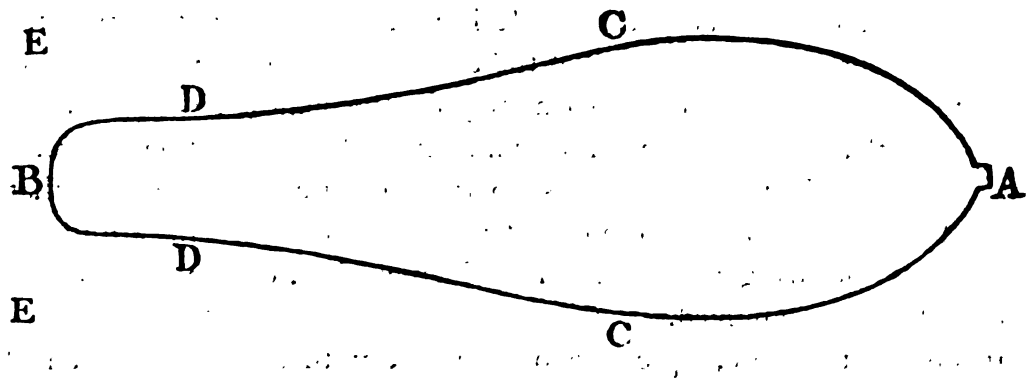

" Let the figures A B C D, (says Vossius, in his criticism on the Marine Architecture of the ancients, and his account of the principles by which it was governed) represent the horizontal section of a vessel, or ancient galley, of which A is of course the stem, or prow, and B the stern. The swell of the sea, raised by the impulse or motion of the galley through it, will pass on, being divided but slowly, till it reaches C C, which is the point of extreme breadth, and consequently of resistance. It will then begin to acquire velocity, which will naturally encrease till it reaches the points D D, where it attains its height. The course then becomes suddenly impeded by the eddy, occasioned in consequence of the fluid, which had before passed from D D to B, where it meets, and flying off instantly as in dislike of so close a contact, forms an opposition at E E, which checks the currents that had previously passed from C to D."

This explanation of that investigation, on which Vossius asserts the ancients acted, in assigning a situation to the rudder, is the more entitled to present attention, inasmuch as it coincides strictly with many philosophical points of modern enquiry, which the studious investigators of the present age, in many instances, have appeared to consider as a ground never before passed over. Perhaps no topics, if it be permitted to make a digression for a moment, and course with the rapidity of thought from the first to the eighteenth century, have ever more agitated the minds of contending artists, or the tempers of theoretical investigators, professing opposite opinions, than the separate enquiries of the proper point where the extreme breadth of the vessel should be placed, and the contour or shape which can be best given to the tail, or stern. The dispute is certainly of the utmost magnitude. The proper ascertainment of the points

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bears more material reference to the improvement and perfection of the science, than any others that can be selected. It is not, therefore, with any intention whatever of depreciating the value of the enquiry, that any remark is made in respect to its want of novelty, but merely for the honest and candid purpose of shewing, that theory, as well as philosophical investigation, were, even centuries since, called up in aid, in support of practical science, and that the ancients by no means acted so much at random, on vague indeterminate opinion only, as the arrogance of modern refinement has, on some few occasions, rather too hastily promulged.

" It follows, therefore," proceeds our author, " that the rudders, and their effects, being influenced, in a very considerable degree, by the stream of fluid occasioned in consequence of the swift passage made by the prow through it, that their most proper stations are at D, where they are empowered to act with the utmost force, and not at B, where such force becomes considerably weakened, as standing in the eddy, created by the junction of the two artificial streams." Vossius takes this opportunity of explaining the cause why vessels of great length answer or obey the helm better than such as are of more contracted dimensions, and assigns that reason as one of the principal causes which directed the minds of the ancients to the adoption of those principles in Marine Architecture, which modern practice has since exploded. This opinion, however, appears rather too hastily formed; for there can be but little doubt, that the addition to the impulsive power acquired by such length, was the primary cause of it. It is remarked, with more truth, by the same ingenious antiquary and commentator, that the dimensions of the rudders were affected, in a very considerable degree, by the contour or shape of the bottom, as well as the greater depth of water which some vessels drew in comparison with others; or, to speak abstracted from scientific terms, that proportion of the hull, which, when the galley was at sea, sunk by its weight below the surface of it. The use of double rudders, a contrivance which, on some particular occasions, was extended even to four *, grew into disuse, as the principles and views of navigation became enlarged, in consequence of the inconvenience which was found experimentally to result from it. It needs but little argument to prove, that it must be much more difficult to produce a decided and precise effect from the operation of a machine, or engine, composed of two parts, than it would be, provided that machine consisted of one only. This consideration and dis-

* See page 51.

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covery naturally caused the removal of the gubernaculum, or rudder, to the place it now occupies *.

Various were the experiments which, according to the assertion of the author just quoted, the ancients contrived, for the purpose of ascertaining not only the most proper situation for the masts, but also their height and position, with respect to the angle which it was found expedient for them to form with the keel. Their height, if extended beyond certain limits, was found productive not only of too great an oscillation with respect to the sails, but tending also, on account of the action of the wind being raised too high above the centre of gravity, to drive the prow or head of the vessel under water. Modern examples of this inconvenience are by no means uncommon, and they are supposed to have given birth to the custom of causing the masts to rake aft, a measure Vossius by no means appears to approve of himself, but suggests and proposes in its room, which has been adopted by many persons, the custom of shifting or trimming the ballast as should seem necessary. This, however, he candidly confesses is inconvenient, and in some instances impracticable. The introduction of many among the preceding observations, might naturally be considered as somewhat irrelative to the investigation of what portion of knowlege the ancients possessed, as well in the science of navigation, as of Marine Architecture, were it not that they prove, for the honour of antiquity, by strong implication, that mankind, even in the most remote ages, manifested a disposition to enquiry, which suffered them not to rest contented with the bare satisfaction of their wants, unless they considered, at the same time, that the means by which those wants were supplied, were in as improved a state, as the nature of them would admit.

Although the vessels of the ancients were to be considered as divided into two classes only, such as were intended for the purposes of war, and those

* Vossius, who appears to have entered on his investigation with no inconsiderable share of ardour and enthusiasm, observes, in defence of his system and opinion: "Cæterum si commodissimus gubernaculis eligendus est locus, non dubitandum quin is futurus sit ille, qui remotior aliquanto est ab extrema puppi, quam qui nimium huic sit vicinus. Hodiernæ onerariæ in magnis tempestatibus non obsequuntur gubernaculis, sæpe Æstuum ferventium violentiâ impingunt in scopulos et importuosa littora, quod tamen rarius fit si aptiori loco apposita habuerint gubernacula." There remains ve y little doubt, but that if the fittest place for the rudders was to be chosen, they would be fixed at a small distance from the extremity of the stern, for it frequently happens, that the merchant vessels, of modern times, frequently refusing to answer the rudders in very heavy seas, and of course driven on rocks, or coasts destitute of harbours, which would not be the case if the rudders were more judiciously placed.

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built merely for the use of commerce, yet they were both, as already observed, subdivided into so many ranks and descriptions, that the distinctions, particularly among those of the latter class, might, in some measure, be considered rather as the effect of whim and caprice, than of any serious reason: the art of navigation, as well as the science of constructing vessels, being indubitably, for a series even of ages subsequent to their first discovery, in a very rude state. The term ratis, which is the most ancient of those used by the Latins to define any floating vessel, evidently points out the nature and peculiar quality of the first invention. From the raft *, in process of time, was derived that numerous class of descendants just alluded to. Isidorus, book xix. chap. 1, states, "that the only difficulty existing in the aboriginal vessels of antiquity, amounted simply to the attention, that the logs or trees, of which they were formed, should be so firmly lashed together, that there might be no danger of their separating, or breaking loose from each other." Notwithstanding the manifest inconvenience, not to say danger, which must have attended the continued use of so imperfect a structure, a very extensive period of time appears to have elapsed ere the improvement on it became general. In addition to the Egyptians, to whom the original invention has been attributed, the same contrivance was adopted both by the Phœnicians and the Ethiopians, the latter of which people are said to have undertaken what, speaking comparatively, might be considered very distant voyages, with no better means of maritime conveyance. Sicily, Corsica, and various others among the islands situated in the Mediterranean, are said to have been first colonised by navigators who were no otherwise furnished.

Instances are not wanting also, if any dependance can be placed on the terms used by the ancients, of the application of such vessels even to the purposes of war. But this circumstance, though highly curious, and strongly indicative of the natural propensity of the human race, to seize every possible opportunity of promoting scenes of hostility towards each other, though by the most inconvenient and dangerous means, is rather immaterial at present. While genius applied itself to the improvement of this rude system in those quarters, where, from the peculiarity of situation, and their approximation to the ocean, it had first gained footing, the cotemporary inhabitants of countries very far distant, struck out boldly at once into a more scientific, though more contracted scale, for a single tree only, artificially hollowed, served

* See page 12.

them

them for every purpose, which either their necessities, or their ambition, appeared to require. This method certainly carried with it more appearance of regular system than the former, although it was more simple, and the scale of its action necessarily more confined. The invention is supposed by Pliny, and others, to have originated with the inhabitants of that part of Europe now called Germany, who being little known, of large stature, and rough aspect, were considered even by the Romans themselves as barbarians and savages. These boats, or vessels, varying in no degree from the modern canoes, found, almost without exception, throughout all the newly discovered islands, were in many instances so capacious as to contain thirty persons, and were on that account either extremely formidable, or useful, according to the tempers of the navigators, inasmuch as, if so light a term be admissible, they ranked as first rates in that quarter of the world.

The term navis trabaria *, which very frequently occurs among Latin authors, undoubtedly refers to a vessel of this kind, though, were it not for the context, it might naturally have been concluded, that the appellation was contrived merely for the purpose of giving a concise description of a vessel built somewhat according to the modern practice and construction. The discovery of ship-building, or rather the invention of it, as it may be considered most deserving of the last term, is attributed by the ancients to a casual observation on the facility with which a split reed (in latin, canna) floated on the surface of the water, and from that term is very readily derived the Indian word canoe †.

The

* Meaning literally a beamed ship, which would, according to modern interpretation, be applied in distinction between a boat and a decked vessel. By the ancients, however, it appears to have been most frequently used to express a boat, or canoe, formed out of an hollowed beam, or balk.

† The exact similitude between the description given of these vessels by the most eminent authors of antiquity, and those which are at this moment found in every newly discovered island, or country, washed by the south seas, well warrants such a digression as is necessary to point out the comparison. "Germania, prædones singulis arboribus cavatis navigant, quarum quædam et triginta homines vehunt." Pliny, lib. xvi. cap. 31. The German robbers *navigate*, or, to use a more proper term, pass over the water in hollowed trees, of which some are so large, as to be capable of containing thirty persons." "Novasque alias primum Galli inchoantes cavabant ex singulis arboribus." Livy, lib. xxi. cap. 26. The Gauls (in aid of the vessels already collected) began to form others out of single trees, which they cut down, and hollowed." "Unus e Barbaris, ætate senior, corpore excellens, dignitate quantum ostendebat cultus, eminens, cavatum ut illis mos est ex materiâ conscendit alveum, solusque

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The extraordinary similarity between the terms, may lead the modern enquirer to suppose, without any very violent stretch of the imagination, he has discovered

id navigii genus temperans ad medium processit fluminis." Velleius, lib. xi. cap. 107. One of the savages, advanced in years, of noble stature, and dignified mien, having entered a boat formed out of an hollow tree, according to the method practised by that people, worked it alone into the middle of the stream."

Nor did the comparison between the Marine Architecture of the new and old world end here. The canoe of the Eskimaux covered with skin, was, as before observed, preceded twenty centuries since by contrivances exactly similar, used by the aboriginal Britons. " Etiamnum in Britannico oceano vitiles naves corio circumsuto fiunt." Pliny, lib. viii. cap. 56. At this very time, the inhabitants bordering on the British ocean, construct flexible vessels covered with skins." The same parity and conformity of ideas, which will be easily discovered on comparing the foregoing account with that of the modern canoes, might, if necessary, be easily traced through every different description of aboriginal vessel in use, either among the ancients, or those countries which have been most recently discovered.

The canoe of the North American, called by him a Periagua, which serves him as a fishing-boat on the coast, and with which he travels and trades along his rivers, is made of bark. The aborigines of Canada used the bark of the birch, and sometimes constructed them of a sufficient size to hold four or five persons. When the French held settlements in that country, the colonists learned to manage these canoes, which they called *coureurs-de-bois* and *traiteurs*, with as much adroitness as the natives themselves. In the commerce which they carried on, visiting the houses of the Americans with European merchandize, and purchasing peltry in exchange, two men travelled with each canoe; and when the falls of the rivers stopped their progress, they lifted at once their vessel, with its freight, upon their shoulders, and carried the whole burthen above or below the falls, according as their voyage was up or down the stream. The canoe of the Indian, and the Charibbe, is the simple trunk of a tree, hewn on the outside to the desired form, and hollowed within by means of fire. Its size, consequently, depends upon that of the trees. It is rowed with paddles and oars, and sometimes with the assistance of a little sail. The lading is placed in the bottom; but as the canoe is not ballasted, it frequently oversets. The aftermost oars supply the purpose of a rudder. The generality of canoes have projections like those of barges, forward as well as abaft: in some instances, these projections terminate in points; in others, both stem and stern, are flat; and some very few are round. When a sail is to be added, a little mast is set up forward. The sails are made of cloth, or, more commonly, of matting, of reed, or of cane. In Muscovy, however, on the lake of Wolda, the canoe is rounded fore and aft: it is much wider in the middle than at either end, and is worked with a single oar, which is placed at the stern: but all the other canoes of that country terminating sharply both ways, are elevated before as well as behind. They are hardened by means of fire, protected from the weather by paint, and lashed round for the purpose of giving them additional strength.

The negro of the coast of Guiney obtains a canoe by merely hollowing the trunk of a tree: it is of a long figure, and swims but with a very small part of its body above the surface of the sea: so that he who sits behind, and guides the canoe, is frequently half covered with water. The width is no more than that of one man, and the length sufficient for seven or eight. The men are seated on

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discovered a solution of the so long disputed point, and controversy among sceptics, that America was originally peopled from Europe by persons speaking the Roman or Latin language. Totally foreign to the present enquiry would be any attempt either to invite a controversy, or enter into a discussion of this point. Suffice it to say, that the circumstance is certainly a striking one, and the similitude extending beyond that of mere terms and appellations, even between the forms of construction adopted by the ancient inhabitants of Germany, and the modern native navigators of the South Seas, must certainly

on round pieces of wood, and half their bodies are below the gunwale. Each man has an oar of a very hard wood, and all row together, like galley-men, in one concordant motion; or, if an individual pulls too strongly, putting the boat out of its line, his mistake is so well counteracted by the man that guides in the stern, that the whole seems to fly along the surface of the water, and cannot be long followed by any European vessel. When, on the other hand, the sea is high, they are unable to steer, the loftiness of the waves preventing their answering the helm. When the surf oversets them, they have the address to turn their boat in the water, to empty it, and re-imbark, without running the smallest danger, swimming all the time like fish. These canoes are generally about sixteen feet in length, and one or two in width; but there are some much larger, measuring even thirty-five feet in length, five in width, and three in depth: they are flat at the stern, with a rudder and deck: the sails are made of reeds, or of grass. The negroes do not leave their canoes in the water, but draw them on the shore, and place them on four tressels: when dry, two men can carry a canoe on their shoulders. In shaping and hollowing the trunks they have felled, the negroes now use the hatchets that are sold to them by the Europeans. They narrow them toward the bottom, and cut each end to a point, giving it a small beak of about a foot long, and of a thickness adapted to the hand, for the purpose of lifting the canoe.

The canoes of Terra-del-Fuego, and the straights of Magellan, are of a peculiar construction. The natives take the bark of the largest trees, and bend it into shape with so much skill, that the vessels have a considerable resemblance to the gondolas of Venice. For this purpose, they place it on a small piece of wood, as Europeans place a ship on the stocks; and when the bark has taken the gondola form, and the necessary bend, they line the bottom and sides, from one end to the other, with upright pieces of thin wood, in the same manner as the parts or frames of a ship are put together: round the top of the deck another bandage of bark is drawn, in doing which the utmost care is taken to fasten the whole together. These canoes are from ten to sixteen feet in length, and two in width; holding, with sufficient convenience, seven or eight men, who row standing, and with extreme celerity.

The canoe of Davis's Streights are still more curious than the preceding. It is in the form of a barge, seven or eight feet in length, and two in width; the materials made use of are pliant branches, bent and interlaced like a hurdle, and covered with the skins of sea-dogs, or wolves. This light boat carries only one man, who, seated in a hole formed in the middle of what, from this circumstance, appears to be a deck, is enabled to fish, or to transport himself, with facility, and without much apparent danger, from one coast to another.

render

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render an investigation interesting, and perhaps far from difficult, with respect to the vessels themselves.

An enlargement of views and ideas naturally produced that of wants also: the raft and the canoe became inadequate to the wishes, at least, of the possessors, and ingenuity of course became stimulated to the contrivance of what was considered as a necessary extension. The difficulty of tracing the true history of maritime invention and improvement, has been very considerably encreased by that application of indeterminate phrases and names, which pervades almost every classical description, but more particularly those which appertain to this science.

Certain, however, it appears, and indeed it is admitted on all hands, that as the ratis, or raft, is the true ancestor, so the navis, or ship, is the youngest of the whole progeny. The poverty of idea, or, to speak with less severity, the want of experience, and contracted views of the ancients, when compared with those of the moderns, caused so immaterial a deviation in the ship or vessel of two countries, situated even at the most extreme distance from each other, in that part of the world then known, which was considered as comprehending nearly the whole of it, that it were totally nugatory to enter into division of fashion or customs, with respect to Marine Architecture, though of necessity it originally varied according to peculiar circumstances, after the first rude contrivances of the aboriginal inhabitants had risen to the dignity of a regular establishment or system.

The naval history of the world, far as the ancients * were concerned, admits only of two, or at the most three, grand divisions: the Grecians, with the Carthaginian, and the Roman empires. All other states and potentates, notwithstanding some of them might claim precedence and notice on the score of antiquity, were either too short lived, or too insignificant to be entitled to an equal rank with those powerful nations, or confederated republics, which, while in the zenith of their power, kept all the rest of the world, then known, in constant terror and apprehension for the effects of their anger.

Some partiality was, however, observable in the conduct of those countries, with respect to the dimensions of vessels. Some of them acting as though they

* The term of ancients is here meant to be applied to the inhabitants of all the known part of the world previous to the commencement of the Christian æra.

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wished to intimidate and awe their enemies by the superior size and formidable appearance of their gallies, which of course became unwieldy, and fell a noble prey to those of their antagonists, which being lighter, and of smaller dimensions, were much more easily manœuvred in squadrons, or divisions, if occasion required, as well as separately directed, independent of each other, to the attack of their weightier foes; while others, falling into the contrary absurdity of building their gallies so light as to be unstable, and almost totally unfit for the purposes of war, rendered them the ignoble victims to a ridiculous caprice, and the superior strength of their antagonists.

Anthony, at the decisive battle of Actium, fell a sacrifice to the first principle; and the Carthaginians, long before that time, owing to the ingenuity of the Romans in inventing the corvus, did the same to the latter. Experience, therefore, the best of all preceptors, effected the reform. The Romans who, from their inexperience as marine architects, in the time of Duilius, had exposed themselves, in some measure, to the scoff of their adversaries, very soon amended their system, and, with that promptitude which marks the great and powerful mind, combined, as far as was possible perhaps, the various principles which rendered their gallies as perfect as their necessities appeared to require. It has been indeed objected against their skill in this science by critical enquirers, that although their vessels, according to their different classes or rates, exceeded those of every other country in the universe, both in swiftness and in strength, yet, as they appeared extremely addicted to the use of large gallies, they were the better able to acquire a victory than to pursue it. In opposition to this charge, it may be answered, that it certainly ought to be the first and leading principle of every country going to war, to establish that kind of force which is competent to the task of withstanding and overthrowing the attempts of its antagonists. To pursue them when routed, could at least be only a secondary consideration, as the first must inevitably be effected ere the latter became necessary. The circumstances therefore tend, in great measure, to augment that high opinion which the generality of mankind have entertained of the wisdom and judgment possessed by that once celebrated people. The Greeks, their predecessors in naval empire and fame, and particularly the Athenians, the most conspicuous, and esteemed, perhaps with great truth, the most judicious people among all the rival states into which that quarter of the world was then divided, manifested the same ideas, and held forth the first example for the practice.

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The extravagance into which the extremity of the fashion was, on some occasions, carried in those remote, as well as more modern times, may be well understood from a whimsical dogma of Aristotle. " It would be as ridiculous," says the philosopher, " on one hand, to construct a vessel only a palm in length, as it would on the other, (were it possible) to build one extending two furlongs, inasmuch as one would be useless on account of its diminutive, the other because of its gigantic size.

Experience appears to have at length fixed the true and proper standard: since that particular species of galley called the trireme, was soon found to unite in itself the different qualities of a vessel of war, intended for swiftness and for offence as well as for defence.

CHAPTER

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CHAPTER THE EIGHTH.

The Construction and Proportions adopted by the Ancients in building the Naves Onerariæ, or Commercial Vessels—the Difference which existed between them and Gallies intended for War—the Model found at Rome in the Sixteenth Century, a Copy of which is now preserved in the Hall at Greenwich Hospital, proved to have been that of a Vessel intended for Commercial, and not Warlike Purposes—Comparison between the Rates of Rowing Ancient and Modern Gallies—Account of the Rostrum, or Beak—its Construction—the Materials of which it was formed, and the Effects it was intended to produce—various Examples of its Shape selected from the Coins of different Countries—of the various Methods practised both by the Greeks and Romans in Decoration of their Vessels—their Mode of painting them, together with an Account of the different Colours used by them—the Corymbus, or Ακρόνιον, *together with the Anserculus—the Custom of sumptuously gilding, and otherwise ornamenting ancient Gallies—Sails, their Materials and different Colours—the Practice of using gilt Oars taken Notice of—the Adoption of painted or parti-coloured Rigging—Account of the various Weapons and Engines of Offence used on board Gallies—the Asser, or Lever, the* Κεραια *of the Greeks—an Account of the Corvus, which has been frequently confounded with other Engines, as it is given by Polybius, and his Commentator the Chevalier Folard—Description of the* αρπαγη *and* χειρ σίδηρου*—the Purposes to which they were severally applied—Account of the Corvus of Demetrius, Callius, and Archimedes—its Use and Application not merely Naval—the Harpago of Curtius described—the Difference between the* χειρ σίδηρου *and the* αρπαγη *pointed out—the Use of the former from Cæsar and Livy—the Invention of the Fireship, and destructive Effects of the Greek Fire—different Inventions and Contrivances to set the Ships of an Enemy on Fire, or annoy the Crews.*

WHILE ingenuity and invention were exercised to produce an impulsive power in its highest extent, by the use of the greatest number of oars that could be ranged in a given space, the ancient artists were no less attentive to the contour of the bottom, so that it might meet with what was supposed to be the least possible resistance in passing through the water.

The total absence of any scientific treatise on the construction of vessels, either Roman, Carthaginian, or Grecian, has, as already observed, rendered it extremely difficult to state, with precision, those principles which the ancients supposed most

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conducive to perfection. The most certain authority on which moderns have to rely is, that of the model of a Roman vessel presented by the late lord Anson to the Royal Hospital at Greenwich; the original, which is of marble, was found in the Villa Matthei in the sixteenth century, and now stands before the church of Santa Maria in Rome, which is from that circumstance called Santa Maria Navicella. This curious, and, indeed, from the reasons just given, highly valuable remnant of antiquity, has been hitherto very generally, though improperly, called the model of a Roman war galley. That is by no means the case, galleys of that description, called by the ancients, from their form, Naves Longæ, were, as already stated, in length by the keel, generally speaking, equal to eight, and never less than six times their breadth: but the model alluded to will be found not far exceeding four times its breadth; it is evident therefore, that the original was intended for the transportation of warlike stores, provisions, and troops, or, which demands the same requisites, and one built for the purposes of commerce.

However these might differ, more especially in those particulars just pointed out, from the gallies intended solely for the purposes of war, there is no reason to doubt but that in most other respects, such as in the shape or form of the bottom, no inconsiderable degree of similitude was preserved between them. On this ground, therefore, without presuming too much on authorities, it may be boldly asserted, that on examining the horizontal and perpendicular sections, as well as the side elevation, better known by the technical term of the sheer draught, it will be found that the ancients entertained an opinion little differing, in many points, from that of the moderns, as to those principles and established points of perfection in Naval Architecture, which ought to be held fixed, invariable, and never to be departed from.

That particular class of vessels called the Liburni far exceeded in swiftness, as it has been already stated in a preceding chapter, those gallies which were furnished with more than one tier of oars. The celebrated victory obtained by Augustus Cæsar over his rival Anthony, at Actium, is imputed merely to the use of these particular vessels. Aristides states, that no Trireme could make more way than two hundred stadia, or furlongs, in the space of twenty-four hours. Artemidorus enlarges the distance to nine hundred, and is supposed to refer to the Liburni when he makes that observation. The modern gallies, however, employed in the Mediterranean, considerably surpass even the latter extent; it being by no means an uncommon thing, according to Vossius and others, for

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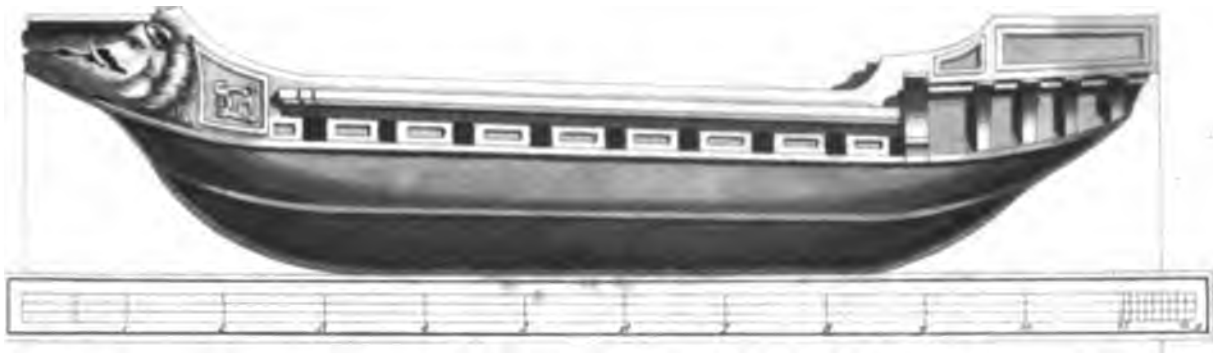
A Sheer draught or lateral elevation of a

ROMAN GALLEY, taken from the model presented to

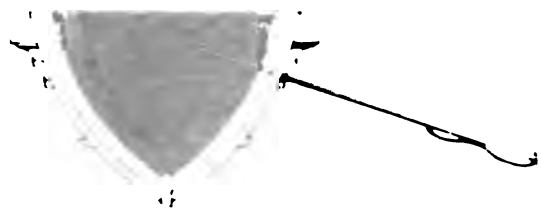
Greenwich Hospital by the Right Hon^ble Lord Anson.



A Plan

Elevations
Head and Stern

Midship Section



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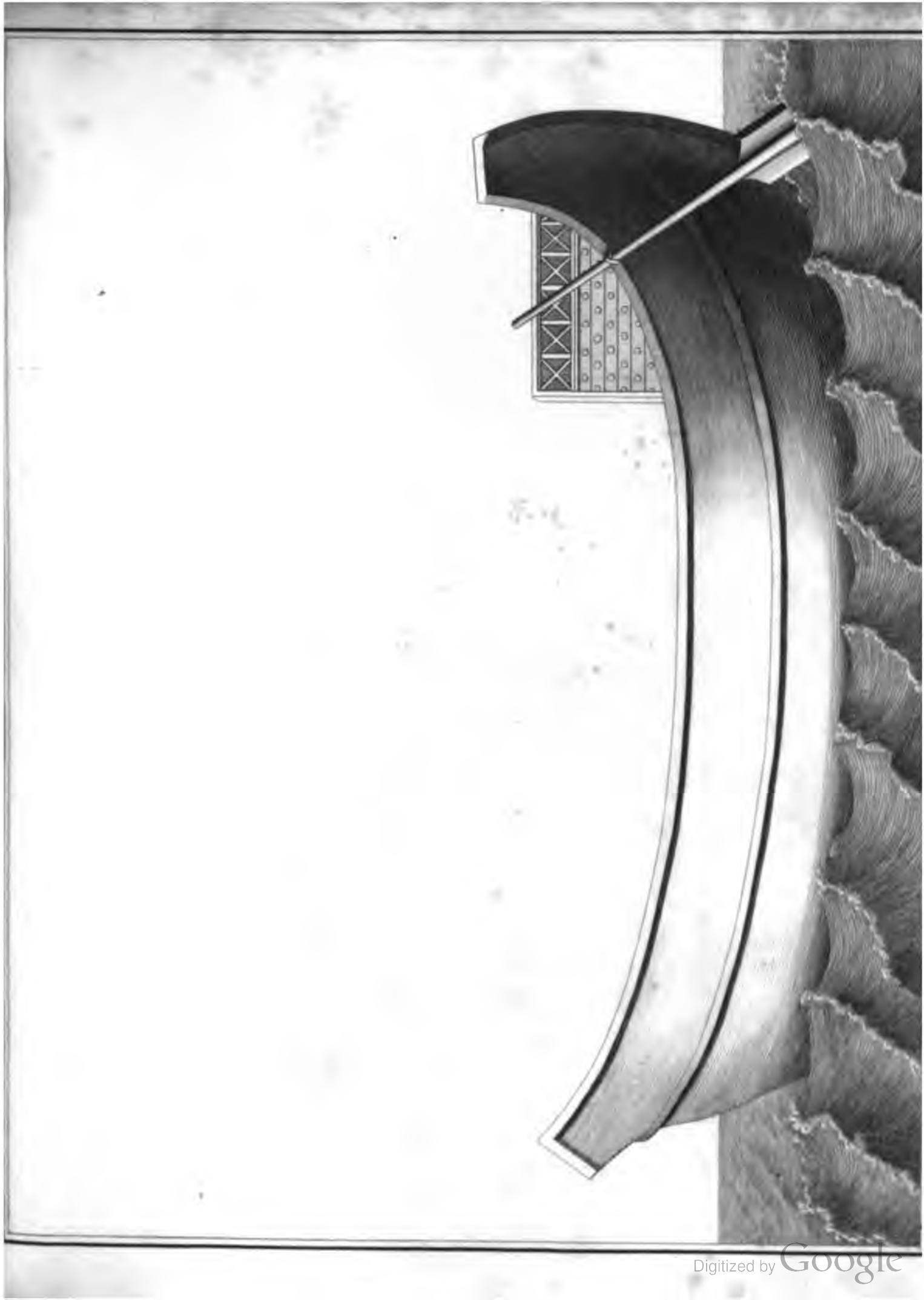

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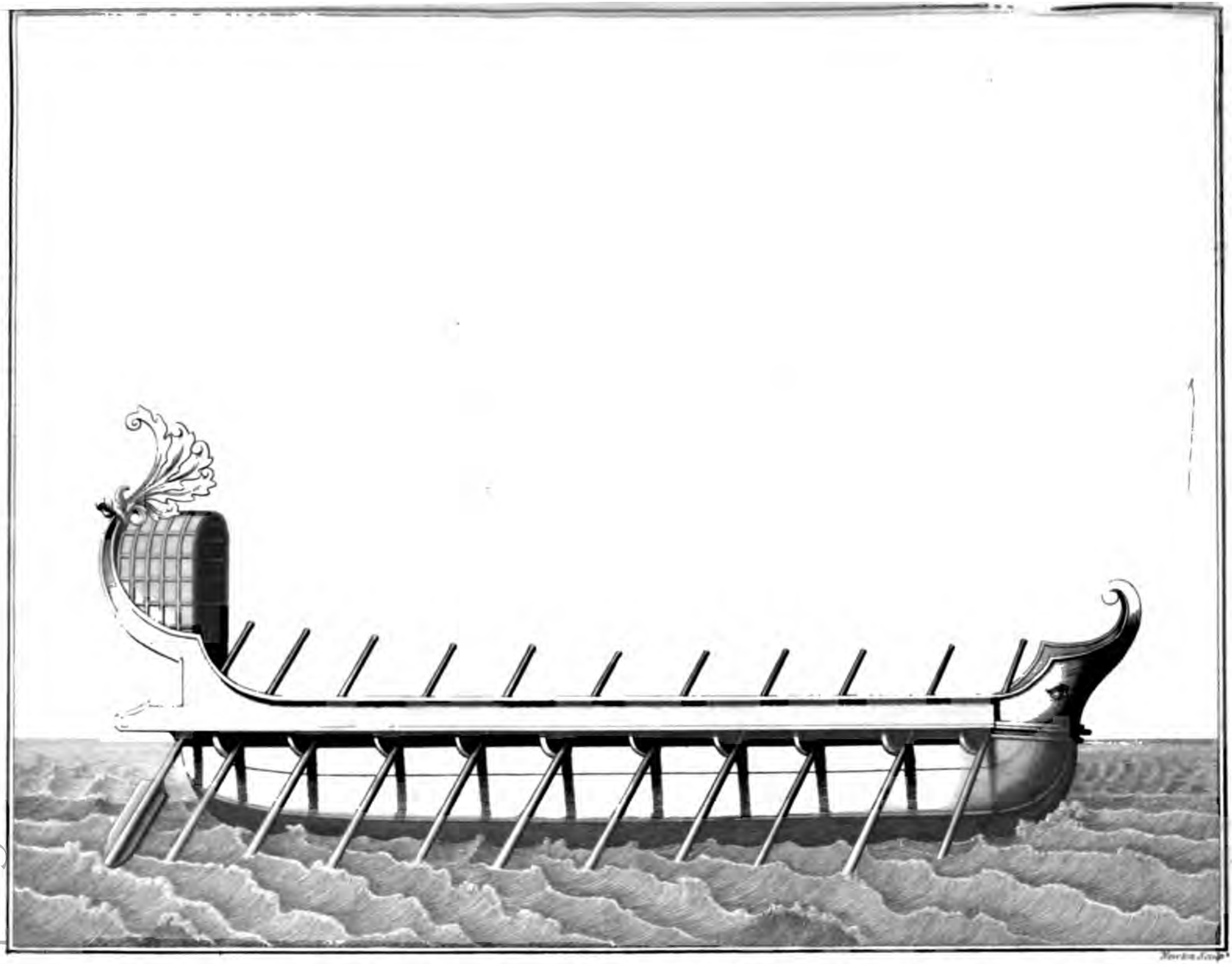

One of the ancient Liburni, or gallies, having a single tier of Oars, according to Baïus.

Published by J. Sewell & Co. 1780

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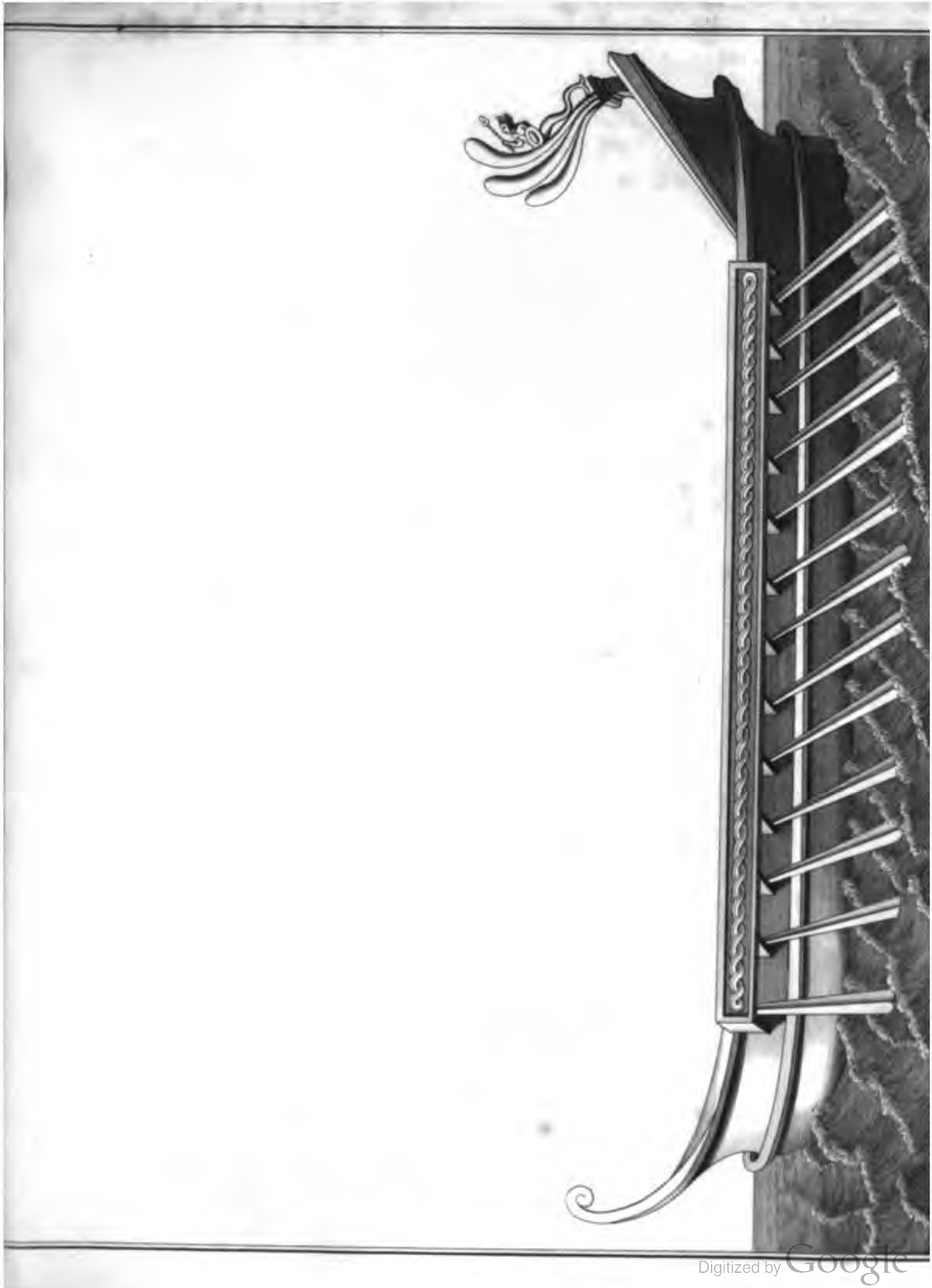

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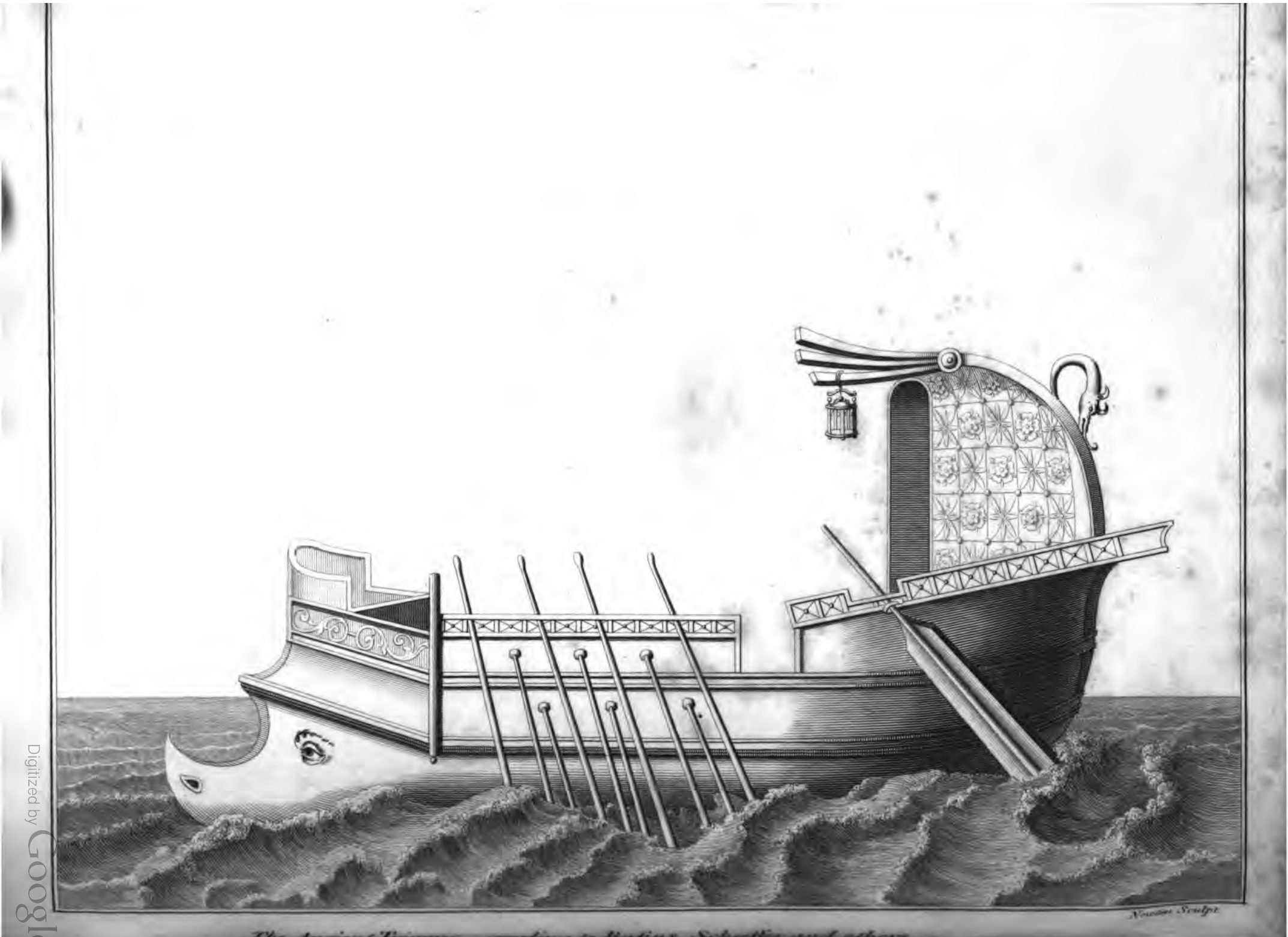

The Ancient Trireme ... from Baïfius, Scheffer, and others.

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for a Maltese or Neapolitan galley to row sixty leagues in the course of the twenty-four hours. It is moreover positively affirmed, that a galley has made the passage from Naples to Palermo in seventeen hours, and from Genoa to Marseilles in a day. That a fair comparison may be drawn, in this respect, between the ancient Triremes, or galleys of that class, and the Liburni, it will be necessary to enquire what was the impelling power in both instances. It is an opinion deduced by Vossius from a very laboured and arithmetical statement, which it is not of any consequence to repeat here, that a modern galley moves forward nearly thirty feet at each stroke or pull of the oars. It is very evident, by a calculation drawn from the same principles, that the Trireme moved forward only twenty-five feet and a fraction.

Vessels of burthen differed, as has been before observed, very materially, both in their equipment and outline, from those intended for war: the latter were denominated Naves Longæ, the former, owing to their peculiarity of construction, Naves Rotundæ. The difference in their sailing is computed to have been as two to three; and experiments which were made even in those ages on the relative swiftness or speed of vessels, fully proved that a galley of war, using her oars only, surpassed in speed any merchant vessel that employed all her sails, and every other possible means of expediting her passage. If vessels of both descriptions used their sails, the pre-eminent advantage was still maintained in the same degree, by the galley, which it had before possessed when worked with oars. It is too apparent even to demand explanation, that where the head resistance of the fluid is once overcome, the collateral friction being very trifling, it follows, that the longer the vessel the greater quantity of impelling power can be used. To this circumstance may also be added the very weighty consideration, that a galley of war being of much lighter draught of water than a loaded vessel, had consequently so much the less opposing power to overcome in that respect, and being much less liable to pitch in the swell of the sea than a short vessel, would consequently, in that respect also, have inferior difficulties to overcome. These several principles are so well established by modern practice and experience, that it is needless to expend any farther time in stating or explaining them.

A considerable number of additions and improvements made on the original invention having descended into modern use almost without alteration, there becomes no necessity of doing more than simply enumerating them. In this class may be included the mast and sail, invented by Dædalus, or, according to

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Varro, by Isis *, and in the opinion of others by Æolus, the fabulous or Pagan God of the winds; the oar, which is supposed by many to have been contrived by Atlas, king of Mauritania, though this is certainly a false attribution, as they were very evidently in general use long before the time in which he flourished: in respect to the gubernaculum, or rudder, the claimants to that invention are so numerous, and so equally supported by different testimonies, that it is absolutely impossible to ascertain the right of priority.

Though in the time of action the success of every manœuvre, and the event of the encounter itself, in great measure depended on the discipline and strength of the rowers, yet it is not from thence to be concluded, that gallies were at other times deprived of the use of the mast and sail. When the wind was fair, they constantly made use of sails, and worked their vessels either with those only, or aided by the oars also, if it was so nearly calm as to enable the latter to afford any supplementary assistance: this custom, as will be hereafter shewn, has been continued in the Mediterranean among vessels still retaining the same name down even to the present time. No inconsiderable share of pains are said to have been bestowed by the ancients in investigating what, considering their habits and pursuits, particularly with respect to vessels of war, were mere secondary considerations, the situation and size of the masts; but though moderns are well assured of the attention paid to these particulars, they labour under the same uncertainty with respect to any precise or authentic information concerning them, that obstructs accurate enquiry or description in other respects.

As it was indispensably necessary, in time of action, that the gallies, or vessels of war, should not only be directed with swiftness, but also with a great degree of exactness and force, experience, as already shewn, taught the ancients these different points were not to be attained by any other means than the use of oars. The instrument of assault uniformly used, long as the event of a naval contest depended on the particular management of the vessel itself, was the

* Vela Isis rati primum suspendit, cum per mare Harpocratem filium audaci femineâ pietate perquireret: Ita dum materna charitas suum desiderium festinat explere, mundi visa est ignota reserare.—Lib. v. Isis first added the invention of sails to navigation, when, with an affection bolder than usually falls to the lot of women, she sailed in quest of her son Harpocrates; so that, while her maternal fondness urged her to the completion of her wishes, she appears to have displayed to the world arts, till then, unknown to it.

rostrum,

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rostrum, or beak *; and very particular attention was of course paid to render it as capable of injuring an enemy on one hand, as on the other, to form it in such a manner that it might firmly resist the most furious assaults. The wood of which it was constructed, was either elm, ash, or oak, notwithstanding every other part of the hull might be built of fir. It was found that an extension of the rostrum contributed very materially to the speed and ease with which the vessel passed through the water; but that too great an elongation weakened it in so great a degree, as to destroy those powerful effects which were produced by it when rendered firm, from being more contracted. The fatal effects of inattention to this particular, was experienced by the Athenians in a naval engagement, which took place between them and the people of Syracuse four hundred and ten years before Christ. Under the idea of giving greater swiftness to their vessels, on which property alone they conceived the success of every naval contest materially depended, the greater part of their Triremes were fitted with longer prows than had ever been before in use. The Syracusan vessels, on the contrary, had beaks rather shorter than was at that time customary; so that, by keeping their fleet together in close order, they not only prevented the Athenians from making, as was customary, any forcible stroke with the beaks against the sides of their vessels, but if the former found occasional opportunity of making this kind of assault, the attack proved more injurious to themselves than it did to the assailed. The mode of attack, as generally practised, was either to sheer up suddenly so close along-side the enemy, that the stroke of the rostrum, or prow, might shatter the oars, or the greater part of them, on the side attacked, and by that means render the vessel in great measure unmanageable, or by striking the enemy with the greatest possible force near the midship, cause the beak to penetrate the side of the enemy's vessel, which in ancient times were extremely thin, or to overset them, in case they were strong enough, or fortunate enough, to resist the injury first mentioned. Sometimes the enemy attempted to steer round the stern, and by a sudden swift stroke, to demolish or injure the rudder. In this case, the same effect of rendering the antagonist incapable of managing his vessel was produced with still less danger than attended either of the two preceding attempts, because the force

* The fashion, though not the use, has been preserved in great measure even to the present time, particularly in the Mediterranean gallies, of which hereafter. That part of a modern ship called the beak head, is uncontrovertibly derived from the ancient stem, or prow, which sprung forward from the bow, adding elegance of form to utility and service in action.

required

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required for the accomplishment of the latter was by no means so great as was necessary in the former cases. In regard to its form, it varied in the same manner as the shape, and what is scientifically called the character, of the heads of ships built in modern times do, and the country to which the vessel belonged.

The favourite emblem of each particular nation rarely failed to make its appearance when any opportunity presented itself where it could be introduced. On such an occasion, the owl, for instance, was ever conspicuous on the Athenian prow, and the cock, as the emblem of vigilance, on that of vessels belonging to some of the Phœnician colonies: they were formed, particularly in the useful, unornamental part, of the closest and hardest wood each country afforded; and the exterior being shod with iron, or other hard metal, rendered them extremely formidable.

A variety of forms and fashions of this offensive and defensive weapon, if it be allowed to use that term, have been transmitted to the present time on coins, and other remnants and relicks of antiquity. They will be best explained by the annexed Plate.

Fig. 1 represents the prow of a ship as appearing on the reverse of a coin struck at Amphipolis, a city in Macedonia.

Fig 2 and 3 are the prows of vessels taken from a coin, struck at Aradus, an island belonging to the Phœnicians.

Fig. 28, 29, 30, and 35, are also the prows of vessels somewhat more ornamented, as represented on more perfect coins belonging to the same islands.

Fig. 4 exhibits the beak of a vessel copied from Strada, said to have been built in the time of Augustus Cæsar, the rostrum sunk, as was the general practice in the later ages, below the surface of the water.

Fig. 5 is the representation of the prow of a vessel as given on the coins of Chersonesus, in Crete.

Fig. 6, 7, 8, and 9, are the prows of vessels belonging to Smyrna, in Ionia.

Fig. 10 is taken from a Roman coin, supposed to have been struck about the time of the Tarentine war.

Fig. 11 is the prow of a vessel of Panormus, in Sicily.

Fig. 12, 16, 25, and 26, are the prows of vessels belonging to Corcyra, an island in the Ionian sea, now called Corfu.

Fig. 13 is a representation of the fore body of a galley, with the oars, from the coins of Ascalon, in Palestine.

Fig.

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J. Scott del.

Etched by R. Shepster.

Specimens of Grecian and Roman Naval Architecture from Coins and other Antique Originals

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Fig. 14 is a prow of a more singular form than perhaps any of the preceding, taken from the coins of Panticapæum, a large city in Taurica.

Fig. 15 represents the prow of an Athenian galley, decorated by way of ornament with an owl, the usual emblem or device of that city.

Fig. 17 is the prow of a Macedonian vessel of war.

Fig. 18, 20, and 36, are prows of gallies taken from the coins of the city of Megara, in Achaia.

Fig. 19 and 37 are the heads of vessels from the coins of Leucas, an island in the Ionian sea.

Fig. 21 is the prow of a vessel of Sinope, a city of Paphlagonia.

Fig. 22 is the head of a vessel whose country is unknown.

Fig. 23 and 24 are the prows of vessels of Byzantium; on the latter is the figure of a man exhorting or directing the crew.

Fig. 27, 31, 32, 33, and 34, are representations apparently in very good preservation, taken from the vessels of Phaselis, a town in Lycia.

Fig. 38, 39, 40, 41, and 42, are representations taken from Roman coins of the prows of vessels belonging to that republic, or empire.

Thus from forty-two undoubted specimens of this abstract branch of Ancient Marine Architecture, indiscriminately taken as they could be collected, the greater part of them are solely representations of the prows or beaks of ships, and peculiarly intended for that purpose, a proof, and by no means an inconsiderable one, of the superior consequence attached in the minds of the ancients, to the formation of that part of the vessel, by which they considered themselves principally enabled to annoy their enemies, or return their attack.

Nor were they attentive only to such improvements and inventions as had merely utility, or the annoyance of their enemies to recommend them, for shew, splendour, and magnificence attracted no inconsiderable share of notice. Even as early as the Trojan war, it was a custom, if the authority of Homer may be relied on, to paint various parts of the galley with the most gaudy colours, especially red, which is supposed to have been native cinnabar. Blue was also in no inconsiderable fashion, particularly for the ornament of scout vessels, as more nearly resembling the hue of the sea than any other primitive colour, and therefore most proper to prevent their being discovered at any considerable distance: nor was white in much less request. Pliny informs us, that a certain earth, not improbably chalk, brought from Smyrna, was originally applied to this purpose. But this use was in subsequent ages supplanted by

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by the discovery and preparation of white lead, which was found to answer the purpose much better.

The mode of using, or rather fixing, these decorative materials, was by that mode of painting well known even to moderns by the term of encaustic, which was found to answer tolerably well. The extremities of the prow and poop were enriched by a very singular species of ornament *, which will be better understood by inspection than comprehended by the most laboured description. This practice was so universal, that there are very few, if any, of the representations of ancient vessels, either on coins, or in sculpture, which have been transmitted down to the present times, but which contained an intended representation of it. By the Latins it was called Corymbus, and by the Greeks Ακρόκεον, or the highest part of the vessel. The forms were not always alike: sometimes the ingenious artist carved on them the representation of a shield, others preferred the head of some animal, or perhaps an helmet was introduced, but in the greater part it was confined either to a globe, or an ornamented scroll.

The decorations of the stern or poop differed very materially from those of the head, and were much more magnificent. It was customary, also, to fix at the extremity of it a staff or pole upright, to which were tied or affixed streamers of various colours, which, being blown out by the wind, produced that species of gaudy ornament, the use of which has been continued with little or indeed no variation, in many countries, down to the present day. It was moreover usual among many nations, to add the head of a goose, (in some instances merely a scroll) curiously carved, and sumptuously gilt; but so indeterminate are authors on the subject, that there has been much ridiculous dispute, whether it was affixed at the head or the stern, though the best authorities of sculpture uniformly prove its situation to have been on the latter.

The foregoing appear to have been the principal and most customary methods the ancients had of adorning their vessels, and intermixing splendor with the horrors of war; but the magnificence with which, on some occasions, they decorated those particular parts, which custom had more particularly honoured with decoration, might easily vie with the most luxurious splendor of eastern magnificence. It was by no means uncommon to gild a considerable part of the vessel, especially the rostrum, or beak: the awning, and a great part of the in-

* See Plate 7, Fig. 1 and 2.

board

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Rostra and Heads of Antient Vessels.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Ornaments used by the Antients in Decoration of their Gallies.

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board works were frequently inlaid with ivory; and, if we may credit the hyperbolical description of the ancients, have been sometimes studded with precious gems. The sails were not uncommonly striped with various colours: and, more particularly on board the admirals or commanding gallies, they were entirely purple, which appearing to have been the colour esteemed the most sumptuous, was consequently most in estimation on such occasions. Such, from the testimony of Athenæus, were those of Alcibiades, and, from that of many other authors, of Cleopatra also. Flame coloured sails were occasionally in fashion; as were, particularly in the time of Alexander, those formed out of materials tinged with different dies, which being seen in varied directions, produced a changeable appearance like the silks of modern invention, and recent use. This species of splendor was in some instances carried to a still higher extent than has been already pointed out. In the time of Trajan, it was not uncommon to have the name of the emperor embroidered on the sails in gold or silver; and the use of a kind of tissue, in which those valuable metals were introduced, was no less frequent.

That the general costume might be equally magnificent in all its parts, the oars, particularly of the Prætorian, or admiral gallies, were most generally gilt, and the rigging formed of painted or coloured ropes: a multitude of such examples being related by Plutarch, Athenæus, Maximus Tyrius, and others. They are, however, of little other use than to shew, that ancient folly is not surpassed by modern frivolity, and attention to exterior; but that if the expensive and cumbrous ornaments, with which the ships of all maritime powers were decorated at the commencement of the eighteenth century, be condemned as an act of unnecessary, and even inconvenient extravagance, the system is by no means a new one, the same censure having been equally well merited twenty centuries since.

Attentive, however, as the ancients might be to external magnificence, even on board vessels intended merely for war, they appear to have been by no means neglectful of every contrivance human ingenuity could suggest, in aid of the natural powers of man, when directed either in offence against his enemy, or in resistance of his attack. Among the most simple, and consequently the most ancient of these happily destructive contrivances, is the asser, or lever, the form and use of which is described by Vegetius in the following terms:—"Trabs subtilis ac longa, ad similitudinem antennæ, pendet in malo, utroque capite ferrato. Hanc sive a dextra, sive a sinistra parte adversariorum se junxerint naves,

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pro vice arietis vi impellunt, qui bellatores hostium, sive nautas sine dubio prosternit ac perimit, ipsamque navem sæpius perforat." A thin long beam, not unlike the yard, was suspended nearly in the same manner with the yard from the mast of the vessel, each end of it being shod or cased with iron. This simple engine, from the method in which it was attached to the mast, could be used as a species of battering ram, whether the enemy was grappled on the right or left hand, the starboard or larboard side. Its effects were extremely destructive; for being moved with agility and force, it swept off at one stroke all those with whom it came in contact, destroying or severely maiming both the soldiers who defended the vessel, and the mariners who worked it; on some occasions, also, it extended its mischievous efforts even to the perforation or staving of the vessel itself.

The κεραια mentioned by Athenæus, in his account of Hiero's galley, differed but little from the former, at least in shape. It was in general, however, applied to a different mode of annoyance. Some have, though erroneously, supposed it was used as a kind of carapalta, or machine, which threw stones of immense size and weight, with a velocity almost incredible; but the fact really was, that in the infancy of the contrivance, a stone of immense weight being suspended by a stout rope, from the extremity of the κεραια, or antenna, became, on moving the unloaded end with strength and swiftness, an engine so formidable as to endanger the lives not only of the crew which fought the galley, but, being possessed of far more dangerous force than the asser, threatened more heavily the existence of the vessel itself. As a refinement, or improvement, the stone used on the first invention became quickly converted into a mass of lead, or iron, cast on purpose, which being more ponderous in proportion to its bulk, was consequently not only more dangerous in its effects, but being formed purposely for the occasion, was not so liable to escape or slip from the rope which encircled it, as a stone furnished by the hand of nature, and not modelled by art, generally must have been.

To these succeeded the corvus of Duilius, who was the first naval prefect belonging to the Roman republic of sufficient consequence to be mentioned by historians. Finding, on his approach towards Sicily and the fleet of his enemy, that the gallies he commanded were unwieldy, and difficult to be worked, in comparison with those of the Carthaginians, he turned the inventive faculties of his mind to the contrivance of the machine in question. Its form differed very immaterially from the κεραια of the Greeks, except that it was suspended from the top of a beam

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beam placed vertically in the vessel, and erected merely to answer the purpose of supporting the corvus, when the χειρωνα was hoisted on the mast itself: the iron weight, indeed, to which particular part of the engine the name of corvus most properly belonged, was armed in addition with a number of hooks, in consequence of which, it answered not only the purpose of annoyance, but that of grappling also. The description of this engine, according to Polybius, was as follows:——

"Οι δε Ρωμαιοι μετα ταυτα συνεγγισαντες τας κατα την Σικελιαν τοπους, και συνιεντες το γενικωτερον συμβαινον περι τον Γναιον, παραυτικα μεν διεπεμποντο προς Γαιον Δουιλιον τον ηγουμενον της πεζης δυναμεως, και τουτον ανεμενον. αμα δ' ακουοντες ου μακραν ειναι τον των πολεμιων στολον, εγεγυοντο προς παρασκευην του ναυμαχειν. ουτων δε των πλοιων φαυλων ταις κατασκευαις και δυσκινητων υποτιθεται τις αυτοις βοηθημα προς την μαχην, τους επικληθεντας μετα ταυτα κορακας, ων συνεβαινε την κατασκευην ειναι τοιαυτην.

"Στυλος εν πρωρας στρογγυλος ειστηκει, μηκος μεν οργυιων τεττερων, κατα δε το πλατος τριων παλαιστων, εχων την διαμετρον ουτως, ωστος μεν επι της κορυφης τροχιλιαν ειχε· περιετιθετο δ' αυτω κλιμαξ επικαρσιας σανισι καθηλωμενη· πλατος μεν ποδων τεττερων, το δε μηκος εξ οργυιων. το δε τρημα του σανιδωματος ην παραμηκες, και περιεβαινε περι τον στυλον, μετα τας πρωτας ευθεως της κλιμακος δυο οργυιας, ειχε δε και δρυφακτον αυτη παρ' εκατεραν την επιμηκη πλευρην, εις υψος το βαθος. επι δε του περατος αυτου, προσηρμοστο σιδηρουν οιον υπερον απωξυσμενον, εχον δακτυλιον επι της κορυφης· ως το αλον φαινεσθαι παραπλησιον ταις συταποιι και ταις μηρυκησεσιν εις δε τουτον τον δακτυλιον ενεδεδετο ο καλως, ω κατα τας εμβολας των πλοιων εξαιροντες τους κορακας δια της εν τω στυλω τροχιλιας, αφιεσαν επι το καταστρωμα της αλλοτριας νεως, ποτε μεν κατα πρωραν, ποτε δ' αντιπερωντες κατα τας εκ των πλαγιων προσπιπτουσας εμβολας. οτε δε ταις σανισι των καταστρωματων εμπαγεντες οι κορακες αμου συνδησαιεν τας ναυς, ει μεν πλαγιαι παραβαλοιεν αλληλαις, παντοχοθεν επεπηδων· ει δε κατα πρωραν, δι αυτων των κορακων, επι δυο συνεχεις επαιουντο την εφοδον. ων οι μεν ηγουμενοι την κατα προσωπον επιφανειαν εσκεπαζον ταις των θυρεων προβολαις, οι δ' επομενοι τας εκ των πλαγιων ησφαλιζοντο πλευρας, υπερ τον δρυφακτον υπερτιθεμενοι τας ιτυς των οπλων. Ουτοι μεν ουν τοιαυτη κεχρημενοι παρασκευη, καιρον επετηρουν προς ναυμαχιαν."

"A round spar, four ells in length, and three palms in diameter, was fixed upright on the prow of the vessel: to the top of it was attached a block, or pulley; a rope passing through which served to sustain a sort of turning bridge, formed of planks. It was four feet in width, and six ells in length, nailed together, and forming a platform, through the middle of which an oblong aperture admitting the beam to pass, it turned round it as on a centre. The

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two sides of this platform, or turning bridge, were provided with a railing which defended the soldiers to the height of their knees. At the end of the mast was a conical mass of pointed iron, and at the top of this a ring; so that the whole machine resembled those *which were then* used for manufacturing flour. A rope was passed through the ring, by which, through means of the block on the top of the spar, the *corvi* were drawn up when the vessels approached each other, and directed against those of the enemy, either on their prows, or whatever part presented itself, according to the manœuvres which happened to be practised. When the *corvus* had grappled a vessel, if the two gallies lay along-side each other, the Romans leaped into the enemy from the stem to the stern; if the contact was effected at the prow only, they advanced by two and two across the bridge. The first defended themselves with their shields against the strokes directed against them in front; and those that followed, in order to ward off the weapons opposed to them on the sides, rested their shields on the railing. When thus arranged, they seized the first favourable moment for engagement."

Very different opinions having been entertained respecting the construction and operation of the *corvus*, a diversity that has probably resulted from the various ancient machines which the authors of those days have indiscriminately called by that name, it will be proper to collect in this place such authorities and arguments as will most clearly elucidate the subject. The chevalier Folard, in his admirable commentaries on Polybius, has observed, that the ancients had several sorts of *corvi*, the construction, figure, or use of which were so different, that he is at a loss to conceive why peculiar names were not applied to each. It is evident, that, in the progress of invention, the original stone, slung at the end of the κεραια, was exchanged for the more manageable and more destructive *corvus*, the principal object of which was that of grappling; and that, in this new machine, the weight was chiefly used to give force and certainty of operation to the grappling hooks. The design was no longer the original rude one of staving the deck, or overwhelming part of the crew, by the fall of an immense weight, but the more military plan of gaining a footing on the very citadel of the foe, and there disputing its possession with the sword. It is, indeed, observable, that the whole invention was suggested by the necessity of supplying the place of naval skill, or, more properly, of that advantage which resulted from superior excellence in naval architecture; and, accordingly, by the assistance of the corvus, the deficiency of the seamen and the vessel itself were compensated by the prowess of the soldier.

In

In commenting on the contrivance of Duilius, Folard enters into a full explanation, or rather translation, of the foregoing passage of Polybius, which very nearly agrees with that already given :—

"The *corvus* (says he) was a machine that bore a strong resemblance to the crane, which is now used for lifting heavy weights. It had a mast, or upright beam, four fathom in height, and three palms in diameter, which stood on the prow, or forecastle, and served at its top as an axis for the long piece of wood which, in cranes, is called the arm, and to which the corvus, or cone of iron, was suspended. This arm turned with facility on every side, and was properly secured by means of the ropes which were fixed to it. At the end of the arm there was a pulley for the passage of the cord which suspended the *corvus*." The author observes, that the iron was pointed, wherefore it could not have been made in the form of a pestle, as the Greek word ὑπερος implies, but rather, of the reversed cone or pyramid. "This cone was of cast iron, and exceedingly heavy, so that falling by its own weight, it might pierce the deck or prow : but, as it might have returned through the hole by which it entered, and thus released the vessel, it was furnished with moveable hooks of iron, attached by hinges, to the end that, when the *corvus* had pierced the deck, the hooks, or grapples, which yielded to the previous resistance, might open of themselves, and lay hold of whatever should be within their reach. It is obvious, too, though no mention has been made of this particular by the author, that to the end of the rope was added an iron chain. As soon as a vessel thus furnished approached another within the reach of this machine, the rope was loosened to permit the elevated end of the arm fall down ; the instant the corvus had made its stroke, the bridge was dropped, and at the outer end were claws of iron to secure its hold.

The author is equally clear in his explanation of the bridge, or platform. He says, "that in the middle of the drawbridge was an oblong aperture, through which the beam passed, and thus permitted it to turn as on a center. The aperture was at the end of the bridge ; and, from this circumstance, the bridge might be raised to any required height. At the other extremity of the bridge, and at the two sides, were attached two small chains, which ended in a semicircular iron like the handle of a pail.

This account appears so intelligible, and so well warranted by the text of the author, that to recount the objections which have been made to it, or enter in any manner into that controversy which has already taken place on the subject, appears wholly unnecessary. It will be infinitely more interesting to make some-

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some enquiries respecting other instruments of warfare, as the ἁρπαγή and χεὶρ σίδηρου, which have been sometimes known under the general name of *corvi*. These have a claim to notice in this place, as well on account of their connection with the vessels of the ancients, as of the error by which they have been confounded with the invention of Duilius.

The use of grappling irons was of very antient date: they are said to have been originally employed by the Greeks, and seem to have been of two different kinds, one of which was called ἁρπαγή, the contrivance of which is attributed by Pliny to Anacharsis, the celebrated Scythian philosopher, who lived in the time of Cræsus, and repaired to Athens about 548 years before the christian æra; the other, which was called χεὶρ σίδηρου, is reported by the same author to have been contrived by Pericles, the Athenian. The fashion, and indeed use, of these two engines, taken in the most extensive sense, was widely different: the ἁρπαγη served not only for a grappling iron, as the term itself demonstrates, but as a species of catapulta, according to the ancient contrivance, used for the purpose of casting stones of considerable weight on the decks of the vessels assailed. Authors indeed have varied as much in their account of the form of this destructive machine, as they have been thought to do in regard to its uses. Quintus Curtius * and Livy †, in one part of their history, seem to suppose it to have in no degree differed from the common grappling iron; but the latter, in a former chapter ‡, describes it to have been a beam, or lever, to the ends of which iron hooks were strongly bolted, and being suspended either from the mast, or stout spar fixed for that purpose, was thrown with considerable force on the deck of the assaulted galley by the elevation of the unarmed end.

The intentions of the inventors appear, however, to have been very different, and by no means misunderstood by the historians who have made mention of them, though the cursory or abstract manner in which they are on some occasions noticed, may have caused some doubt in more modern times. This imperfect description has been undoubtedly owing to a very natural belief, that there was little occasion to be minute or particular in an account of a machine at that time in universal use, and which, on account of its supposed perfection, was considered as very little likely to grow into disuse. Taking the context of Curtius himself, who may be thought on first inspection to represent the more complex machine called the ἁρπαγη, as a mere grappling iron, the matter will appear very different. His words are——"Harpagonas vocant, quas operibus hostium injicerent:" "they

* Lib. iv. cap. 2. † Lib. xxxvii. cap. 10. ‡ Lib. xxx. cap. 11.

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" they call those machines harpagones, (or grappling irons) which it was customary to cast or throw into the fortifications of the enemy."

Though the act of grappling a galley is extremely conformable to our senses, that of practising the same measure in the assault of a fort is by no means so, and the apparent absurdity of the idea furnishes a true exposition of the mystery. The κορακη was in fact a machine very little used at sea, and for one very sufficient reason, it could render very little service: it was of the form and construction already described, so that being strongly fixed to the walls of a besieged fortification, it afforded the means of *grappling*, in that sense, any vessel which came within its reach, and hoisting it suddenly out of the water.

The consequence is as obvious as it must inevitably have proved destructive; and though the idea of raising a vessel absolutely into the air may probably be forced beyond the bounds of credibility or reality, yet that it was no unfrequent practice to elevate, by means of this engine, the prow or stern of a galley to such a height, that the consequent submersion of the other end caused it to fill with water, and sink to the bottom, is very evident from the concurrent testimony of many authors and historians, together with that of commentators the most respectable, on account of their knowledge and veracity. " Namque ad implicanda navigia, quæ muros subibant validis asseribus corvos et ferreas manus cum uncis et falcibus illigaverant, ut cum tormento asseres promovissent subito laxatis funibus injicerent. Unci quoque et falces ex iisdem asseribus dependentes, aut propugnatores, aut ipsa navigia lacerabant." Curtius, lib. iv. " For the purpose of entangling (or rather seizing) any vessel which should venture to approach their walls, they (the Tyrians) fastened grappling irons, by means of hooks and cramps, to the ends of strong beams, which being properly directed, and dropped on the decks of the galley, by suddenly letting go the ropes, no inconsiderable injury was effected with regard to the crew, and, on many occasions also, to the vessel itself." Athenæus states, that in his time many vessels were fitted with three masts, to each of which beams as before described were attached, and by which means it was customary to throw grappling irons, *(harpagones)* or exceeding heavy weights made of lead, on the decks of the gallies belonging to their foes.

" It is unnecessary to repeat," says Folard, " that the corvus was known to the Greeks long before the time of Archimedes. This machine was not used at the siege of Samos only, but also, a short time before, at that of Rhodes, by Demetrius Poliorcetes. Vitruvius asserts, there was a Rhodian architect, named Diognetus,

Diognetus, to whom the republic gave a yearly and respectable pension on account of his abilities; and that another engineer, named Callias, came from Arado to Rhodes, and desiring to be heard by the people, exhibited on a part of their ramparts a machine, which was the ship-lifter in question. It turned easily, and taking up an heliopolis, which had been purposely brought near the wall, threw it within the bulwarks. The Rhodians, who beheld with admiration the surprising powers of this engine, took from Diognetus the pension which they had hitherto given him, and bestowed it upon Callias. Callias, however, did not long enjoy their bounty; for when Demetrius besieged the place, and employed his dreadful heliopolis, he confessed the impotence of his own contrivance when opposed to a tower of such enormous weight. He constructed, however, it may be presumed, *corvi* capable of lifting an heliopolis, or moving tower of the second order; and if these towers are supposed to have been lighter than the gallies which Archimedes is said to have grappled and raised so easily, it will follow, that, at least, the machine of Callias differed from that of the Syracusan in this only, that the latter was capable of raising greater weights.

Plutarch gives the following description of this wonderful *corvus*: "On the walls," says he, "were vast machines, which advanced and suddenly dropped over the gallies large beams, to which were fastened irons, armed with hooks, which having grappled them, and lifted them by means of counter weights, suddenly let go their hold, and thus caused them to sink from the force of their own fall. By another operation, after they had lifted them by the prow with grappling irons, and raised them nearly upright out of the water, they plunged them into the sea, or drew them toward the land with ropes and hooks; sometimes, after whirling them in the air, they struck and shattered them against the points of the rocks which projected at the feet of the walls. Gallies thus incessantly taken up, and suspended above, must have presented the most frightful spectacle; for after the men who were in them were scattered by the violence of the motion, and cast to a considerable distance as with a sling, the vessels were shattered against the walls, or, the engines letting them loose, they fell and sunk into the sea.

"With respect to the corvus, or αρπαγη, described by Polybius, which has a claim to previous notice, but which, for several reasons, is here mentioned last, it is said, that the ships of Marcellus having advanced close to the walls of the city, Archimedes caused a claw of iron, fastened to a chain, to be let fall

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fall, and by that contrivance, conducting as a pilot the beak of the vessel, as well as at the same time grappling its prow, he depressed the opposite end of the machine within the walls. When he had raised the head nearly perpendicular, he held the arm of the machine motionless; but presently loosening the chain by means of a roller, or pulley, in some instances the vessels fell on their broadsides, in others on their quarter deck; but the greater part being precipitated from an height upon their sterns, were submerged and filled with water.

" If these furious *corvi* had only made their appearance in the first instance at the siege of Syracuse, and if it were not known that the Greeks had been provided with them long before the time of Archimedes, as has been already shown, some doubts might arise concerning the prodigious effects attributed to them; but the facts are too well attested, and too frequently repeated by the Greek as well as Latin historians, to permit of disbelief. They are deserving of credit not only because the matter is possible, but is mentioned again, without interruption, by contemporary writers, and their immediate successors; it is also farther observable, that they speak of the *corvus* as an existing machine, well known and very common in the defence of places: for this is constantly the case with regard to the lesser *corvi* at least, and particularly those which were used to seize or lift up individual soldiers, and carry them over the walls of the besieged city.

" What renders the account of Plutarch, far as it regards the wars of the Romans, more entitled to respect, is the fact, that he wrote in Rome itself what he relates of its history, that he moreover did this on the authority not merely of their authors, but of the officers and generals who had been witnesses of the events of which he spoke, and who had actually been at the siege of Syracuse.

" As nothing is to be found in Polybius that can assist the reader in discovering the construction and acting principle of the *corvus*, and as whatever is said upon the subject constantly refers to its effects alone, little positive information can be expected from him; but, notwithstanding the silence of this great author, the secret is not, perhaps, impenetrable. With the assistance of some degree of inventive capacity, a portion of research, a tolerable knowlege of mechanics, and certain expressions which have fallen from historians, and other writers, it is possible to discover, if not the true *corvus* of Archimedes, one of sufficient power to produce great effects, without losing sight of that simplicity for which the beautiful contrivances of antiquity are remarkable. In pursuit

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of this object, it is only necessary to suppose that the power of the lever should be enlarged; it may be augmented and extended by the junction of another, or assisted by the addition of other powers. It was certainly for that reason that Archimedes demanded nothing more than a place to stand upon, in order to raise or lift up the whole world. Those who are versed in the study of motive forces, will not receive what this great man has said as mechanic gasconade: they will sufficiently perceive its possibility; though with regard to the fixed point, as well as the materials of which a machine, that might raise and suspend the earth, should be constructed, they may be unable to take him at his word, by furnishing what would be necessary for the purpose. It is, indeed, incontrovertibly true, that the mechanic powers may be multiplied to infinity; but it is not less true, that the time required for setting them in motion closely approaches infinity likewise. To lift up vessels completely manned and equipped, in short, to raise the greatest bodies, does not appear to an adept as the most marvellous consideration: it is not this circumstance that is astonishing; but it is certainly surprising and wonderful, that such heavy bodies should be raised with the alertness, celerity, and promptitude they were, or whirled into the air, and broken against the walls of the city by the most violent concussions.

" It appears from the words of Plutarch, that the *corvus* of Archimedes was considered as a species of crane, though certainly possessed of various powers exclusive of those given to it at present; and, from the little resemblance which it bore to it, 'twere perhaps, ridiculous to reckon it in the same class of machines. The author should have recollected, that the supporting point of the crane forms neither the lever, nor the balance, nor can the former be inclined in every direction, as was the case with the corvus of Archimedes, that it turns round on the beam which serves for its axis: had it indeed been otherwise, neither the axis, the drum in which the persons working the crane tread, nor the pullies themselves, could have been applied to those purposes which were required in the *corvus*. Polybius says positively, that the *corvus* of Archimedes was composed of a lever and balance; this appears the nearest to truth, and most capable of accounting for those effects of which he speaks, with a power of action extraordinarily sudden and rapid. It was doubtless a beam or mast of great length, formed of several pieces, that is, of smaller masts joined together, for the purpose of increasing its strength and steadiness. It was firmly fixed by strong spurs, the whole being secured from space to space with hoops of iron instead of cords, like the mast of a vessel composed of several spars, or pieces of

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of timber, so that this powerful beam might have been lengthened to any reasonable extent that was required.

" An enormous lever was suspended from this beam, which was not only fixed in the earth, but was also fastened against the interior side of the city wall, to which it was attached by strong ligaments. The ancients did not terrace their walls as moderns have done: this method was unpractised by them, on account, perhaps, of the magnitude and height of their engines of war, which could not be used as it were in battery, without exposing them to the fury of the besiegers, who would have dismounted, or destroyed them in a short space of time. They placed on their battlements such small machines only as were easily moved from one place to another.

" The engine, or that part of it just described, was suspended by a rope of great strength, or a chain, and being supported by its beam, could produce effects in proportion to the distance, that the power itself was removed from the fixed point, or center of motion, according to the known principles of mechanical action. At the extremity were several grappling irons, or barbed points, attached to chains, which were thrown upon the vessels when they came within a proper distance. Several men lowered the cross-beam, or arm, by means of two ropes, and as soon as they perceived that the claws of iron had seized the object, they made a signal, on which, one end was immediately depressed, while the other rose, and drew the vessel to a certain height: which being done, the great cable was cut, and it was suffered to fall into the sea *."

The account related by Curtius of the harpago has had a very different interpretation given to it by some commentators and critics, from that which is generally attached to it, if it were supposed to have acted either on the principles of the corvus of Archimedes †, or the simple grappling iron. The harpago, say they, was so contrived, that when in its descent it should open of its own accord, and when checked for the purpose of being drawn up, that it should contract and seize, with an irresistible force, whatever chanced to fall within its gripe. Lucan, in particular, briefly explains the particulars of its action.

Et quos immissi traxerunt vincula ferri,
Hos prohibent jungi conserta cadavera puppes.

* Hist. de Polyb. Liv. 1. chap. iv.

† From which it appears to have varied very trivially in its uses and effects.

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The intent of the simple grappling iron, or χειρ σιδηρου, is easily understood, and the distinction between that and the αρπαγη pointed out too clearly to be mistaken. The principal use of the latter, says Schæffer, in conformity with the remarks of Folard, was to raise the vessel of an enemy out of the water, and suddenly releasing it, to precipitate it into the sea; but, continues the same author, the purpose to which the grappling iron was applied was merely that of detaining, as it were, the ship of the enemy as a captive; and, by rendering the footing of the combatants more sure, in consequence of the junction between the two vessels, give to an engagement of this nature by sea, a resemblance, by no means distant, of a land combat. Diodorus Siculus, whose testimony and opinion is quoted on this occasion, states the same fact; as does Cæsar, in his first book de Bello Civili:—" Itaque dum locus cominus pugnandi daretur, æquo animo singulas binis navibus objiciebant, atque injecta manu ferreâ, et retentâ utrâque nave, diversi pugnabant, atque in hostium naves transcendebant." In order, therefore, to give a liberal translation of the foregoing passage, that the conflict might be decided by a combat hand to hand, the crews on both sides, animated by the same desire, having alternately thrown their grappling irons into the vessels of each other, so that they became firmly locked together, the operation of boarding became a matter of no difficulty, and the decision of the contest turned exactly on the same point a land engagement would have done. Livy also, book xxxvii. chap. 44. makes mention of the Roman commander in chief having ordered the crews of the different vessels composing his fleet to throw their grappling irons into those of the enemy as they approached them, and that the contest being then placed exactly on the same footing with an encounter between two corps of foot, they had, laying all necessity of naval skill and tactics aside, only to bear in remembrance the valour and military virtue of their ancestors.

The form of the machine was little dissimilar to that of the anchor; and the confusion of ideas, which appears to have taken place in the minds and writings of commentators, as well as historians, has probably arisen from the application of that part of the *corvus*, called by Polybius ὕπειρος, to the detention, or purpose of making fast the vessel of an enemy to that of the assailant. It is, however, very apparent, that such detention or mode of grappling was effected in a very different manner by the two engines; and as the form of the *corvus* was more complex, so was the effect more destructive. Different, indeed,

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as the shape and construction of these destructive engines appear, the uses to which they were frequently applied resembled each other in so great a degree, as to aid very much that hesitation and doubt, which has prevented many persons from decidedly attributing to each, the particular point or system of offence in which they were severally used.

Although the discovery of the use of gunpowder, and consequently the invention of cannon, owed their origin to much later ages, yet the ancients appear to have been by no means behind hand with their descendants in the construction of various engines, scarcely less destructive than those which modern refinement boasts the introduction of. The *catapultæ*, the *balistæ*, the *corvi* already described, in great measure rivalled by sea and land the destructive effects of the heaviest cannon. Admitting, also, that particular destructive composition just mentioned was unknown to the combatants of old, they were to a certainty not unacquainted with a variety of methods, by which they could produce effects scarcely less destructive, and differing almost immaterially in their appearance and peculiarity of operation.

It is agreed on all hands, that pipes, or hollow cylinders of metal, were frequently used even in the early ages of naval war, by means of which the assailants were enabled to vomit forth fire, which is the precise term used, on the vessels of their antagonists. "Ignis cum tonitru et fumo ignito per siphones emissus naves incendens." "Fire emitted through pipes, with considerable report or noise, and attended with inflamed smoke, for the purpose of burning the vessels of an enemy." This definition bears so near a resemblance to the proper description which would be given to gunpowder, and its effects, by any modern writer, that to deny them a perfect knowlege of the horrid chemistry, seems almost an act of injustice to the ingenious studies and lucubrations of the ancients. Schæffer properly remarks, that the only apparent difference between these siphons, or pipes, and the cannon of the moderns, is, that the former threw forth fire rather for the purpose of consuming the vessel of the enemy, or terrifying them from the contest, while the latter destroyed it at a more removed distance by the effect of its shot.

The Rhodians introduced into the system of naval offence a practice of carrying on the prows of their gallies, when entering into action, vessels formed of baked earth, which were filled with lighted coals, or other combustible matter. Livy records this invention, but describes the engine as formed of an iron pan,

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or kettle, suspended at the ends of two long poles, fixed obliquely on the prow of the galley, so that this intended destructive contrivance might overhang or forereach the beak itself. The reason of this position must be obvious, as Suidas observes in the mention made by him of the vessel filled with fireworks, or combustibles, the invention, or first use, at least, of which, he attributes to Pisistratus, the Rhodian commander. "On each side of the prow, or stem," says he, "two anchors were lashed, between which and the side of the galley poles or spars were inserted, the lower ends of which were in the water, and from the upper a cask or vessel filled with fireworks was suspended by an iron chain. By this contrivance," adds the author, "the inflammable matter might be shaken out, or thrown into the galley of the enemy at the moment of attack; while, at the same time, the distance it projected beyond the stem of the vessel which bore it, served as a sufficient protection from any injury which it might otherwise (as by the equitable retort of providence) have sustained in consequence of the mischief, intended for others, reverting on itself."

Augustus Cæsar is said to have thrown, by means of proper engines, vessels filled with lighted coals and pitch into the gallies of Anthony, at the memorable battle of Actium; and mention is also made by some authors of an invention, which has been very strangely revived in times very recent, and arrogantly boasted of by the inventors as among the most advantageous applications of modern improvement, or study. This secret, for it has been considered by many as one of the utmost importance, consisted in inclosing within the same vessel two substances, or liquids, which, while separated from each other by an intervening partition, should be perfectly innocent, but, on being mixed together, as according to the intention of the inventor was rendered the case, by the fracture of the fragile pan or pot which contained them, on its falling upon the deck of the enemy, suddenly burst forth into a flame and explosion, not only terrifying but dangerous.

The powder flasks and carcasses, still used by the Spaniards, and inhabitants of other countries, appear somewhat similar in their effects to the contrivances adopted by Cæsar; and those inventions were like the modern improvements of the Europeans, supposed to have arisen from the utmost stretch of human ingenuity, carefully applied to effect the most dangerous and destructive purposes. Many were the engines and methods of annoyance in the early ages of the empire,

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empire, or rather republic, which, like some others which date their origin from the period when even the noxious arts were less cultivated, soon became exploded, and not a few of them considered as ridiculous.

However this might be the treatment which human ingenuity, so misapplied, on some occasions met with, the introduction of these contrivances and schemes, notwithstanding subsequent improvement might render them ridiculous, were all of them, generally speaking, productive of dismay in those against whom they were first practised, and consequently of advantage to all who originally made use of them. Among these may claim priority, at least on account of its eccentricity, that strange but much celebrated invention brought forward by Annibal, in his war with the people of Pontus, of throwing vessels filled with snakes on the decks of their gallies. When the fleets were in the act of approaching each other, it appeared ridiculous in the extreme to the enemy, that the yard-arms of their opponents were armed with potter's vessels. Ignorant of their contents, they viewed them with contempt till they beheld crawling on their decks so new and unexpected a foe. The effect produced was precisely what the genius of Annibal, exalted as it certainly was, considering the rude time in which he flourished, had foreseen. It was strictly conformable to that of many other nearly innocent but uncommon stratagems, which have frequently spread terror and dismay through fleets and armies, when the sword and thunder of their real enemies were incapable of effecting the same purpose. The foe fled on the instant, without venturing to attempt a contest against an antagonist who had so unexpectedly brought against them means of offence to which they were unaccustomed. Some controversy has taken place among historians as to the reality of this fact. They suggest, that the vessels in question, thrown on board the enemy, were not filled with the poison of living serpents, which might, without much difficulty, have been completely avoided, while the introduction of allies, so strange on the part of Annibal, would have been not only difficult in the extreme, and may, with some degree of probability, be pronounced impossible, but with far different means of offence. These ingenious sceptics, with a considerable share of reason on their side, wish to persuade and convince the inquisitive, that the serpents mentioned by Justin, who is one of the historians which has recorded the fact, were nothing more than calthrops, chausse-traps, or crow-feet, as they are called by the English: small iron instruments, having four points each, two

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or three inches long, so contrived, that wherever they fell, one of the points shall always be upright, and the remainder act as the stand or basis of them.

The effect produced by so incommodious a contrivance may easily be conceived, and the oddity of it certainly proved the inventor to be an ingenious man, useful to his country in the hour of danger, notwithstanding philanthropy and humanity, regardless of national honour and public necessity, may feel, on the first impression, compelled to lament the end to which that genius was so destructively applied.

Among all the various contrivances of annoyance in use among the ancients, the most destructive and dangerous appears to have been that which, when afterwards improved to the height of its supposed perfection, was called the Greek fire, invented by Callinicus, a Syrian, who lived in the seventh century, of which hereafter. Notwithstanding practice and experience caused considerable improvement to be made during subsequent centuries in this diabolical art, yet, in the remotest ages of antiquity, the Rhodians, and many other nations, possessed the knowlege of a certain combustible composition which fire could not extinguish, nor any operation smother, except what was next to impossible to effect, the total exclusion of the external air. The use of a vessel, purposely fitted to act as what is in modern times called a fireship, was neither unknown nor unpractised by the ancients. The page of history is full of instances, and many authors have occasionally felt themselves raised almost to a degree of enthusiasm when describing the horrid effects produced by them.

Curtius gives a very circumstantial account of a fireship, equipped by the Tyrians at the time their capital was besieged by Alexander. " Having selected," says the author, " one of the largest gallies they possessed, they loaded it by the stern with stones, and other ballast, so that the prow became considerably elevated above the surface of the water. The whole of the vessel which was above water was payed very thick with sulphur, and other substances, easily inflammable, which operation being completed, advantage was taken of a wind favourable for the attempt, and all the sails being set, the crew, who in aid of the sails made use of their oars also, directed it towards the mole which Alexander had, with so much difficulty, laboured to construct. When they had approached sufficiently near to the destined object of destruction, the vessel was set on fire, and the crew jumped into boats which had followed for the purpose of receiving them." This project,

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and expeditions were however undertaken without the smallest aid from a fleet, if the passage of the Baltic in vessels of the rudest structure be excepted from the general history of their excursions, together with one emigration which took place from Sweden, and proceeding up the Vistula, from thence passed down the Dnieper, to the borders of the Euxine. The expedition was contemptible in the extreme, and merits commemoration only as it is so strongly indicative of the genius and temper of that barbarous people, who first taught the power of Rome, when it had reached its zenith, seriously to tremble.

The Goths were distinguished by three terms, or appellations—Ostrogoths, Visigoths, and Gepidæ: the latter distinction was owing entirely to the event just mentioned. The spirited and hardy wanderers were so inconsiderable in number, that all of them embarked for their exploratory voyage on board three vessels, one of which being an heavy sailer, was of necessity left behind, and its crew, swelling by degrees into a powerful nation, obtained from thence the appellation (not very honourable it must be confessed) of Gepidæ, or loiterers. The first inroad they effected was about the year 250. Deriving strength as they advanced through the country of the Venedi and the Bastarnæ, many of whom enlisted voluntarily under the same prædatory banners; they advanced through the Ukraine, Dacia, and Mæsia, into Thrace, where the capture of Philipolis, the defeat and death of the emperor Decius, surmounted by an ignominious peace, purchased by his successor Gallus, on the payment of a heavy, with the promise of a future, tribute, put a temporary period to their devastations.

The charms of plunder spread with a rapid influence through the whole of northern Europe. The Goths, and Vandals their eastern neighbours, made one common cause, and became as united in pursuit, as they were in intrepidity, in hardiness, and in manners. Having stationed themselves in the Ukraine, they soon rendered themselves masters of the northern coast of the Euxine, or Black Sea, and with this success acquired an additional incentive to future conquest by the possession of a naval force, which, rude as it certainly was, appeared fully competent to the necessities of this daring people. The description of the vessels used at this time for the navigation of the Euxine, is extremely curious: they were of very light construction, flat bottomed, and formed of timber only, without the smallest addition of iron; they were built with an occasional shelving roof, to protect the passengers as well as mariners from the fury of any tempest which they might be unfortunate enough to encounter. In these

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floating houses (for they could scarcely be said to merit any other appellation) did the Goths, with apparent folly, or rather rashness, commit themselves to the mercy of a sea totally unknown to them, under the conduct of navigators compulsively brought into their service, and whose skill as well as fidelity were both equally suspicious. It has indeed been most shrewdly remarked, the hopes of plunder had banished every idea of danger, and a natural fearlessness of temper supplied in their minds the more rational confidence, which is the result of knowlege and experience. Warriors of such daring spirit, must have frequently murmured against the cowardice of their guides, who required the strongest assurances of a settled calm before they would venture to embark, and would scarcely ever be tempted to lose sight of land. Such at least is the practice of the modern Turks, and they are most probably not inferior in the art of navigation to the ancient inhabitants of the Bosphorus.

This uncouth and ill equipped fleet, formidable only on account of the savagely daring spirit of those who were embarked on board it, fell first on Tityus, the frontier town of the Roman provinces in that quarter. This important post they succeeded, after a temporary discomfiture, in forcing, and deriving new spirit from this omen of success, they next attacked the infinitely more formidable fortress of Trebizond, the fortifications of which were not only deemed at that time impregnable, but had recently received a reinforcement of ten thousand veteran soldiers, in addition to the garrison, which had before that time been considered sufficient to defend it. This apparent power of resisting attack, proved the very means which rendered it successful. The Goths, taking advantage of the blind security of the besieged, scaled the walls in the dead of the night, massacred all who presumed to oppose them, and made themselves complete masters of the place, together with the immense treasure that it contained, all which had been deposited there from the neighbouring provinces as in a place of the most perfect security. A considerable number of merchant vessels, laden with the spoils, were carried off by the victors; but, as might naturally have been expected, their avarice was whetted by their success, and not glutted.

A second expedition quickly followed the former, in the hope of a still encreasing success. It was undertaken in far greater force, both in respect to shipping and soldiers. From the account given of the fleet employed by them on this occasion, some estimate may be formed of the terror which the very name of these barbarians carried with them into the provinces destined to be their

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their victims, and the inconsiderable force, in respect to numbers, with which they were bold enough to assail the territories of Rome. It is represented, as has been already remarked, far more formidable than any of those which had preceded; yet, in the course of its passage along the western coast of the Euxine, the invaders disdained not to recruit their navy by the seizure of a number of fishing barks, which they were fortunate to fall in with, and which were considered by the captors as a very considerable addition to their original strength.

The whole province of Bithynia was over-run with a rapidity almost incredible, and fell an easy prey to these merciless plunderers. Their ravages had in all probability been carried to much greater extent, had not their own want of maritime skill, and the approach of the autumnal equinox, warned them to depart. The third expedition, which immediately followed the arrival of a more serene season of the year, far surpassed either of the former. The fleet is said to have consisted of five hundred *ships*; but, from the testimony of the best historians, it appears, that the largest of them was not capable of containing more than thirty persons. From this information, which is considered as authentic, the strength of this mighty army, which conquered as it were with the very report of its approach, appears not to have exceeded fifteen thousand fighting men. Athens, the whole of Greece, and the valuable islands profusely scattered by the hand of nature throughout the Ægean sea, submitted to the same invaders who menaced Italy, and caused Rome itself to tremble, when the intestine divisions among some of their chiefs, aided by the rewards, or rather bribes, profusely distributed among others, caused their unexpected retreat, which, owing to the want of system in the Roman army, was effected without loss, and was attended by all its customary horrors.

The death of the wretched Gallienus appeared to promise the restoration of the Roman name to its pristine state of glory, or at least to rescue it from the future depredations of these merciless barbarians. Claudius first taught them to tremble at the prowess of the legions; and it is worthy of remark, that as in their former enterprises the actual numbers, of which their hitherto invincible armies had been composed, were almost incredibly insignificant, so on the present occasion, when they were completely defeated, they were as wonderfully numerous. Claudius, in a letter written to the senate on the eve of the battle, states their numbers to have consisted of no less than three hundred and twenty thousand fighting men. The fleet of vessels collected for their

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their conveyance, is said to have amounted to six thousand, which, extensive as it may be thought, can scarcely be deemed incredible, when the proofs already given of their inconsiderable dimensions are adverted to. The contending parties, each equally eager to put a period to the dispute by a decisive battle, met near the city of Maissus in Dardania. The Goths fought for plunder, Claudius and his legions for the preservation of their country. The fate of Rome itself depended on the event, her utmost exertions had been used to collect the army, and in case of its defeat, submission to the imperious will of the victor appeared inevitable. The genius of Rome prevailed: the Goths were signally defeated, fifty thousand of them fell in the action itself, and those who, for a time, were fortunate enough to evade slaughter, or captivity, fell, after suffering a myriad of hardships, either beneath the swords, or into the power of the Romans. Their fleet experienced no better fortune: all the vessels which composed it were either taken or destroyed, and put a finishing period to that contest, the success of which would otherwise have been incomplete.

During the reigns of Claudius, Aurelian, and Probus, the ancient discipline appeared completely revived in the Roman legions. The rebellions that were occasionally excited among various barbarous nations, which had been reduced in former times to subjection, were suppressed, almost as soon as excited; and Probus appears to have taken the most decisive, and prudent measures to prevent the repetition of them. To this end, he transported immense bodies of the conquered rebels into different countries, where their services might be useful, and their turbulent spirit checked by the contrary demeanour of those strangers, among whom they were introduced. A singular naval anecdote took place, however, in consequence of this measure. A corps of Franks, who had been stationed by the emperor on the sea coast of Pontus, uneasy at their removal, resolved to attempt, by every possible risk, their return to their native country. They were fortunate enough to surprize a fleet of vessels which had been collected on the Euxine, and they boldly resolved to seize that opportunity, desperate as it certainly was, of carrying their intended project into effect. Unskilled in the art of navigation, and completely unacquainted with those seas through which they were under the necessity of passing, they steered their course through the Bosphorus and Hellespont into the Mediterranean. There they for some time glutted their revenge against their conquerors by desultory descents, which were uniformly marked with the most savage cruelty, on the defenceless shores of Asia, Greece, and Africa, along

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along which they coasted in security, sailing through the streights of Gibraltar, then distinguished, and known by the classical term of the Pillars of Hercules. Having entered the Atlantic with a degree of heroism which would almost have reflected honour on the first discoverer of America, they proceeded through seas, as well as along coasts, unknown at least to them, till they landed in safety on or near the shores of Holland, after a triumphant passage through the British channel. This incident fully proves, that however the science of navigation, or the art of building vessels, had declined with the supposed necessity of constructing them, in regard to the Romans themselves, who still continued vainly to assume the title of conquerors of the world, their subjects were by no means deficient (to say nothing of the magnanimity which marked the undertaking) in possessing a degree of nautical knowlege, or at least enterprise, which, in times far more modern, would have been by no means contemptible.

As the greatest events, according to a very trite remark, have frequently arisen from the most trivial causes, so did this fugitive expedition of an exiled colony, prove the basis of that temporary emancipation, or rather revolt, which Britain, as will be presently seen, effected soon after this time from the yoke of Rome. The success of the enterprise, and the fear, which naturally became excited, of those mischiefs which might soon arise from the unrestrained ravages of a people, appearing to possess the most essential points of what is called national greatness, caused Maximinian, the elected colleague of Dioclesian, near the close of the third century, to form a fleet, or naval force, sufficient for the purpose of watching their motions. It was stationed at Gessoriacum, now called Boulogne. Carausius, who was appointed to command it, was a soldier of fortune. Sprung from the meanest origin, he had, by dint of his multifarious abilities and his bravery, displayed both as a soldier and a sailor, raised himself to that rank which enabled him to carry his ambitious designs into execution. He was declared emperor; but as personal qualifications alone had raised this man to the throne in a part of the Roman dominions, the possession of which had caused the expenditure of much treasure, and the lives of many thousands of the bravest soldiers, so did the absence of that sagacity and political knowlege further the return of the revolters, on the decease of the usurper, to the *protection* (for the submission of foreign colonies still continued to bear that term) of the Roman eagle.

Constantius, to whom it was confided, after the first consternation occasioned by the usurpation of Carausius had subsided, to attempt the recovery of the island

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island for Rome, is said to have employed three entire years in preparing a fleet sufficient for the magnitude of such an undertaking; or in making those previous arrangements and inferior conquests, which, enabling him to deprive those against whom his power was ultimately destined of any extraneous assistance, must materially contribute to the success of the main object. Fortune favoured the attempt, by taking off a considerable part of the danger which attended it; for as usurpers hardly ever experience fidelity from those who have become their subjects with the slightest degree of compulsion, so was Carausius murdered by the very man whom he had selected from the people to be his favourite, and the minister of his government. Alectus, which was the name of the assassin, possessed neither the abilities, nor the influence of his predecessor. His resolution served him not to any greater furtherance of his designs, than to enable him to plunge a dagger in the breast of his sovereign and patron in an unguarded moment. He possessed not such military skill as could point out to him the means of averting the danger, which the approach of Constantius threatened him with, or of protecting that diadem which he had so wickedly seized. Carausius, however, during the time he had possessed the sovereignty of Britain, had raised a very powerful fleet, and Alectus, with a degree of prudence which far exceeded every other of the short-lived acts of his government, had stationed off the Isle of Wight, for the purpose of meeting Constantius in his passage. A thick fog rendered the measure abortive, so that the Roman army, or at least a powerful division of it, under the command of Asclepiodatus, one of the lieutenants to Constantius, effected its landing in safety. Alectus had posted himself near London, or rather the spot where it is now situated, for the purpose of opposing Constantius himself, who was daily expected to arrive on the coast with the main body of his fleet. The diversion just mentioned immediately caused the march of the usurper to the westward, where, in a pitched battle with the first invader, he was totally defeated, losing his short-lived, ill-acquired honour, together with his life. Constantius, effecting his landing on the Kentish coast without the smallest opposition, was hailed by the people who met him as a species of deliverer, so that the whole territory became once more a colony tributary to Rome, without the smallest objection made to the yoke.

No mention is made of any naval force being possessed by Rome, or by those who assumed the dignity and title of its emperor after this time, till the civil war

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war which took place between Maximian and Severus, the favourite and nominated successor of Galerius; an event which happened about the year 307. This having quickly ended in the defeat which was followed by the almost immediate death of the latter ill-fated prince, only the most cursory notice is taken in blame of the measures adopted by the conquered, on account of his having neglected to make that use of a powerful fleet, which providence and the care of his predecessors had furnished him with. From this time till the next civil war, which broke out about five years afterwards between Maxentius and Constantine, the naval power of Rome appears again to have remained in a totally dormant state. The accounts given of it by historians, even on this occasion, go no farther than to warrant an assurance of its existence, for Zozimus in particular makes no mention whatever of any naval armament, although he has written a very curious account of the war, and of the forces employed on each side. Authors, however, speak with a confidence too bold to have the assertion rejected, that the war was carried on as well by sea as by land, and the fleet of Constantine made itself master of the islands of Sardinia and Corsica, together with several of the principal ports on the Italian shore.

Far different, however, is the account of the naval preparations and equipments which took place about 323, during the war which broke out between Licinius and the Constantine just mentioned, on whom has subsequently been bestowed the appellation of Great. The fleet of the former is said to have consisted of three hundred and fifty triremes, one hundred and thirty of which were furnished by Egypt, and those ports of Africa which are open to the Mediterranean, one hundred and ten were equipped as an exacted service by the maritime ports of Bithynia, Ionia, or the adjacent provinces, together with an equal number by the inhabitants of Cyprus and the Phœnicians, who after remaining in ignominious obscurity, in respect to naval consequence, for so many centuries, appear, on this occasion, suddenly emerging from it. The fleet of Constantine was confessedly so inferior, as to render contest an act of almost unpardonable rashness: it amounted to no more than two hundred small vessels, drawn from different parts of Greece, but, though far inferior to those armaments with which, while the republics of that country were in the zenith of their glory, they kept nearly the whole world in awe, was still superior to what could be drawn from that quarter, which had once been the seat of far greater political terror, Italy. The reason is obvious, and has been, on a

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different occasion, very judiciously pointed out. Since Rome, after the removal of one emperor to Milan, and of another to Adrianople, had ceased to be the seat of government, the naval establishments of Misenum and Ravenna had been gradually neglected; and as the shipping, as well as the mariners, of the empire, were supported by commerce rather than by war, it was natural they should most abound in the industrious provinces of Egypt and Asia. It is therefore highly surprising, that the eastern emperor (Licinius) should have neglected so fair an opportunity of carrying an offensive war into the heart of his rival's dominions.

The army of the east, though far more numerous than that of Constantine, having been compelled to fly, after a bloody and obstinate contest, before the superior discipline of their antagonists, and the valour of their commander, the only hopes of repairing the defeat, with which Licinius could possibly flatter himself, naturally rested on the superiority and success of his navy. The commanders, however, either through want of ability, or that degree of spirit necessary to conduct an hazardous enterprise, continued for a considerable space of time perfectly inactive in the narrow streights of the Hellespont, now called the passage of the Dardanelles, where superior numbers became in great measure useless. This timid, or to give it a less harsh term, this impolitic conduct, inspired Constantine with confidence, and caused him to issue orders to Crispus, his eldest son, the admiral of his little fleet, for the attack of that of his antagonist. The prince executed the commands with vigour, promptitude, and ability. Two distinct engagements took place; the first of which, contested on both sides with equal fury and equal obstinacy, ended indecisively, with almost equal loss. The second was far more inauspicious to the hopes of the unfortunate Licinius; for Crispus, judiciously availing himself of a strong breeze of wind from the southward, forced his way into the very center of the enemy, whom having attacked with the utmost fury, he had the good fortune to obtain a most complete and decisive victory: one hundred and thirty of the gallies belonging to the fleet of the emperor of the east, were totally destroyed, five thousand of the mariners were slain, and Amandus, the commander in chief, made his escape with the utmost difficulty to the shore of Chalcedon.

From the time when Byzantium surrendered to the arms of the victorious Constantine, and quickly afterwards received from its conqueror the honour of being called after his name, an historical incident which took place about the year

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year 323, the Roman empire enjoyed an uninterrupted state of quietude during the greatest part of the reign of Constantine. In the year 332, however, the Goths, nothing intimidated by the fame the emperor had acquired by an almost totally uninterrupted course of victory throughout the whole of his reign, boldly threw defiance against him, and invaded the province of Mæsia, in consequence of his having declared himself determined to support the cause of the Sarmatians, with whom the Goths were at war. No naval force, however, was employed during the short-lived, though spirited contest, nor would there have existed any necessity for making mention of it, except for the purpose of remarking, that in consequence of one of the articles of treaty concluded on the occasion, the inhabitants of Chersonesus, though not possessed of any fleet calculated for war, were rising into some considerable degree of consequence as a commercial people. In return for their having assisted Constantine with a considerable force, consisting principally of armed chariots, and soldiers armed with cross-bows, which were at that time of recent invention, and regarded among the most formidable weapons of destruction then existing, it was agreed, that they should enjoy a perpetual exemption from all duties on their numerous vessels, which traded to different ports in the Euxine, or Black Sea.

Immediately subsequent to the death of the emperor, an event which happened in less than four years after the conclusion of the Gothic war, a perpetual scene of warfare raged with the utmost violence for a considerable period. The contest first commenced between the empire and Sapor, the sovereign of Persia: to this succeeded the civil war between the three sons of Constantine, together with Magnentius and Vetranio, who, after the death of Constantine the younger, and his brother Constans, assumed the purple, and commenced hostilities against Constantius, the only survivor of the emperor's descendants. The dispute, however, was entirely carried on, and with the utmost spirit as well as acrimony, by land, till the close of the year 352; when a formidable band, flying from the army of Magnentius, equipped a fleet of small vessels in one of the northern ports of the Adriatic, not improbably where Venice is now situated. Having repaired to the camp of the victorious Constantius, who was then in Dalmatia, they caused, through their intrigues, and the information they were enabled to afford him, the whole territory of Italy, together with Rome itself, to declare in his favour. The cause of the furious Magnentius had long been desperate, and the

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misfortune just mentioned gave it the decisive blow. Historians record the particular services rendered to the cause of Constantius by a fleet of no inconsiderable force, which, after having reduced under his subjection Spain and Africa, landed an army in the latter country, which passing the Pyrenees, advanced to Lyons, the last and fatal station of Magnentius, who, to prevent the disgrace of a surrender, put a period to the war by falling on his own sword.

In five years after the event just mentioned, (that is to say, about the year 357) a singular exertion took place in the science of Marine Architecture, which may in some measure serve to enliven the dull uninteresting detail of wars, whose events are far more obscurely known, than they are of those, previous to the Augustan age, which have been classically transmitted to us, together with accounts of fleets of which there is no further information than that merely the expeditions specified did take place, without affording the modern enquirer any testimony either in regard to the force of the armaments, or the construction of the vessels which composed them. Constantius, at that time sole emperor of all the extensive countries over which Rome still continued to exert and hold her dominion *, determined to visit the ancient capital of the empire, and shew himself among subjects, to whom, though certainly the first entitled to his countenance of any which he possessed, his very person was in all probability totally unknown. He resolved to expiate, if possible, by one act of splendour, the neglect which he had heretofore, not contrary indeed to the example of many who were his predecessors, shewn to the parents of his diadem, and eager in his own wishes, would have exceeded the magnificence of Trajan, or the elegance of Pompey. The debased condition of the arts forbad either; but as the last resort of an ambitious man striving to excel his forefathers, who lived in a more scientific and more polished age, he determined to surpass them in a different line of genius, as far as they had preceded him in that which was considered the most natural.

The obelisks raised by the Egyptians were even at that time considered as the most curious remnants of antiquity. They are supposed to have been erected in a very remote, but polished age, which is imagined by some writers to have preceded the invention of alphabetical writing, and were most probably destined by the fabricators for the transmission to posterity of certain great

* Which remained at this time nearly unimpaired, but in some very trivial instances, except that of Germany, which had thrown off all subjection to Rome for more than fifty years.

events,

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events, the remembrance of which, it was feared, might otherwise be lost. A considerable number of them had been erected in Thebes, and other cities, as was supposed, for this immediate purpose, under the reasonable idea, as has been frequently pointed out, that the simplicity of their forms, and the extreme durability of the substance which composed them, would enable them effectually to resist the injuries of time, and the rude assaults of man. Part of the hope at least was vain; for many of them had been removed to Rome by Augustus, and others his successors, as being among the most valuable, because they were certainly the most durable, monuments of their victories and conquests. One alone, from its superior magnitude, had happily withstood the rapacious vanity of the conquerors, and it remained for the son of Constantine to perfect an act, then deemed almost sacrilegious, which had been commenced under the auspices and direction of his imperial father. The obelisk in question had been removed by his order from the pedestal on which it had been erected before the temple of the sun at Heliopolis, and was from thence conveyed by floats of immense size down the Nile to Alexandria. When it had reached that city, the death of Constantine suddenly arrested the prosecution of the design; but the ambition of his son led him to attempt a difficulty of still greater magnitude than what had suggested itself to the father, and alter the voyage of the immense mass in question from Constantinople, whither it was originally destined, to Rome, the ancient capital of the empire. The obelisk was in length one hundred and fifteen feet; and, according to the most moderate computation, could not have weighed less than fifteen hundred tons. Such, however, was the species of enthusiasm possessed by Constantius, and such the skill of his marine architects, that a vessel was purposely built, which conveyed in safety from the Nile to the Tyber this valuable monument of ancient art. Moderns have regarded with wonder and astonishment the conveyance of a rock infinitely inferior in magnitude and weight to the mass in question, for a distance, comparatively speaking, contemptible. Yet if such has been the praise bestowed on what is considered the most enlightened age, how much greater a degree of applause did the execution of the project in question merit, as having taken place at a time when all science was considered as materially declining from that state of perfection it had once boasted.

No distinct particulars are given relative to this extraordinary vessel, which must of necessity, allowing for contingencies, have been superior in tonnage even to a first rate, of the most enlarged dimensions, built at the present time.

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The circumstance is commemorated by various authors, but they have been content with simply recording it, not affording to the present times the slightest clue by which the thirst after mechanical knowlege or science can be satisfied. It is certain, however, from various relative points, that it must have been materially different in its form from the galley, which, with so ponderous a cargo, considering the breadth, according to the accustomed proportion of length, practised even at that time, would have drawn too much water to have permitted it to pass over the shallows of the Tyber, or the Nile. Even had that obstacle not existed, a still more serious difficulty, if possible, presents itself, the safety of the vessel itself, with its crew, during its passage, even admitting the most favourable season to have been chosen, from the shores of Egypt to Italy. When fourteen centuries shall have elapsed from the present time, an enquiry into the form and construction of the vessel which transported the rock forming the base to the equestrian statue of the czar Peter to the capital of Russia, might have proved a subject of more critical and interesting enquiry than the present, if the engineer had not possessed the prudence to have taken such measures as will transmit to posterity the whole of his art and contrivance, and, in all human probability, prove sufficient to preserve the memory of it at least, unless the art of printing and literature itself shall cease to exist.

It appears highly probable, that if no contrivance, in some degree resembling that made use of on the modern occasion alluded to, was actually adopted in the former instance, the immense transport must have borne some resemblance to the lighter of the present day, which appears best calculated to float immense weights with the least submersion in the water. It is, at the same time, the most artless, and consequently the easiest, in point of construction, as the practice of various countries, in the less improved ages of science, sufficiently proves. The critical investigator is informed of fleets consisting of ships or vessels so denominated, and, far as numbers extend, almost too powerful for modern credibility: the supposed simplicity of their form, however, serves, in a very considerable degree, to solve this otherwise almost inexplicable historical enigma; and while the recollection of that fact elucidates a point which might otherwise prove a matter of doubt or dispute, it marks out, at the same time, the general principle then adopted in the construction of vessels, by those who considered themselves as marine architects.

With

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With this splendid extension of the mind in what may be considered mechanical enterprize, Constantius appears to have rested content: and however the austerity of a philosopher may censure the vanity of the undertaking, and lament that the labour of mankind should have been so ineffectually employed, when it might have been more materially engaged in the promotion of natural comforts, and what is, in simple terms, denominated the first good of society; yet although the particular and various points of mechanical knowlege, which the artificers must either have previously possessed, or with consummate diligence made themselves masters of, for the purpose of enabling them to carry this grand project into execution, have not been so minutely preserved as to permit any accurate account of them, yet the certainty of the fact may reconcile the extravagance, if it were only on the single ground of the temporary advantage which nautical as well as mechanical knowlege must inevitably have derived from it.

The subsequent wars which took place during the same reign, were either confined to military operations, or if necessity at any time compelled, in aid of them, that the exertion of the naval architect should afford its necessary alliance and assistance, it extended no farther than his acting in a subordinate capacity to the colleague who considered himself superior, and that his wants and wishes only were to be attended to in the pursuit of one main object, which the utmost energy of his ally would never of itself be able to carry into effect. To this opinion, raised and fostered by the very arrogant, and superior value presumptuously affixed, at that time, on the life and occupation of a soldier, the labours of the marine architect were confined merely to the equipment and construction of vessels intended for the conveyance, or necessary transport across the sea, either of the armies themselves, or of the different stores, provisions, and military engines, which the nature of their operations required.

The purposes of commerce * might, at this time, be said to afford the principal employment to the ship-builder. This had been invariably the case from the period when Rome became mistress of the world, till many years had elapsed

* The following historical fact, related by Mr. Gibbon on the authority of Julian himself, in whose reign it happened, added to that of Zozimus, is not only so materially interwoven with the present subject of enquiry as to require insertion, but, independent of that consideration, cannot fail to be so peculiarly interesting as to warrant the recital of it in this place, even were it, on other grounds, impertinent:—

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elapsed after the epoch when it was considered the complete dissolution of her imperial rule had taken place. The principal naval enterprizes of Julian himself, who, owing both to the unquiet state of the empire during the greater part of his reign, and his own restless spirit, was perpetually involved in war, extended not beyond the seizure of a number of inconsiderable vessels on the Danube, by means of which he facilitated his march. Some judgment may be formed of the condition and nature of what was then denominated a fleet, from the testimony of history, which records, that one, consisting of eleven hundred ships, navigated the Euphrates for the purpose of attending the motions, and satisfying the wants of Julian's army; a train of marine attendants which was protected by fifty gallies armed for war, and accompanied by an equal number of flat bottomed boats. From the well known nature of the uses to which the latter were applied, they appear to have been mere pontoons, most probably little differing in form or construction from the modern contrivance, bearing the same name, and applied also precisely to the same purpose. This seems, from every concurrent testimony, to have been nearly, if not entirely, the whole force of the Roman navy at that time *. Into what an abyss had it fallen

" The tillage of the provinces of Gaul had been interrupted by the calamities of war, but the scanty harvests of the continent were supplied by his (*Julian*'s) paternal care from the plenty of the adjacent island (*Britain.*) Six hundred large barks, framed in the forest of Ardennes, made several voyages to the coast of Britain; and returning from thence *laden with corn*, sailed up the Rhine, and distributed their cargoes to the several towns and fortresses along the banks of the river." Gibbon, chap. xix. To this piece of historical information is subjoined the following note:—" If we compute the 600 corn ships of Julian at only 70 tons each, they were capable of exporting 120,000 quarters; (see Arbuthnot's Weights and Measures, page 237.) and the country which could bear so large an exportation, must already have attained an improved state of agriculture."

* Some judgment may be formed of its insignificance in respect to the size or burthen of the vessels which composed it, nearly on the same ground with that of the Grecian navy, as has been already shewn, (see p. 95.) Julian, in order to avoid passing under the walls of Coche, from the numerous and enterprising garrison of which fortress he had every reason to expect some serious molestation, caused (as Trajan his predecessor had done before him) a navigable canal to be dug, which conducted the water of the Nahar Malcha, (meaning the royal canal, an artificial duct which conveyed a part of the waters of the Euphrates into the Tigris) after leaving the city of Coche on the right hand, into the Tigris, at some distance from the object of his apprehension. This magnificent project or undertaking could not have been executed in five times the period it is said to have been, had not the vessels composing the imperial fleet been of the utmost insignificance in respect to burthen and dimensions. A still further proof of this fact appears on the face of the record which has transmitted to modern times the too hasty impetuosity of Julian in destroying what was termed his navy.

—Out

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fallen from that period when the contending fleets of Carthage and her rival sister met in dreadful conflict to contend for what was considered the naval empire of the universe.

It would nevertheless be unfair to insist, that the neglect of maritime pursuits caused the ruin of the empire, or that the utmost attention to them could have averted it; but this circumstance arose, as has been already remarked, merely from the peculiar situation in which the empire was placed with respect to the different nations who invaded it. Even the Goths themselves, who in later times became the most formidable enemies to the power of Rome, which they three times pillaged, and reduced to the utmost extremity of distress, were totally destitute even of boats sufficient to transport them over the Danube, when flying in dismay to escape from the swords of the furious Huns. Such little apprehension did the emperor Valens and his generals entertain of their naval strength, that even the maintenance of a flotilla sufficient to prevent the passage of that river was considered unnecessary; and when the fugitive nation was, after much negociation, permitted to cross it, the Romans themselves laboured under no small degree of difficulty in providing a quantity of double canoes, or small boats, sufficient for their transport. When the same people soon afterwards, under the direction of their own leaders, carried a similar measure into effect, the passage was made on rafts, and other contrivances, nearly as rude as those which had existed when the art of navigation was in its very infancy. Even after they had risen into a very considerable degree of political rank, had defeated and slain the emperor Valens in the battle of Hadrianople, had laid siege to that capital, and felt themselves, aided by the recruits which their cause had received from Germany, possessed of such consequence and power, as enabled them to meditate the grandest enterprizes, the vessels they possessed were of no higher description than those now called canoes *.

No

—Out of a *fleet*, consisting of eleven hundred sail, *twenty-two only were preserved*, for the purpose of being conveyed on carriages, so that they might attend the march of the army, and serve, as occasion required, to form temporary bridges for the passage of such rivers as intersected its route.

* Mr. Gibbon adopts this precise term.—" They" (the Ostrogoths) says he, " were persuaded, that, by a bold attempt, they might surprise, in the silence and darkness of the night, the sleeping army of the Romans; and the whole multitude was hastily embarked in a fleet of three thousand canoes." Gibbon, ch. xxvi. He assigns, in a subjoined note, the following very satisfactory reasons for the

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No subsequent mention is made of any naval equipment carried on under the auspices of the Roman emperors till the year 387, in the midst of that civil war which had taken place between Maximus and Theodosius, as the protector of Valentinian and his mother. But the bare record that a fleet was equipped in the ports of Greece and Epirus, with the intent of forcing a passage into Italy for the empress and her son, is the only point which can convince the modern enquirer, that maritime pursuits, and the art of naval war, were not totally neglected. The contest was concluded within the short space of two months, by the total defeat of the army, and the death of Maximus himself, ere sufficient time had elapsed so as to permit the naval preparations to be fully completed, or carried into effect.

In the year 398, the whole of that armament destined to attempt the recovery of Africa, which had been wrested from the dominion of Rome by the revolt of Gildo, amounted to no more than a few gallies, having as many vessels under their convoy as sufficed to transport from Pisa in Tuscany to Africa a military force, for it certainly did not merit the appellation of an army, amounting to no more than five thousand men. Soon after this, the terrific irruption of the Goths, under the command of their renowned leader Alaric, appeared to hold forth only one alternative to the Romans, whose protection, from the pursuit of the Huns, their enemies, these barbarians had only a few years before solicited, and rather in humble terms. It was, that the empire must be totally abandoned to the mercy of the invaders, or every energetic measure must be speedily carried into execution, to avert or soften, if possible, the horrors of the impending tempest. Its fleet, reported in the language of history to have been numerous and formidable, but whose force is mentioned only in the most vague and indefinite terms, was accordingly equipped in the ports of

adoption of the above term. " I am justified," says he, " by reason and example, in applying this *Indian* † name to the Μονοξυλα of the barbarians, the single trees hollowed into the shape of a boat, πληθει μονοξυλων εμβιβασαντες." Zosimus, l. iv. p. 253.

> Ausi Danubium quondam tranare Gruthungi
> In Lintres fregere nemus: ter mille ruebant
> Per fluvium plenæ cuneis immanibus alni.
>
> Claudian in IV. Cons. Hon. 623.

† A farther testimony and a highly respectable one, that the idea, thrown out in page 107, is far from being vague and romantic.

Italy,

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Italy, and conveyed, without meeting with opposition or misfortune, the army destined for the protection of the state, from the southern part of Italy, to that classic spot of former military contest, the place where the proud city of Corinth had once stood, and from whence, in former ages, those fleets had issued to which nearly the whole of the civilised world, then known, had yielded a temporary obedience.

Still was the arm of war totally confined to military exploits; and owing to the operations of nature on one hand, aided by the assistance of art on the other, Ravenna, which in the reign of Augustus had been one of the principal naval arsenals and ports appropriated to the reception of the navy of the state, became the seat of luxury, and abandoned by the sea, which had been gradually retiring from it for some centuries, rose, at the commencement of the fifth, into the gaudy but short-lived consequence of capitol to that territory which, curtailed as it was, still retained the name of the Roman empire. Hence it appears as though Providence intended to render the change complete throughout the whole system, and after having caused by her dispositions the almost total relinquishment of maritime pursuits, far as they were connected with war: she thought proper to shew every mark of her disapprobation to them, far as they regarded the Roman people, and prevent, by the decisive operation just related, any future revival of them in the same quarter of the world.

The port of Ostia, that stupendous proof of the magnificence in labour and expenditure of treasure, displayed by the Romans under the auspices of the first Cæsars *, still remained, but nature there appeared gradually acting precisely

* The stupendous works which were erected for the improvement of the port of Ostia, projected and commenced under the auspices of Julius and Augustus, were finished in the reign of Claudius. They consisted principally of two immense moles or piers, carried out into the sea for a considerable length at an immense expence. These served to break the fury of the waves, and afford an easy entrance to the largest gallies then used. Three capacious basons, which received the northern branch of the Tyber, would have afforded the securest anchorage to a number of vessels, far exceeding that which was ever known to be collected at the port just mentioned at any one time. Previous to the improvement of the port, the sand and mud, washed down by the current of the Tyber, had nearly choaked up the entrance, and in later times, a repetition of the same natural process nearly effected the same inconvenience. It is reported, that when some rather modern enquirers examined the remains of this stupendous proof of what the mind of man was capable of contriving, and the hand of executing, they declared with enthusiasm, that all the monarchs in Europe, at that time existing, would not be able, by their united efforts, to carry a similar work into execution.

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under the same principle with respect to its degradation. From the time of Adrian till it was taken possession of by Alaric, in the disgraceful reign of the timid Honorius, the same channel which, when in an improved state, had received the triumphant Duillius and the Scipios, had been, after the immense sums which had been most liberally expended on its improvement, applied to the more humble but more philanthropic purpose of affording shelter to the commercial vessels of Africa, which were accustomed to deposit there, as in a state, or public granary, the corn of Egypt, and the adjacent continent, intended for the use of Rome, who, though somewhat fallen in real power, still maintained sufficient influence to render the labour of distant countries subservient to her own wants, and not unfrequently her own luxury.

About the year 413, Heraclianus, one of the consuls, having thrown off his allegiance to the emperor Honorius, caused himself to be proclaimed emperor in Africa; and from the account given of the armament equipped by him for the purpose of defending his right to his newly assumed title, some opinion may be formed, in addition to other proofs already adduced, of the nature and insignificance of the vessels which frequently composed the fleets, even of the most warlike nations, previous to what may be considered as the second birth or resuscitation of the art of navigation by the Venetians and Genoese. Cotemporary historians have represented the fleets of this æra as vying with, if not surpassing, the armaments of Darius and Xerxes, a manifest proof, from the very nature of their panegyric, that in their opinion, the art of ship-building, and every other science connected with it, had slept, or continued in a perfect state of rest during the space of nearly nine centuries. They vary extremely, a circumstance by no means singular or uncommon, in their account of its numbers. Marcellinus modestly stating it to have consisted of no more than seven hundred ships: while Orosius, who composed his history only two years after the expedition had taken place, augments it to the immense amount of two thousand two hundred vessels, which are still farther encreased by others to three thousand, including those of all denominations and sizes, and comprizing, as has been judiciously remarked, the imperial galley, and the smallest boat. What must have been the extent and magnitude of the ports from whence such a multitude could issue? What must have been the number of persons occupied in the equipment, the time required for that purpose, the quantity of mariners employed in navigating them, or the harbour capable of containing them, supposing that by far the greater part were not of those very diminutive dimensions

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sions which rendered the appellation of ships which is bestowed on them ridiculous in the extreme. The human mind is extremely prone to reject all points as fabulous which it does not readily understand, or to form conjectures, strange and ridiculous in themselves, in order to reconcile those points to its unqualified belief.

Formidable as historical accounts have represented the preparations made for this expedition, it appears to have ended fatally to the contriver of it. After a trivial skirmish, and, according to many authors, without any contest whatever, Heraclianus was seized with a sudden panic on learning that the count Marinus was on his march to meet him, at the head of all the troops he could assemble. Shewing himself totally unworthy of contending for so noble a prize as the imperial diadem, he ignominiously fled back, unattended, and in a single vessel, to Carthage, where he was very soon afterwards discovered, and put to death. The Goths, nearly about the same period, having thrown off the Roman yoke in the east, entered Constantinople itself; but both their leader, and themselves, having behaved in a manner highly disgustful to the inhabitants, as well as directly contrary to a treaty which they had agreed to with Arcadius, the emperor, the people rising, as with one accord, inflicted a dreadful vengeance for their recent injuries and insults, by massacring every Goth they could meet. Seven thousand persons perished; but Gainas, their chief, together with the remainder of his troops, prolonged their lives for a short space of time by their absence from the scene of slaughter; and, finding the progress of their enterprize stopped by the resolute defence which the cities of Thrace made against them, formed the gallant, but rather desperate resolution of forcing the passage of the Hellespont.

Totally destitute not only of a fleet, but of a single vessel, that could aid the projected attempt, the Goth hesitated not to commit himself, and his intrepid followers, deserving, perhaps, on account of their bravery, a far better fate, to the waves of the Hellespont on rafts, rudely and hastily constructed from the woods of the Chersonesus. The discipline, the superior nautical knowlege, and, above all, the higher quality of the vessels with which his adversaries opposed him, afforded them an easy victory over him. Scarce had the Goths reached the middle of the channel, when the Roman gallies, impelled by the united influence of their oars, the current, and a favourable wind, rushing forwards in close order, and an irresistible column, broke through the floats of their devoted enemy, and effected such speedy and dreadful devastation without having

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having recourse to arms in aid of their mechanical assault, that the shores of the Hellespont were on every side covered with dreadful proofs of the discomfiture of their foes, and of their own success *.

The irruption of the Vandals, the successors to the Goths, and equal claimants with them as to the extent of the share they separately held in the destruction of the Roman empire, forced its way like the slow but terrific eruption of a volcano, and passed from the Elbe, the crater whence it last issued, even to the Pillars of Hercules, now more commonly known as the Streights of Gibraltar, without possessing or needing any naval strength whatever. Here the ocean appeared to prescribe bounds to its farther progress; but difficulties no more important are easily surmounted by the mind that is capable of conceiving and executing vast projects. The vessels found by the invaders in the harbours of Spain which they over-ran, enabled them to pursue their course into Africa, many of the northern parts of which extensive continent they made themselves masters of, with as little difficulty as had attended their former conquests.

Among the different places and fortresses which were so unfortunate as to fall into the possession of these barbarians, was the renovated city of Carthage, which, though it had not reached its pristine state of splendour, and magnificence, had emerged considerably from obscurity. Its edifices were regular and magnificent: it was the emporium of traffic for six fruitful provinces that surrounded it, and displayed, though in a dependant state, all the wealth, splendour, and luxury of a free and rapidly rising country. It possessed schools for rhetoricians and philosophers, as well as places of exercise and amusement for the pleasure and advantage of the youth, to which might be added those for the entertainment of the wealthy. All these proofs of encreasing greatness had been acquired by the restoration of her port, and the consequent influx of commerce, so that Carthage became honoured with the title of the African

* Mr. Gibbon, with that intelligence and shrewdness which pervade the whole of his history, adds the following note on this transaction:—" Zosimus, says he, (l. v. p. 119,) mentions these gallies by the name of liburnians, and observes, that they were as swift (without explaining the difference between them) as the vessels with fifty oars, but that they were far inferior in speed to the *triremes*, which had been long disused. Yet he reasonably concludes, from the testimony of Polybius, that gallies of a still larger size had been constructed in the Punic wars. Since the establishment of the Roman empire over the Mediterranean, the useless art of building large ships of war had probably been neglected, and at length forgotten.

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Rome. Her maritime pursuits, however, appear to have been strictly and totally confined to commerce, and never to have soared into the construction, and ambitious desire of possessing a navy equipped solely, or even principally, for the purposes of war. Her state of dependance might be considered as one of happiness, and while Rome, the mistress, to whom she owed obedience, maintained her necessary consequence, she appeared to rest as secure without, as she would have been with, the possession of a fleet. It certainly would have been arrogance in the vassal state to have stepped beyond those bounds which she appears to have prescribed to herself; but when wrested from a dominion under which she had continued during the space of five hundred and eighty-five years by the invaders just mentioned, she not long afterwards relapsed considerably into her former state of obscurity. Still, however, her lingering existence was protracted till towards the end of the seventh century, when the Saracens, under the command of Mohammed's successors, put the finishing stroke to the destruction of this unfortunate and apparently devoted city. So effectual were the means, and so successful were those who became the instruments of applying it, that few or rather no traces whatever were left to point out the spot where this lamentable proof of the dreadful revolutions which have humbled, at different times, the most powerful states, had once raised its imperious head.

CHAPTER.

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CHAPTER THE TENTH.

The Conduct of Genseric—Fleet fitted out by Valentinian to oppose him—crafty Policy of the Vandal Chief—its Success—the Murder of the Roman Emperor—the Invasion of Italy, and the Capture of Rome by the Vandals, together with their Naval Force—spirited Behaviour of Majorianus—his Equipment of a Fleet—the Craft of Genseric, and Destruction of the Roman Navy—desultory Naval Expeditions of the Vandals—their Power, Cruelty, and dreadful Depredations—Account of the Forces collected together, and the Vessels equipped by the Emperor of the East, to defend Italy and the West—enormous Expence attending the Armament—Genseric eludes the Danger, destroys the Roman Fleet, and puts a temporary Period to the Empire of the West—Reflections on the Causes produced by the Victory last mentioned—Conquest of Italy by Odoacer, and Deposition of Augustulus, the last Emperor of the West—Deposition of Odoacer by Theodoric the Goth—Fleet fitted out at Constantinople to attack the Goth—its Insignificance—Account of the Armament collected by Theodosius to oppose it—the Accession of Justinian the Great to the Imperial Throne—the State of Commerce—its Effects on the Roman Manners—the Means by which it was carried on—Armament equipped for the Recovery of Africa, and sent thither under the Command of the renowned Belisarius—particular Statement and Account of it given by Mr. Gibbon.

THE Vandals who had so lately erected themselves into objects of terror with respect to all Europe, and more particularly that part of it which still continued to own subjection to Rome, raised themselves still higher in political consequence by the capture of Carthage. Previous to that time, they had appeared solely in the character of military marauders; and the only occasion on which they were content to trust themselves to the bosom of the ocean, was in consequence of the alternative they were under of being obliged to abandon all farther hope of extending their conquests, or passing the streights of Gibraltar in the most convenient manner their means would allow them to do. Africa, with Carthage itself, as before shewn, formed the brilliant reward of

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of their enterprise, and the possession of the latter raised them into the consequence of a maritime power, capable of being extended by any people powerful and ambitious as themselves. So eager was Genseric, their leader, to profit by the advantage, that he was scarcely established in his new conquest, ere his views began to expand themselves. His preparations surmounted by his application of them, unequivocally pointed out to Valentinian, who was the emperor of the west, that he had little quietude to expect, unless it were in his power to subdue, or at least to humble, his ambitious and restless neighbour. In the hope of effecting this, the Roman formed the immediate resolution worthy of his rank and character. He caused an immense fleet, consisting, according to report, of eleven hundred large vessels, to be collected and equipped with the utmost expedition. Having embarked a very considerable army selected from the best troops in the whole empire, he ordered them to Africa, under the command of three generals whose bravery and experience had been proved. However equal, in respect to military talents, the Roman commanders might be as to the task of contending with the vandal chief by mere force of arms, they proved infinitely inferior to him on the score of policy and political prudence. Soon as he was informed of their approach, he dispatched ambassadors with overtures of peace, a measure which proved completely productive of the end he wished to accomplish; delay and procrastination. The season for offensive measures passed over without a conflict; and notwithstanding the mighty fleet he had equipped, in the hopes of restoring Africa once more to the dominion of Rome, Valentinian found himself compelled, in the ensuing year, more particularly on being attacked by the Huns who invaded Thrace, to conclude a treaty with Genseric, by which he ceded to him full and undisturbed possession of all those various countries and territories which he had overran.

Thirteen years * after Genseric had seated himself on the African throne, the murder of Valentinian the Third by order of Petronius Maximus, whose wife the emperor had ravished, and the rage of Eudoxia, the empress, on being compelled to marry Maximus, the author of her husband's murder, whom, notwithstanding his infidelity, she most tenderly loved, caused an invitation from her to the Vandal, that he should repair to Italy with his fleet and armies, for the purpose of revenging the death of Valentinian, her husband, and

* Corresponding to the year of the world 455.

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his ally. Genseric being promised by the same messenger considerable support from Eudoxia, added to the assurance that he would meet with but little opposition from those who were immediately under the controul of the usurper, readily accepted the invitation. The fleet of Carthage, repaired and by no means inconsiderably augmented since the Vandal had obtained possession of that city, afforded him an easy entrance into the heart of Italy. Maximus fell a victim to the fury of the populace, on his attempting, by ignominious flight, to escape from the threatened danger: Rome itself glutted the avarice of the invader by the plunder it afforded him; and Eudoxia, as a fit reward for the treason she had committed against her native country, in the invitation given by her to the barbarian, was, with her two daughters, led by him into captivity.

Flushed with the success of the measure, together with the immense treasure which he had acquired at so easy an expence of time and lives, Genseric attempted, in the following year, a similar expedition into the same quarter, for the purpose of carrying off those valuables which hurry or oversight during his former expedition might have caused his banditti to overlook. Here his good fortune appears to have deserted him, and the ancient genius of Rome to have resumed its former ascendance for a short time. Being met near Corsica by the Roman fleet, the chief command of which had been bestowed on Ricimer, or as some call him Richimer, a Suevian, or Goth of noble birth, the Vandals were totally defeated. No other particulars are afforded to the modern enquirer either in regard to the action itself, or the force of the fleets engaged in it, but that a considerable revolution appears to have taken place in the opinions of both the contending parties, in respect to what constituted the force of fleets. Within the space of the preceding twenty years, Genseric and his imperial opponent had sent forth armaments, if the accounts of their numbers are to be credited, each of them consisting of more than a thousand vessels. But on this occasion, notwithstanding the vandal fleet is said to have been considered extremely formidable, and to have taken on board, in addition to the natural crews which navigated it, a very powerful land force, for the purpose of carrying on the work of depredation, it is stated to have consisted of no more than sixty gallies, or, according to the term used, ships, while that of his conqueror, which is also represented in the same stile in respect to its magnitude and force, outnumbered it only by twenty. One very obvious remark naturally offers itself on this occasion; it is, that the dimensions of vessels intended for the purposes of war, must have been very considerably

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encreased within the short interval just stated, and that the diminution in the numbers of vessels immediately succeeded it as a natural consequence.

With this reverse of fortune, totally unexpected as it was by Genseric, his sun of glory appears to have sunk beneath the horizon. Majorianus, successor to Avitus, who had been raised to the imperial throne after the death of Petronius Maximus, and was deposed by Richimer, after a short reign, which continued only for a few months, appeared to possess all the former courage of his predecessors, the most magnanimous among the Cæsars, and he laboured not a little to infuse a due portion of his own spirit into the hearts of the persons over whom he was chosen to rule. Scarcely was he seated on the throne, when a squadron of gallies, collected out of the remains of that powerful fleet which Genseric once possessed, attempted, by his orders, to effect a descent on the coast of Campania. The troops were not only disembarked, but actually had advanced some way into the country, and, according to the usual custom of armies sent forth from the same quarter, had despoiled or possessed themselves of every thing that was valuable which came within their reach. Their triumph, however, was extremely short-lived. The activity of the young emperor suffered them not to retire, as many of his predecessors had done, unmolested, but advancing upon them with rapidity, drove them, with much slaughter, and in the utmost confusion, to their vessels, leaving among the slain one of their principal chiefs, the brother-in-law to Genseric himself.

A conduct like the former appeared to forebode the restoration of that discipline, and those successes, which had once caused to be conferred on Rome the high sounding title of mistress of the world. But the legions were too enervated, their numbers too much diminished, and the shores of Italy too extensive, to promise any long continuance of peace, or absence of depredations similar to the foregoing, committed by the same marauders, except by adopting the decisive and spirited measure of transferring the seat of war into their country. "Rome (says Mr. Gibbon) expected from him (Majorianus) the restitution of Africa, and the design which he formed of attacking the Vandals in their new settlements, was the result of a bold and judicious policy. If the intrepid emperor could have infused his own spirit into the youth of Italy, if he could have revived in the field of Mars the manly exercises in which he had always surpassed his equals, he might have marched against Genseric at the head of the *Roman* army. Such a reformation of national manners might be

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embraced by the rising generation; but it is the misfortune of those princes who laboriously sustain a declining monarchy, that to obtain some immediate advantage, or to avert some impending danger, they are forced to countenance, and even to multiply, the most pernicious abuses. Majorian, like the weakest of his predecessors, was reduced to the disgraceful expedient of substituting barbarian auxiliaries in the place of his unwarlike subjects; and his superior abilities could only be displayed in the vigour and dexterity with which he wielded a dangerous instrument, so apt to recoil in the hand that used it. Besides the confederates, who were already engaged in the service of the empire, the fame of his liberality and valour attracted the nations of the Danube, the Borysthenes, and perhaps of the Tanais. Many thousands of the bravest subjects of Attila, the Gepidæ, the Ostrogoths, the Rugians, the Burgundians, the Suevi, the Alani, assembled in the plains of Liguria, and their formidable strength was balanced by their mutual animosities. They passed the Alps in a severe winter. The emperor led the way on foot, and in complete armour, sounding with his long staff the depth of the ice or snow, and encouraging the Scythians, who complained of the extreme cold, by the cheerful assurance that they should be satisfied with the heat of Africa. The citizens of Lyons had presumed to shut their gates. They soon implored and experienced the clemency of Majorian. He vanquished Theodoric in the field, and admitted to his friendship and alliance a king whom he had found not unworthy of his arms. The beneficial, though precarious, reunion of the greatest part of Gaul and Spain, was the effect of persuasion, as well as of force; and the independent Bagandæ, who had escaped or resisted the oppression of former reigns, were disposed to confide in the virtues of Majorian. His camp was filled with barbarian allies. His throne was supported by the zeal of an affectionate people; but the emperor had foreseen that it was impossible, without a maritime power, to atchieve the conquest of Africa. In the first Punic war, the republic had exerted such incredible diligence, that within sixty days after the first stroke of the axe had been given in the forest, a fleet of one hundred and sixty gallies proudly rode at anchor in the sea. Under circumstances much less favourable, Majorian equalled the spirit and perseverance of the ancient Romans. The woods of the Apennine were felled, the arsenals and manufactures of Ravenna and Misenum were restored, Italy and Gaul vied with each other in liberal contributions to the public service, and the imperial navy of three hundred large gallies, with an adequate proportion of transports, and smaller

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smaller vessels, was collected in the secure and capacious harbour of Carthagena in Spain."

Under the conduct of so great a man, what might not have been expected? He fulfilled the utmost hopes and expectations of his country, far as he himself was concerned, but that discipline, that spirit, that enthusiastic energy of conduct, which had once spread the Roman name as a sound of terror over the whole face of the earth then known, was wanting to support the merit and the zeal of the gallant leader. One anecdote of him, sufficiently well authenticated to prevent any doubt of its reality, may suffice to point out the splendour of this great character, whose only wish, abstracted totally from all vain boasting or show, was to serve his country as he ought, and to the utmost extent he felt himself capable of effecting.

"Anxious (says Mr. Gibbon) to explore with his own eyes the state and internal arrangements of the Vandals, he ventured, after disguising the colour of his hair, to visit Carthage in the character of his own ambassador; and Genseric was afterwards mortified by the discovery that he had entertained, and dismissed the emperor of the Romans. Such an anecdote may be rejected as an improbable fiction, but it is a fiction which would not have been imagined unless in the life of an hero.

"Without the help of a personal interview, Genseric was sufficiently acquainted with the genius and designs of his adversary. He practised his customary arts of fraud and delay, but he practised them without success. His applications for peace became each hour more submissive, and perhaps more sincere; but the inflexible Majorian had adopted the ancient maxim, that Rome could not be safe so long as Carthage existed in a hostile state. The king of the Vandals distrusted the valour of his native subjects, who were enervated by the luxury of the south. He suspected the fidelity of the vanquished people, who abhorred him as an Arian tyrant; and the desperate measure which he executed, of reducing Mauritania into a desert, could not defeat the operations of the Roman emperor, who was at liberty to land his troops on any part of the African coast. But Genseric was saved from impending and inevitable ruin by the treachery of some powerful subjects envious or apprehensive of their master's success. Guided by their secret intelligence, he surprised the unguarded fleet of Rome in the bay of Carthagena, many of the ships were sunk, or taken, or burnt, and the preparations of three years were destroyed in a single day."

So great however was the fame of Majorianus, and such the respectful awe with which his conduct inspired the victorious enemy, that instead of flattering himself

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himself with the hope of humbling the emperor by a continuance of warfare, and a repetition of success, he followed his victory with an immediate application for peace. No circumstance can be more strongly indicative of the superior rank, speaking comparatively with that of other nations, particularly the Vandals, which the Roman navy then held in the opinion of the world. The subsequent naval operations of the same nation appear to have been converted, for some years after this time, into those short desultory expeditions, which bear much stronger resemblance to the depredations of a pirate, than the open and avowed system of hostility, committed under the sanction of a government regularly established. Italy, however, became reduced to the lowest ebb as well in respect to power, as to finances. Marcellinus, a Roman general, who had revolted from Valentinian, and raised himself to what might be considered the throne of Dalmatia, collected a fleet far from inconsiderable, by the assistance of which he first assumed the naval sovereignty of the Adriatic, and afterwards extended his excursions not only along the coasts of Italy, but made Africa itself feel the force of his arms.

Notwithstanding the wretched inhabitants whom the Vandals had destined for their victims were conscious that the return of spring would, as an almost natural consequence, be productive of the return of their miseries, they were so incapable of applying the necessary remedy to them, that not only the provinces of Liguria, Tuscany, Campania, Calabria, Brutium, Apulia, Lucania, and Venetia, were in rotation the scenes of their devastations, but the coast of Spain, Greece, Epirus, and Sicily, were at times equal sufferers with the former, as a punishment for not having avowedly thrown off all submission and allegiance to the personage who still retained the empty title of Emperor of the west. Sardinia, situated as it was in the center of the Mediterranean, formed an object too valuable, in point of situation, to be neglected, or suffered to escape the yoke of Genseric, who spread the terror of his power with success, from the Pillars of Hercules even to the mouth of the Nile, and who, in all the insolence, though profound policy, of barbaric warfare, is reported to have uniformly made his designs, and the place of his destination, a profound secret, even from those most in his confidence. It is said, that when once asked by his pilot what course he should steer, he made the following haughty reply, which could not have suggested itself to any person but one who was perfectly secure in the consciousness of his own strength.—" Leave the determination," replied the chief, " to the winds, they will transport us to the guilty coast whose inhabitants have

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have provoked the divine vengeance*." Some judgement may be formed of the horrid extent of these depredations, not only from the brief account which the reluctant pen of the historian has been compelled to record, but from the peculiar nature and character of the banditti who committed them. "As they were more ambitious," says Mr. Gibbon, "of spoil than of glory, they seldom attacked any fortified cities, or engaged any regular troops in the open field. But the celerity of their motions enabled them, almost at the same time, to threaten and to attack the most distant objects which attracted their desires; and as they always embarked a sufficient number of horses, they had no sooner landed, than they swept the dismayed country with a body of light cavalry. Yet, notwithstanding the example of their king, the native Vandals and Alani insensibly declined this toilsome and perilous warfare; the hardy generation of the first conquerors was almost extinguished, and their sons, who were born in Africa, enjoyed the delicious baths and gardens which had been acquired by the valour of their fathers. Their place was readily supplied by a various multitude of Moors and Romans, of captives and outlaws; and those desperate wretches, who had already violated the laws of their country, were the most eager to promote the atrocious acts which disgrace the victories of Genseric. In the treatment of his unhappy prisoners, he sometimes consulted his avarice,

* Mr. Gibbon gives the following animated account of the conduct of this tremendous scourge to human nature:—"The discovery and conquest of the Black nations, that might dwell beneath the torrid zone, could not tempt the rational ambition of Genseric; but he cast his eyes towards the sea; he resolved to create a naval power, and his bold resolution was executed with steady and active perseverance. The woods of mount Atlas afforded an inexhaustible nursery of timber; his new subjects were skilled in the arts of navigation and ship-building; he animated his daring vandals to embrace a mode of warfare which would render every maritime country accessible to their arms: the Moors and Africans were allured by the hopes of plunder; and after an interval of six centuries, the fleets that issued from the port of Carthage again claimed the empire of the Mediterranean. The success of the Vandals, the conquest of Sicily, the sack of Palermo, and the frequent descents upon the coast of Lucania, awakened and alarmed the mother of Valentinian, and the sister of Theodosius. Alliances were formed; and armaments, expensive and ineffectual, were prepared, for the destruction of the common enemy; who reserved his courage to encounter those dangers which his policy could not prevent or elude. The designs of the Roman government were repeatedly baffled by his artful delays, ambiguous promises, and apparent concessions; and the interposition of his formidable confederate, the king of the Huns, recalled the emperors from the conquest of Africa to the care of their domestic safety. The revolutions of the palace, which left the western empire without a defender, and without a lawful prince, dispelled the apprehensions, and stimulated the avarice, of Genseric. He immediately equipped a numerous fleet of Vandals and Moors, and cast anchor at the mouth of the Tyber, about three months after the death of Valentinian, and the elevation of Maximus to the imperial throne."

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and sometimes indulged his cruelty; and the massacre of five hundred noble citizens of Zant, or Zacynthus, whose mangled bodies he cast into the Ionian sea, was imputed, by the public indignation, to his latest posterity." The relation of such horrors might possibly have staggered the belief of those who profess themselves advocates for the dignity and superiority of the human race, did not more recent examples serve to convince mankind, that it is very far from improbable the dreadful record is strictly correct.

Whatever reluctance the proud imperious mind of man, speaking individually, or of nations, considering men in their collective capacity, may feel at soliciting assistance from those who, once moving in an humbler sphere, have, by a revolution in worldly affairs acquired an ascendancy and superiority equally astonishing perhaps to both, there is a certain point when distress causes that reluctance to give way to self-preservation, the first principle natural to the human mind, and not unfrequently is sufficient, in the last extremity, to annihilate totally its former opinions and pride. So did it prove with Rome, once the proud imperious mistress of the world, for at this time being completely destitute of a navy from which alone she could expect protection from the peculiar attacks which she almost daily experienced, she humbled herself to solicit the fostering aid and protection of her quondam vassal, but now her sister. The answer was by no means so affectionate as the benignant mind could have wished, though probably little differing from that, which the rigid one might have expected. Instead of the requested aid of ships and soldiers, the far less friendly interposition of diplomatic negociation and mediation was afforded. This proved completely unsuccessful with the haughty Vandal; and Rome, as the purchase of more effectual support, was under the necessity of receiving an emperor from the court of Constantinople.

With this humiliation the emperor of the east appeared content. Every nerve was exerted throughout the whole of his dominions to raise such an army, supported by a sufficient fleet, as should be competent to the task of delivering Italy, and all the countries bordering on the Mediterranean, from the tyranny, the rapacity, and the cruelty of the invaders. While on the land side all the countries who owed allegiance to, and claimed protection from, the empire, poured forth their soldiers, the maritime parts were no less energetic in the equipment of vessels: all parties, whatever might be the locality of their situation, displaying an emulation bordering almost on enthusiasm, with

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respect to the pecuniary contributions which they afforded towards the support and maintenance of the war. While Heraclius, the præfect, landed on the coast of Tripoli, and subdued the whole country through which he advanced, Marcellinus who, from a subject, had raised himself into the character of an independent prince, or potentate, became suddenly reconciled to his imperial masters, and joining his army in the common cause, as it then appeared to be considered, threw a weight into the scale which could not fail to create additional terror in the heart of the Vandal.

The efforts of the reclaimed revolter were amply successful. Genseric was forcibly driven from the island of Sardinia, which was justly considered as one of the most important posts he held; and the naval glory of the west appeared, for a moment, to rise in competition with the consequence of the eastern empire. The expence incurred by the equipment of this armament, and the extent of it, which, fortunately for the satisfaction of posterity, have been preserved with no inconsiderable degree of precision, afford some points of information rather interesting in respect to the maritime history of that time. While the emperor on his part contributed out of his private income and property, a sum which, added to such part of the public treasure as was subject to his disposal, equalled seven hundred and fifty thousand pounds sterling, the contributions voluntarily given or levied on the subject, amounted to no less than two millions five hundred thousand pounds, making in the aggregate the immense total of three millions and a quarter sterling, according to the present computation: an amount almost exceeding credibility, when the difference in the value of money at that time of day and the present is fairly considered. It must, however, be observed, that the cities, and indeed the whole empire, were reduced, some few individuals excepted, to a state of extreme poverty in consequence of this very extensive gift *.

The force is said (a corroborative proof that the account of the expenditure is by no means incorrect) to have amounted to eleven hundred and thirteen sail of vessels, on board which were embarked upwards of an hundred thousand men; so that when the army under Heraclius, with the auxiliary fleet and

* Mr. Gibbon calculates it to have amounted to five millions two hundred thousand pounds, but this is certainly far over-rated: the more moderate account is sufficiently immense to excite the wonder of the modern enquirer, if not his hesitation and doubt of its authenticity. Of this, however, there appears, from the concurrent evidence of manifold testimony, but little, or, to say the truth, no reason to doubt.

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army of Marcellinus, are added to the forces of the empire, the armament might certainly be said to vie with those of Persia, in the most extravagant days of her warlike profusion. The event, however, proved, that numbers, notwithstanding they might promise, could not insure success, and that a fleet or army, powerful as the apparent force might be, were of little avail, provided a leader was wanting who could direct it with judgment and dexterity, as well as ward off the blows that might be aimed at it by its opponents *.

" Expe-

* The accounts given by all authors very nearly tally with each other on this occasion; and it may not be impertinent, perhaps, to introduce the corroborative testimony of the leading facts as given by them.—Leo resolved, at all events, to revenge the affront offered to the Eastern empire; and accordingly, the following year, 468, when Anthemius alone was consul, he fitted out the greatest fleet, says Procopius, the Romans had ever had. Cedrenus writes, it consisted of one thousand one hundred and thirteen ships, each ship having one hundred men on board. Theophanes and Nicephorus will have no fewer than one hundred thousand ships to have been employed in this expedition; a number altogether incredible. To the forces of Leo were joined all the best troops of the west, under the command of Marcellinus, who reinforced them with a chosen body of men raised in his own dominions. Leo gave the chief command of this formidable fleet to Basiliscus, brother to his wife Verina, who had frequently overcome the barbarians in Thrace. Under him commanded John, a person of extraordinary courage, and great experience in war. The island of Sicily was appointed the place of general rendezvous. From thence Marcellinus was to sail for Sardinia, which the Vandals had lately seized; Heraclius, of Edessa, a brave and experienced officer, for Libya; and Basiliscus, with the greatest part of the fleet, and the flower of the troops, to steer a direct course to Carthage. Marcellinus, pursuant to this plan, landed in Sardinia, and made himself master of that island, while Heraclius, debarking unexpectedly in Libya, defeated the Vandals, who attempted to oppose him, and reduced, with incredible expedition, Tripolis, and all the other cities of that province. Genseric, receiving at the same time news of the loss of Sardinia and Libya, and of the arrival of the Roman fleet at Cape Mercury, about thirty miles from Carthage, began to look upon himself as irretrievably lost, and is even said to have had some thoughts of yielding up Africa to the Romans, and retiring elsewhere. Indeed, if Basiliscus had, during the panic which had seized the barbarians, marched directly to Carthage, he might have easily made himself master of that city, and put an end to the war at once; but his dilatory proceedings giving Genseric time to recover from his consternation, he began to despise the Roman admiral, and had even the confidence to send deputies to him, begging a truce of five days, that he might settle with him the conditions on which he was to submit to Leo. Basiliscus readily consented to the truce: during which Genseric, taking, one night, advantage of a favourable wind, sailed unexpectedly out of the harbour with a great number of fireships, which, being by the wind driven full sail upon the Roman navy, set fire to many of their ships, and threw the whole fleet into the utmost confusion. The next morning Genseric's fleet appeared drawn up in the line of battle; and, falling upon the Romans before they could recover themselves from their terror and consternation, took several of their ships, sunk others, and obliged the rest to save themselves in the best manner they could. John, who commanded under Basiliscus, and was no way privy to this treachery, after having killed, with his own hand, an incredible number of barbarians, threw himself, when overpowered, on a plank into the sea. Genso, the son of Genseric, greatly enamoured

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" Experience," says Mr. Gibbon, who has minutely followed the best historical authorities, on which he has himself made the most sagacious and correct remarks, " has shewn, that the success of an invader most commonly depends on the vigour and celerity of his operations. The strength and sharpness of the first impression are blunted by delay; the health and spirit of the troops insensibly languish in a distant country; the naval and military force, a mighty effort which perhaps can never be repeated, is silently consumed; and every hour that is wasted in negociation, accustoms the enemy to contemplate and examine those hostile terrors, which, on their first appearance, he deemed irresistible. The formidable navy of Basiliscus pursued its prosperous navigation from the Thracian Bosphorus to the coast of Africa. He landed his troops at Cape Bona, or the promontory of Mercury, about forty miles from Carthage. The army of Heraclius, and the fleet of Marcellinus, either joined or seconded the imperial lieutenant; and the Vandals, who opposed his progress by sea or land, were successively vanquished. If Basiliscus had seized the moment of consternation, and boldly advanced to the capital, Carthage must have surrendered, and the kingdom of the Vandals was extinguished. Genseric beheld the danger with firmness, and eluded it with his veteran dexterity. He protested, in the most respectful language, that he was ready to submit his person,

enamoured with his courage, and gallant behaviour, offered him his life and liberty; but the brave commander answering, 'It shall never be said that John owed his life to dogs,' quitted his plank, and was drowned. As for Basiliscus, Zonarus writes, that, in the heat of the engagement, he all on a sudden tacked about, and, crowding all his sails, betook himself to flight; which raised the courage of the enemy, and quite disheartened his own people. Marcellinus, after the reduction of Sardinia, returned to Sicily, with a design to pass from thence over into Africa; but, before he set sail, he was assassinated by an officer who commanded under him, not without the privity, as was supposed, of Anthemius, to whom his power gave no small umbrage. Heraclius, who was on full march from Libya to Carthage, being informed of the bad success of Basiliscus, thought it advisable to turn back, and hasten into the territories of the empire. Basiliscus returned to Sicily with the few ships that had escaped, having lost upwards of fifty thousand men. From Sicily he returned to Constantinople, and there, as his treachery was publicly known, took sanctuary in the church of St. Sophia. Though both the emperor and people were highly incensed against him, yet, by the mediation of the empress Verina, his sister, his life was spared, and leave granted him to retire to Heraclea in Thrace. Such was the issue of this unhappy expedition, which is said to have cost both empires above an hundred and thirty thousand pounds weight in gold; not only the two princes, but all governors, and other persons in employments, cheerfully contributing large sums, to defray the charges of an enterprize so advantageous to the empire. Priscus, the historian, who flourished at that time, wrote a very minute and exact account of it; but his work has not reached our time.

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and his dominions, to the will of the emperor; but he requested a truce of five days to regulate the terms of his submission; and it was universally believed, that his secret liberality contributed to the success of this public negociation. Instead of obstinately refusing whatever indulgence his enemy so earnestly solicited, the guilty, or the credulous Basiliscus consented to the fatal truce; and his imprudent security seemed to proclaim, that he already considered himself as the conqueror of Africa. During this short interval, the wind became favourable to the designs of Genseric. He manned his largest ships of war with the bravest of the Moors and Vandals; and they towed after them many large barks, filled with combustible materials. In the obscurity of the night, these destructive vessels were impelled against the unguarded and unsuspecting fleet of the Romans, who were awakened by the sense of their instant danger. Their close and crowded order assisted the progress of the fire, which was communicated with rapid and irresistible violence; and the noise of the wind, the crackling of the flames, the dissonant cries of the soldiers and mariners, who could neither command, nor obey, increased the horror of the nocturnal tumult. Whilst they laboured to extricate themselves from the fireships, and to save at least a part of the navy, the gallies of Genseric assailed them with temperate and disciplined valour; and many of the Romans who escaped the fury of the flames, were destroyed or taken by the victorious Vandals. Among the events of that disastrous night, the heroic, or rather desperate, courage of John, one of the principal officers of Basiliscus, has rescued his name from oblivion. When the ship, which he had bravely defended, was almost consumed, he threw himself in his armour into the sea, disdainfully rejecting the esteem and pity of Genso, the son of Genseric, who pressed him to accept honourable quarter, and sunk under the waves; exclaiming, with his last breath, that he would never fall alive into the hands of those impious dogs. Actuated by a far different spirit, Basiliscus, whose station was the most remote from danger, disgracefully fled in the beginning of the engagement, returned to Constantinople with the loss of more than half of his fleet and army, and sheltered his guilty head in the sanctuary of St. Sophia, till his sister, by her tears and entreaties, could obtain his pardon from the indignant emperor. Heraclius effected his retreat through the desert, Marcellinus retired to Sicily, where he was assassinated, perhaps at the instigation of Ricimer, by one of his own captains, and the king of the Vandals expressed his surprise and satisfaction, that

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that the Romans themselves should remove from the world his most formidable antagonists.

" After the failure of this great expedition, Genseric again became the tyrant of the sea; the coasts of Italy, Greece, and Asia, were again exposed to his revenge and avarice; Tripoli and Sardinia returned to his obedience; he added Sicily to the number of his provinces; and before he died, in the fulness of years and glory, he beheld the final extinction of the empire of the west."

Such was the fate of the navy of that empire which had once kept in awe the whole of the universe then known, and such was the luckless expenditure of a treasure which, had it been properly applied, or the armament which it would have produced been ably conducted, might not only have proved the preservation of the imperial dignity, but effected its restoration to that state of grandeur and power with which it had, a few centuries preceding, astonished the whole world. As it was, it resembled the last and short, though spirited emanations of a taper, immediately previous to its final extinction. After this time, the emperor of the west dragged on a precarious existence, not only in respect to power, but the bare title itself, till a final period was put to it a few years afterwards by the deposition of Augustulus, and the modest assumption by Odoacer, his conqueror, of the title of king of Italy. Never was the extraordinary fluctuation of human affairs more conspicuous than in the fate of that great, but unfortunate man. After having raised himself from the humblest state to the rank of a monarch, merely by his own intrinsic merit; after having exercised the functions of royalty with a dignity, a philanthropy, and benevolence, which in those distant ages were very uncommon; after having subdued Italy, and defended his conquest with a gallantry that merited a long and undisturbed reign; he fell a victim to the better fortune of Theodoric the Goth. The success of this enterprising chief, who had commenced his fortunate career under the immediate protection and patronage of the eastern emperor, at length excited no inconsiderable degree of alarm in the heart of his employer. After having ineffectually attempted the subversion of the Gothic power, and lost the flower of his troops in the rash undertaking, the scene of warfare became suddenly transferred to the sea, and a fleet, consisting of two hundred vessels, sailed from Constantinople, for the petty purpose of making a desultory descent on the coasts of Calabria and Apulia, where the enormities of Genseric, the Vandal, still continued to be remembered with horror. The extent of the armament was better suited to the condition of a corsair, than to the

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the rank of an emperor; for the fleet, respectable as it might appear on the score of numbers, was incapable of conveying a larger force than eight thousand men. Nevertheless, so destitute was the Goth of any means by which he could oppose them, that the fleet of the Byzantines attacked the strong and ancient city of Tarentum, did no inconsiderable mischief to the country itself, very materially interrupted its commerce, and returned at last with impunity to its own ports, in all the pride and arrogance of a victory obtained over the Goths; but it was evident, that all the mischief which had taken place had most injuriously fallen on the Italians, whom the Goths had reduced to the abject condition of vassals, and whom the Byzantines still affected to honour with the familiar appellation of brethren.

Theodoric, nothing dismayed at these partial and inconsiderable advantages, immediately constructed and drew together a fleet, consisting, according to the most authentic accounts, of one thousand light vessels; but it is shrewdly remarked, that these armed vessels, or boats as they might be more properly stiled, must have been in individual force, and in general dimensions, inferior to those which so many centuries earlier had, under the command of Agamemnon, assisted at the siege of Troy. How this speedily formed navy might have answered the expectation of the Goth, had there been an actual necessity for an encounter, is a point which it is now become impossible to determine; for the timidity of the Roman, excited by the firmness as well as by the activity of his opponent, shrunk in dismay from all future conflict, and the emperor thought himself happy in receiving peace on such terms as the magnanimity of his antagonist thought it not derogatory to his own dignity to offer him.

The declining sun of the Roman empire had now nearly descended to the political horizon. A very considerable number of provinces had been either abandoned to their fate, and left to the protection of their own liberties, by the imbecillity of their former conquerors, or they had been forcibly wrested from their long state of vassalage by nations, which the once polished masters of the world affected to consider as barbarians and robbers. Upwards of one hundred years had elapsed since Britain itself, the subjugation of which had cost Cæsar and his successors the lives of such a multitude of their best troops, had been left entirely to its fate, and the precarious mercy of the Scots and Picts. The very name of the western empire had been abolished for half a century, and the power of the eastern seemed rapidly approaching to the same ignominious termination. The reign of the celebrated Justinian,

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nian, however, appeared to promise for a short time a respite from its expected fate. The fostering protection afforded to commerce threw in some assistance to the finances of the state, and the gallantry of the generals who commanded its armies, particularly that of the renowned Belisarius, raised for a moment the credit and consequence of their former discipline and prowess. The reform, however, was unstable, and could not be permanent, because it had unfortunately taken place in a quarter which could not fail of proving in the end injurious to the state. Had the efforts of commerce been prudently directed in their proper channel, had they ministered only to the real wants of the people, instead of fostering their luxuries, the government would have rapidly acquired additional strength, instead of finding its subjects and supporters enervated, and incapable of contributing to its strength.

Silk had, for a long time, been in some measure an article of Roman dress. Though its use had been repeatedly censured by the graver part of the citizens, yet there were some persons, as will be invariably the case in all countries whatever, who were hardy enough to bid defiance both to ridicule and satire. The Roman ladies became infected with the vanity, which though slowly, yet progressively encreased in influence, and in power. The more opulent of the Roman people, and even the inhabitants of the distant provinces, became almost magically affected by the example of Heliogabalus, the emperor, who, on account of his elevated rank, and his public appearance in a silken robe, appeared to countenance and protect a similar extravagance among his subjects. In the time of Justinian, this commercial intercourse with China, the only country from whence that article could be procured in any quantity, had risen to a very considerable height. Nevertheless, from its immense value, considering its bulk and weight, the traffic was carried on entirely by means of caravans, notwithstanding the land journey was unavoidably pursued through the most dreary and dangerous deserts for a space of nearly eight months. The art of navigation, and the assistance capable of being rendered it by the knowlege of astronomy, was as yet but very imperfectly understood, and the wonderful properties of the loadstone remained totally hidden from the mind of Europeans. The Chinese, who were far greater adepts than any of those people who were considered as the most enlightened and scientific in the universe, sought neither to encrease their stock of knowlege, nor to promulge what they possessed; so that all intercourse with the east was absolutely precluded,

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cluded, except through the tedious medium just mentioned. The tempestuous seas raging round the southern promontory of Afric, would at that time have positively precluded all intercourse, even had the audacity of Europe been equal to the attempt. Ere such a navigation could be undertaken with any degree or prospect of safety, it was necessary that some material change should take place in the practice of Marine Architecture; and Providence, as it were in apparent compassion to the lives of the human race, with-held the knowlege that the passage to India was practicable by sea, till the means of accomplishing the voyage were, by experience and improvement, rendered equivalent to the magnitude of the undertaking.

The wars of Belisarius, undertaken with a force apparently contemptible when compared with that which, in the earlier ages, was sent forth against foes, or even rebels, occupying a province of little import, prove either that the power of the Roman empire was considerably impaired, that the force of the Vandal conquerors, who had caused Rome to tremble to its very foundations, had experienced a similar diminution, or that the science of war had advanced so materially as a matter of study, that the fate of nations no longer depended on the actual force of fleets, or of armies, but on the skill of those who commanded them. Contracted as they certainly were, comparatively speaking, in respect to numbers, modern historians have thought most highly of the exertions made by the emperor of the east on this important occasion.—"The preparations for the African war," says Mr. Gibbon, "were not unworthy of the last contest between Rome and Carthage. The pride and flower of the army consisted of the guards of Belisarius, who, according to the pernicious indulgence of the times, devoted themselves, by a particular oath of fidelity, to the service of their patron. Their strength and stature, for which they had been curiously selected, the goodness of their horses and armour, and the assiduous practice of all the exercises of war, enabled them to act whatever their courage might prompt; and their courage was exalted by the social honour of their rank, and the personal ambition of favour and fortune. Four hundred of the bravest of the Heruli marched under the banner of the faithful and active Phares: their untractable valour was more highly prized than the tame submission of the Greeks and Syrians; and of such importance was it deemed to procure a reinforcement of six hundred Massagetæ, or Huns, that they were allured by fraud and deceit to engage in a naval expedition. Five thousand

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thousand horse and ten thousand foot were embarked at Constantinople for the conquest of Africa, but the infantry, for the most part levied in Thrace and Isauria, yielded to the more prevailing use and reputation of the cavalry; and the Scythian bow was the weapon on which the armies of Rome were now reduced to place their principal dependance. From a laudable desire to assert the dignity of his theme, Procopius defends the soldiers of his own time against the morose critics, who confined that respectable name to the heavy armed warriors of antiquity, and maliciously observed, that the word Archer, is introduced by Homer as a term of contempt. Such contempt might perhaps be due to the naked youths who appeared on foot in the fields of Troy, and, lurking behind a tomb-stone, or the shield of a friend, drew the bow-string to their breast, and dismissed a feeble and lifeless arrow. But our archers (pursues the historian) are mounted on horses, which they manage with admirable skill; their head and shoulders are protected by a casque, or buckler; they wear greaves of iron on their legs, and their bodies are guarded by a coat of mail. On their right side hangs a quiver, a sword on their left, and their hand is accustomed to wield a lance or javelin in closer combat. Their bows are strong and weighty; they shoot in every possible direction, advancing, retreating, to the front, to the rear, or to either flank; and as they are taught to draw the bow-string not to the breast, but to the right ear, firm indeed must be the armour that can resist the rapid violence of their shaft. Five hundred transports, navigated by twenty thousand mariners of Egypt, Cilicia, and Ionia, were collected in the harbour of Constantinople. The smallest of these vessels may be computed at thirty, the largest at five hundred tons; and the fair average will supply an allowance, liberal, but not profuse, of about one hundred thousand tons, for the reception of thirty-five thousand soldiers and sailors, of five thousand horses, of arms, engines, and military stores, and of a sufficient stock of water and provisions for a voyage, perhaps, of three months. The proud gallies, which in former ages swept the Mediterranean with so many hundred oars, had long since disappeared; and the fleet of Justinian was escorted only by ninety-two light brigantines, covered from the missile weapons of the enemy, and rowed by two thousand of the brave and robust youth of Constantinople. Twenty-two generals are named, most of whom were afterwards distinguished in the wars of Africa and Italy: but the supreme command, both by land and sea, was delegated to Belisarius alone, with a boundless power of acting according to his discretion, as if the emperor himself were

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present. The separation of the naval and military professions is at once the effect and cause of the modern improvements in the science of navigation, and maritime war. In the seventh year of the reign of Justinian, and about the time of the summer solstice, the whole fleet of six hundred ships was ranged in the martial pomp before the gardens of the palace. The patriarch pronounced his benediction, the emperor signified his last commands, the general's trumpet gave the signal of departure, and every heart, according to its fears or wishes, explored, with anxious curiosity, the omens of misfortune and success.

Again. "In the navigation from the Hellespont to Peloponnesus, which the Greeks, after the siege of Troy, had performed in four days, the fleet of Belisarius was guided in their course by his master galley, conspicuous in the day by the redness of the sails, and in the night by the torches blazing from the mast head. It was the duty of the pilots, as they steered between the islands, and turned the capes of Malæa and Tænarium, to preserve the just order and regular intervals of such a multitude of ships. As the wind was fair and moderate, their labours were not unsuccessful, and the troops were safely disembarked at Methone, on the Messinian coast, to repose themselves for a while after the fatigues of the sea."

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CHAPTER THE ELEVENTH.

Remarks on the Account of the Expedition sent under the Command of Belisarius for the Reduction of Africa—Causes of the contradictory and exaggerated Accounts frequently given of the Roman, as well as other Navies—State of Marine Architecture in the Reign of Justinian—Force of the Vandal Fleet at the Time Africa was invaded by Belisarius—Success of the Roman Generalissimo—Surrender of Italy with that of Rome itself, to Belisarius—unsuccessful Attempts made by the Goths to recover it—the Capture of it by Totila—Account of an extraordinary Species of Fireship—low State of the Roman Navy—the Capture of Cyprus, and Demolition of the Colossus at Rhodes by the Saracens—Discomfiture of the Saracen Fleet—the Siege of Constantinople—Account of the Greek Fire—the Naval Wars of Justinian the Second—Siege and Conquest of Constantinople by Theodosius the Usurper—formidable Naval Armament fitted out by the Saracens—its Defeat by that of the Imperialists—the Island of Rhodes ravaged by the Saracens—the Destruction of the invading Fleet by a dreadful Tempest—Conduct of Charlemagne—Extent of his Empire, and the Means by which he reduced it to Subjection—Origin of the Venetian State—its aboriginal History, with a short Description of the Country—different Classes into which the Inhabitants of Europe might be divided—Revival of Commerce by the Venetians—comparative View of the Conduct pursued by different commercial States, and Remarks on the Causes of their Rise and Fall—Effects of Commerce—Causes of its Depression, as well as of its Revival—Conduct of the Venetians—Revolution in Naval Tactics—Account of the Venetian Galley—its Magnificence compared with that of the more early Ages.

THE account given in the preceding chapter, which has been carefully and laboriously collected by the ingenious author from the best authorities extant, forms the most curious epitome that is perhaps existing of the state of Marine Architecture in the sixth century. Mankind had not, in that early age, made such sufficient advances towards improvement or perfection, as encouraged any predilection in favour of a particular system, or caused those variations between the vessels of the very few countries, then aspiring to the rank of maritime powers, which in more modern times have so strikingly served to distinguish the ships of one nation from those of another. For this

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reason, as already frequently remarked, the account of vessels composing the Roman fleet, might strictly serve for that of the Vandals also, against whom they were equipped. It is much to be lamented, all historians, whether ancient or modern, have not pursued the same laudable plan with Mr. Gibbon, of rendering their accounts perfect and complete; but they have in general contented themselves with recording the number of vessels composing fleets, but have most provokingly left the modern enquirer either totally in the dark as to the dimensions of them, or have given such vague and improbable points of information, as may induce a discredit, if not total disbelief of the whole. A particular detail of the military force would be difficult, if not impossible, but would, if given with the minuteness and precision of Mr. Gibbon, have enabled the modern enquirer to form no imperfect judgement of the principles of Marine Architecture, as practised by the ancients, even though the more scientific species of dissertations were wanting for the purpose of transmitting them to posterity.

In a note subjoined by the author just quoted, to his calculation of the tonnage comprized in the fleet, he gives the following ingenious remark:—— "The text appears to allow for the largest vessels 50,000 medimini, or 3000 tons, since the medimnus weighed 160 Roman, or 120 averdupois pounds. I have given a more rational interpretation, by supposing the Attic stile of Procopius conceals the legal and popular modius, a sixth part of the medimnus, (Hooper's Ancient Measures, p. 152, &c.) A contrary, and indeed a stranger mistake, has crept into an oration of Dinarchus, (contra Demosthenem, in Reishe Orator. Græc. tom. iv. p. 11, 34.) by reducing the number of ships from 500 to 50, and translating μεδίμνοι, by mines, or pounds. Cousin has generously allowed 500 tons for the whole of the imperial fleet! Did he never think?" The preceding observations may clearly serve to prove the various inaccuracies with which historical accounts abound, and the little reliance that is to be placed in their correctness, even where they do not militate against common sense and reason. Many writers, less inquisitive than Mr. Gibbon, would have been content with stating one opposite, or the other, which ever had suited their purpose, or their temper, best; that is to say, either that vessels were then in common use, which were capable of carrying three thousand tons each, or that the fleet destined for the recovery of Afric was an assemblage of mere boats. Instances of positive assertions, wherein the accounts have been exaggerated or depressed in as great a degree as the foregoing,

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going, frequently occur to perplex the mind, without having experienced the aid of an ingenious commentator to elucidate them, or it being possible, perhaps, for the keenest and most assiduous modern critic to collect materials sufficient for the purpose.

It appears from the remarks made on this expedition, that although the art of ship-building had not assumed to itself a perfectly regular system, the greater part of those excrescences and extravagant attempts made by different nations, particularly the Romans, to astonish the rest of the world with the magnitude and supposed grandeur of an enormous floating fabric, unwieldy and incapable of being rendered serviceable in naval engagements, had totally subsided. Experience had proved the futility, and frivolity of the attempt, if the diminutive term be allowed, in an object of such magnitude, and reason seemed to have at length discovered the proper standard of use and convenience. The dimensions of the transport vessels were for the greater part such as might be used, without any impropriety whatever, even at the present day, and the allowance of tonnage is as well proportioned as perhaps the most scientific modern officer would have wished. There is nothing repugnant to an unqualified credit throughout the whole of the statement collected by Mr. Gibbon. Even in the vessels of war, for such they are to be considered, which were equipped to protect the rest of the fleet, may be discovered the parent, or first stock, from whence the galley in more recent use has been produced, without having undergone any material change or alteration in its several descents.

The fleet of the Vandals, or at least the greater part of it, was at that time absent. It amounted to one hundred and twenty gallies, which had been employed under Zano, the brother to Gelimer, who was their unfortunate sovereign, in the recovery and conquest of the fruitful island of Sardinia, which had been originally subdued by Genseric, and afterwards restored to the dominion of the Romans by the sword of Marcellinus. On the first intelligence of his brother's discomfiture, Zano embarked all his troops, which are said to have amounted to forty thousand men, and hastened, with all possible expedition, to the coast of Afric. These vessels, each of which must have been capable of conveying nearly three hundred and fifty soldiers on an average, exclusive of their own proper crews, and the necessary warlike stores, as well as military engines, must have been considerably superior in dimensions to those which composed the naval armament under Belisarius: but a second land conflict proving equally as unfortunate to the hopes and throne of Gelimer as the

the first had done, put a total period to the short-lived empire of the Vandals, whose kingdom, as well as their fleet, passed quietly under the dominion of Rome without the smallest subsequent contest or struggle. The Roman arms once more became irresistible: they were completely masters of the sea; and Sicily, the contention for which beautiful island had given birth to the first Punic war, as well as caused the destruction of so many fleets and armies, sent forth from Carthage, and from Rome, was recovered by Belisarius almost without opposition. The fortress of Palermo alone, which was considered as impregnable, and was defended by a Gothic garrison for Theodotus, presumed to resist. Belisarius is reported to have made use on this occasion of a most singular nautical contrivance, which, were it only on account of its singularity, deserves particular remembrance. Having conveyed his ships to the very head of the harbour, he, not without incredible labour, hauled up to the mast heads of the gallies, by means of blocks and ropes, the boats that belonged to them, which having filled with troops of archers, these were, on account of their elevated station, enabled to drive the defenders from the ramparts. The consequence was fatal to them; and the continuance of hostilities on such unequal terms, would have proved an act of madness, and not bravery.

The reduction of Italy and Rome followed as an apparently natural consequence. The Goths, however, having recovered from the first paroxysms of their consternation, resolved to make one grand effort to restore their fading consequence, and re-establish themselves in that city which, though it had fallen into their hands by conquest, certainly not the most equitable right existing, was nevertheless considered of as high a value as though it had been hereditary. One hundred and fifty thousand Goths, with their sovereign Vitiges at their head, assembled at Ravenna, and marched forward, in the highest confidence of success, to undertake the siege of the once celebrated seat of empire; but neither on this occasion, nor any part of the subsequent contest, which, owing totally to the gallantry of one man, Belisarius, produced almost the total ruin of the Goths in their national character, was the smallest use made, nor indeed, owing to the circumstances of the war, was there any necessity for the employment of a naval force. The wars which soon afterwards took place between the empire and the Gepidæ, the Bulgarians, the Franks, the Schlavonians, and the Persians, were severally carried on, in the strictest possible sense of the word, by military operations. In fine, there appeared not a single country with which the Roman, or, to speak more correctly, the Constantinopolitan empire, had any

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connection either in amity, or with which it was engaged in war during a considerable part of the sixth century, that possessed, or appeared to covet, a navy, except the Abyssinians, a people far removed from the possible seat of war, but with whom Justinian thought it not derogatory to his imperial dignity to enter into a commercial intercourse. They are, without the necessity of fiction or exaggeration, represented as a people far excelling, in their knowlege of arts and of science, any of the nations then esteemed barbarous, which surrounded them; for they are reported to have carried on a considerable trade with India, but the principles adopted by them in the construction of their vessels, are too vaguely or too romantically described to merit any serious attention. It seems, however, far from improbable, that this very enlightened people, although they could not aspire to that degree of improvement which the shipping of Europe boasted, yet they held a far superior rank as marine architects to the Chinese, whose science and whose practice, particularly in the art of ship-building, is supposed to have remained in nearly a quiescent state from a period considerably antecedent to the reign of Justinian.

To return again to the history of Rome, the subsequent siege of the unfortunate and apparently devoted capital by Totila, the Goth, furnished a new opportunity for the genius and bravery of the great Belisarius to display itself. The assailants, aware of the approach of that chief, and conscious of his very superior abilities, had prudently taken every precaution their wisdom and their science could suggest, to prevent his accomplishing the object of his march, and relieving the besieged, who were reduced to the most wretched state of misery and distress. An immense boom, or floating raft, of timber, was thrown across the river, and the approach to it was defended by two fortresses, or castles, garrisoned by the best troops in the Gothic army. To render the obstacles to attack still more formidable, a strong chain was laid across the Tyber, in front of the works just mentioned, and flanked from the shore by detachments of archers, chosen and selected with care from among their comrades, on account of their extraordinary expertness. All these multiplied impediments proved insufficient to avert the design, or damp the ardour of the intrepid Roman. After providing two hundred large boats, he caused them to be properly fitted with mantelets, or blinds, formed of thick planks, through which proper loopholes were cut for the discharge of arrows, and

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and having manned a considerable number of them with his best infantry, sent them forward up the river, the remainder, which were laden with provisions, following in the rear. In front, and as the vanguard to the whole, a structure, worthy of the genius of Archimedes himself, was, by immense labour, worked with no inconsiderable degree of swiftness against the current of the river. It was a species of fireship, or at least intended to be applied to the same purpose as one, but was of a very particular and uncommon construction. It was built in form somewhat similar to those towers which were used by the Romans, and the Greeks before them, when engaged in land sieges, and being filled with archers, they were worked as near as possible to the walls, from which the dexterity of the assailants, on account of their elevated situation, soon drove those to whom the defence of the works was entrusted. The structure in question was supported between two vessels, and entirely filled with the combustibles usually selected on such occasions. Belisarius, who led the attack, encouraged his gallant followers, in so high a degree, by his example, and his words, that the fleet was impelled with such force against the chain, as caused it to yield to the shock, and the detachments which were posted on the shore to defend it, betook themselves to instant flight. The vessels which supported the fire tower instantly grappled the raft, or boom, and almost as instantaneously, one of the forts, built for the purpose of protecting it, and which was also in form of a tower, was in flames. The want of co-operation on the part of the besieged, owing, as it is said, to the treachery or avarice of the governor, rendered this success of no avail, so that Belisarius, and his gallant followers, after having on their parts indisputably obtained victory, were under the necessity of retiring with every mortification naturally attendant on actual defeat.

Mention is made of a fleet being collected, about two years after this time, for the relief of Ruscianum, which was then closely pressed by the Goths, who, after having been once more driven from Rome by the gallantry and good conduct of Belisarius, had, in a subsequent inroad, been successful enough to drive their former conqueror to the utmost extremity. But no mention whatever is made either of its force, or its operations, both of which, it may be consequently concluded, were but trivial.

The Gothic arms having again acquired an ascendancy, Rome once more fell under the dominion of Totila, who having, with expedition almost incredible, drawn together a fleet consisting of four hundred vessels, suddenly attacked

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attacked and made himself master of the whole island of Sicily, which he plundered and ravaged with all the implacable fury of a barbarian. Sardinia and Corsica being rapidly added to his conquests, he aspired to that of Greece also, whither he proceeded at the head of a fleet, consisting, according to report, of three hundred gallies, all properly fitted for war. The Goth, however, in the midst of his success, displayed a pacific temperance that would have done honour to the most civilised warrior. He not only offered to accept of any equitable terms of peace which Justinian might think it expedient and proper to offer, but reminding the emperor, in the most complacent manner, of those treaties of amity which had before subsisted between the Roman emperor and the Gothic nation, offered, at the same time, the best services his army was capable of affording, towards the protection of that empire whose armies he had subdued.

Justinian, arrogant in the contemplation of his nominal rank, continued deaf to these liberal offers. He equipped a fleet, formidable indeed in its appearance, but which, through the want of a sufficient commander, was incapable of rendering that service to the empire, which was naturally expected from it. To so low an ebb had the naval power of the state fallen, that about the year 552, when an army had, with the utmost difficulty, been levied, and put under the orders of Narses, the eunuch, the empire found itself totally incapable of providing a fleet sufficient for its transport, though the voyage extended only from the eastern side of the Adriatic, to Italy. The victory of the Roman general, who, in defiance of every obstacle, forced his way like a cataract, annihilated the empire of the Goths; but this success was effected by an operation entirely military; and no subsequent mention is made of any naval enterprises undertaken, either on the part of, or against the empire, subsequent to this time, till the year 579: when Nurhirvan, or Chosroes, the Persian, having been discomfited by the Roman, or rather the Constantinopolitan general, the latter penetrated to the Caspian sea, and if it could be said to deserve that name, equipped a fleet, with which he desolated Hyrcania; an awful lesson to the human race, that there is no spot, be it ever so secluded, and, as it may be supposed, consequently exempt from the horrors of war, but what may be rendered subject to the ambition and the ravages of a triumphant army.

The next subsequent mention made of any naval force, is that of a fleet equipped by Heraclius, the emperor, about the year 620, for the purpose of

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conveying himself and his treasure, together with the army of the empire, from Constantinople to Carthage, where he intended to seek an asylum. A strange but not unprecedented revolution in human affairs, that the very spot which had been the object of the most inveterate hatred when Rome might be considered as an infantine state, and which she ceased unremittingly to pursue, till she had caused her final and total destruction, should be selected and chosen by one of the emperors as the only spot in the world capable of affording him refuge. At the siege of Constantinople, which took place about the year 622, a fleet of gallies, constructed with two and three tiers of oars, is said to have been equipped by Heraclius, on the Bosphorus, and that the advantage he derived from so tremendous a force, as, speaking comparatively, it then proved, enabled him to destroy the inferior vessels of his Schlavonian besiegers, and save his capital from their ravages, as well as that of their allies, who were the principals in the dispute.

The reign of Constantine, son to Heraclius, and who was first known by the name of Heraclius also, was too short to be productive of any event worthy of particular notice. That of his son, who succeeded to the imperial throne under the name of Constans, became much more interesting. The first years of his reign, indeed, afford no very striking points; but in 648, Mahias, or Mathuvias, a Saracen chief, having equipped a powerful fleet, attacked, and without any very great difficulty rendered himself completely master of the island of Cyprus. This enterprise becomes the better entitled to notice, on account of its having proved the immediate forerunner of the final destruction of that once celebrated Pharos, the Colossus of Rhodes *, whither the Saracen next directed his arms, and where they proved as easily, and as rapidly successful, as they had done on the former occasion. These splendid victories and conquests raised, as an almost natural consequence, the

* This stupendous monument of ancient labour, ingenuity, and expence, had been unfortunately overturned soon after its erection by one of those grand and dreadful convulsions of nature called an earthquake, which threatened almost the annihilation of the whole island. The inhabitants being extremely addicted to superstition, pretended a prohibition, under an ancient oracular prophecy, from ever attempting its resuscitation, or re-erection, and considering the materials themselves as in great measure applied to a sacred purpose, would never permit the destruction of the fallen statue, or the conversion of the materials which composed it, to any other use. The Saracen, however, entertained no such scruples, but having caused it to be broken into small pieces, sold it to a merchant of the Jewish nation, who loaded nine hundred camels with the metal.

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spirit of emulation throughout the whole nation. A variety of inferior expeditions took place, all of which proved equally successful in proportion to their magnitude and extent. That however under Mathuvias maintained its pre-eminence, as being the most formidable. Encouraged by the uninterrupted tide of good fortune, which had carried his operations into the most prosperous current, he resolved, by one bold attempt, to make himself, if possible, complete and undisputed master of the eastern, or Constantinopolitan empire. This measure he attempted to carry into effect, by no less an enterprise than an attack on the metropolis itself. To this end he constructed, and collected together a very formidable naval force at Tripoli, in Syria, the success of which would probably have proved decisive as to the fate of Constans, had not the bravery of two persons put a sudden, and very unexpected stop to the whole enterprize.

These were two brothers, who though christians, and naturally considered as mortal enemies by the Saracens, were nevertheless, contrary to the usual policy of states when at war with each other, permitted to enjoy their liberty. In consequence of this oversight, they were enabled to break open the prison which was at that time crowded with captives made by Mathuvias in the course of the conquests, and victories he had before obtained. The release of these unhappy persons, whose condition was rendered desperate by the peculiar situation in which they stood, and to whom no alternative appeared left but that of death, or victory, caused the immediate destruction of the whole fleet, which, after having killed the commander, with others who ineffectually attempted to oppose them, they set fire to, and completely destroyed, with the exception of one vessel, reserved for the purpose of making their escape, which they were fortunate enough to effect. The Saracen, however, was not so easily to be diverted from an undertaking which he appeared to consider as certain of success. Having used a degree of expedition almost incredible in the equipment of a second armament, no less formidable than the first, he sailed to the coast of Lycia, where he fell in with, and engaged the imperial fleet, commanded by Constans in person. After a conflict less obstinately disputed than most of those which had preceded, the fortune of Mathuvias prevailed, and nothing but the civil feuds which continually arise among all people under the dominion of many independent chieftains, could in all probability have prevented the eastern diadem from falling completely into the

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power of its assailants, or at best submitting to the most arbitrary and imperious measures which they should think proper to impose.

After the death of Constans, who was murdered in a bath at Syracuse *, in revenge for the various, and dreadful acts of oppression, which he was in the daily habit of exercising towards the people, the Saracens again united their arms in consequence of some violence offered to one, or other of their garrisons. Africa, which was the first unhappy object of their vengeance, was dreadfully ravaged, and the fury of the assailants imperfectly glutted, though the blood of multitudes was shed to allay it, and the plunder of the cities, with the capture of more than fourscore thousand prisoners, who became slaves, might have been considered as a sufficient peace-offering to their ferocity and avarice. Sicily, in the following year, became the scene of their devastations. After having in the most outrageous manner committed the most unqualified depredations, and nearly desolated the whole island, they proceeded, with a similar intention, to Cilicia. After passing the winter at Smyrna, they entered Thrace in the month of April, 672: from thence they proceeded towards Constantinople, the siege of which city was immediately undertaken. The attempt, however, was continued for a very short space of time only, ere the approach of winter rendered it necessary for the assailants to retire to Cyzicus, and wait the return of a more favourable season for the renewal of their hostile operations. The events of the second year were no more favourable to conquest than those of the first had been; and a similar repetition, during a long, and, according to some authors, reiterated campaign seven times renewed †, proved equally inauspicious to the Saracen cause.

It was on this occasion that the Greek fire ‡, as it was called by some, and by others the sea fire, on account of its possessing the wonderful and destructive property

* About the year 668, twenty years after the conquest of Cyprus by Mathuvias.

† Others insist, that a peace was concluded between the Romans and the Saracens after the fourth year of the siege.

‡ The following particular account is given by Mr. Gibbon of this extraordinary and destructive composition:—"In the two sieges, the deliverance of Constantinople may be chiefly ascribed to the novelty, the terrors, and the real efficacy of the Greek fire. The important secret of compounding and directing this artificial flame, was imparted by Callinicus, a native of Heliopolis, in Syria, who deserted from the service of the caliph, to that of the emperor. The skill of a chymist and engineer was equivalent to the succour of fleets and armies, and this discovery or improvement of the military art was fortunately reserved for the distressful period when the degenerate Romans of the East were incapable of

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property of burning under water, and defying the utmost opposition of that element, was brought into more extensive use than had ever before been made of

of contending with the warlike enthusiasm and youthful vigour of the Saracens. The historian who presumes to analise this extraordinary composition, should suspect his own ignorance, and that of his Byzantine guides, so prone to the marvellous, so careless, and, in this instance, so jealous of the truth. From their obscure, and perhaps fallacious hints, it should seem, that the principal ingredient of the Greek fire was the *naptha*, or liquid bitumen, a light tenacious and inflammable oil, which springs from the earth, and catches fire as soon as it comes in contact with the air. The naptha was mingled I know not by what methods, or in what proportions, with sulphur, and with the pitch that is extracted from evergreen firs. From this mixture, which produced a thick smoak, and a loud explosion, proceeded a fierce and obstinate flame, which not only rose in perpendicular ascent, but likewise burnt with equal vehemence in descent, or lateral progress. Instead of being extinguished, it was nourished and quickened by the element of water; and sand, urine, or vinegar, were the only remedies that could damp the fury of this powerful agent, which was justly denominated by the Greeks the *liquid*, or the *maritime* fire. For the annoyance of the enemy, it was employed with equal effect by sea and land, in battle, or in sieges. It was either poured from the rampart in large boilers, or launched in red hot balls of stone or iron, or darted in arrows or javelins twisted round with flax or tow, which had deeply imbibed the inflammable oil. Sometimes it was deposited in fireships, the victims and instruments of a more ample revenge, and was most commonly blown through long tubes of copper, which were planted on the prow of a galley, and fancifully shaped into the mouths of savage monsters, that seemed to vomit a stream of liquid and consuming fire. This important art was preserved at Constantinople as the palladium of the state. The gallies and *artillery* might occasionally be lent to the allies of Rome, but the composition of the Greek fire was concealed with the most jealous scruple, and the terror of the enemies was encreased and prolonged by their ignorance and surprise. In the treatise of the administration of the empire, the royal author suggests the answers and excuses that might best elude the indiscreet curiosity and importunate demands of the barbarians. They should be told, that the mystery of the Greek fire had been revealed by an angel to the first and greatest of the Constantines, with a sacred injunction, that this gift of heaven, this peculiar blessing of the Romans, should never be communicated to any foreign nation, that the prince and subject were alike bound to religious silence, under the temporal and spiritual penalties of treason and sacrilege, and that the impious attempt would provoke the sudden and supernatural vengeance of Heaven. By these precautions, the secret was confined above four hundred years to the Romans of the east, and at the end of the eleventh century, the Pisans, to whom every sea and every art were familiar, suffered the effects without understanding the composition of the Greek fire. It was at length either discovered or stolen by the Mahometans; and in the holy wars of Syria and Egypt, they retorted an invention contrived against themselves, on the heads of the christians. A knight who despised the swords and lances of the Saracens, relates, with heartfelt sincerity, his own fears, and those of his companions, at the sight and sound of the mischievous engine that discharged a torrent of Greek fire, (the *feu Gregeois*, as it is stiled by the more early of the French writers.) 'It came flying through the air,' says Joinville, 'like a winged long-tailed dragon, about the thickness of an hogshead, with the report of thunder, and the velocity of lightening, and the darkness of the night was dispelled by this deadly illumination.' The use

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of it. It was invented, as already related, by Callinicus, a Syrian *, and the injuries or discomfiture effected by it against the Saracen fleet, are most confidently reported to have been of the most serious and destructive nature. Wearied by losses, and despairing of future success, the assailants at length raised the siege, but their misfortunes ended not with the abandonment of their enterprize: for their fleet, on its return to port, being overtaken by a tempest off the Sicilian coast, was in great measure destroyed.

From this time, the Constantinopolitan empire appears to have enjoyed at least a naval quietude from the Saracens, till the seventh century had drawn nearly to a close. After an invasion of Africa, rendered successful by the treachery of Sergius, the general who commanded the imperial troops, and a subsequent expulsion from their conquest by means of the gallantry of the successor to that traitor, the Saracens had once more recourse to the equipment of a fleet. It rendered the most material service to their very desperate cause, for having obliged the Roman chief to retreat, in the best manner he could, to the sea coast, he was, with the greatest difficulty, able to reimbark his troops, and effect his retreat by sea to Constantinople.

The contest was continued with the utmost energy and fury on both sides, but was, for a few years after the event last mentioned, confined totally to military operations. Not long, however, subsequent to the commencement of the eighth century, Justinian the Second, who after having been driven from the imperial throne, and compelled to live in obscurity for some years, had been restored to his dignity by the exertions and friendship of Trebelis, king of Bulgaria, totally unmindful of the service and assistance which had been rendered him, made war on that prince, and equipped the most powerful armament the empire was capable of furnishing. The operations of his army, which burst at once like a torrent into Thrace, were completely unsuccessful: his troops were defeated, and he himself obliged to make his escape to Constantinople on board a light vessel. The fury of his navy was destined to fall on a different quarter; but no other information is given concerning it, except

use of the Greek, or, as it might now be called, of the Saracen fire, was continued to the middle of the fourteenth century, when the scientific or casual compound of nitre, sulphur, and charcoal, effected a new revolution in the art of war, and the history of mankind."

* See p. 136.

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the cruelty of the orders issued to the commanding officers, and the horrid precision with which they were carried into execution.

About the year 712, the Saracens again revived their former and apparently most favourite scheme of laying siege to Constantinople. But information of their intention having been conveyed to Anastasius, who, after the assassination of Justinian the Second, and the deposition of Philippicus, had ascended the throne, he immediately ordered a considerable number of light gallies to be constructed, for the purpose of opposing their passage through that narrow streight, now known by the name of the Dardanelles. The Saracens, finding their project discovered, and having placed their principal hope of success on being able to make a sudden and unopposed attack, or what is commonly called a coup de main, directed the course of their fleet to Phœnicia. In consequence of this measure, the emperor on his part ordered the imperial armament to rendezvous at Rhodes, where a mutiny taking place, not only rendered his whole plan of operations abortive, but caused the whole body of mariners and soldiers to throw off their allegiance to him, and declare in favour of Theodosius, who, though a person of mean extraction, had found means to insinuate himself into the favour of those people.

The usurper immediately determined on taking the most decisive and spirited measures in support of his newly acquired dignity, and proceeding at the head of that armament which had raised him to the throne, resolved to undertake the siege of Constantinople itself. In this enterprize he proved more successful than his rebellious usurpation merited, having made himself master of the city, after a close investiture by sea and land for the space of six months. Successful, however, as his operations proved in their commencement, he was unable to keep possession of his assumed diadem; for Leo, who had been appointed generalissimo by Anastasius, being powerfully supported not only by the Imperialists, but by the Saracens themselves, defeated the army of Theodosius, which was to oppose him, under the command of his son, and compelled him to abdicate his short-lived honours. About the year 719, the Saracens, who with that versatility which constantly marked their political conduct, had taken up arms against Leo, the creature of their own power, invested Constantinople both by sea and land. The naval force employed on this occasion, consisted, according to report, of two distinct, and, according to the term used by historians, mighty fleets: one equipped in Egypt, the other in Africa. These extensive preparations were nevertheless incapable of effecting

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effecting the hoped-for purpose, the greater part of the fleet having been destroyed either by the Greek fire, of which mention has been already made, or by those storms, and natural operations of nature, which not unfrequently render the best concerted plans ineffectual. At length, after a continued but unsuccessful series of assault for the space of several months, which some historians have prolonged even to the extent of two years, the besiegers were compelled to relinquish their project with disgrace.

Disappointed in this attempt, the Saracen chief, rendered more dreadfully furious by his discomfiture, sought to repair his wounded reputation by falling, with effect, on some less invulnerable quarter; but dying ere the armament was so fully completed as political prudence required, the command devolved on his successor, named Ized, who, with an energy and furious zeal which marked every enterprize undertaken by the people whom he led, ravaged the coasts not only of Italy and Sicily, but falling afterwards on Sardinia, reduced it to as great an extremity, as a desultory expedition, and the dreadful chastisement of what is called fire and sword, was capable of effecting. After this exertion, the naval operations of what might be quaintly called, at that time, the world, appeared to be totally suspended for the space of thirteen years; when Leo caused a very extensive naval armament to be fitted out, for the purpose of reducing Italy to subjection, and compelling its inhabitants to embrace the same religious principles which were adopted by himself. Misfortune, however, frustrated the tyrannical attempt, for his fleet was almost totally annihilated by a dreadful tempest which it encountered when in the Adriatic. An interval of nine years continuance, during which no mention is made of any naval expedition having taken place, followed the misfortune just mentioned. The Saracens then finding themselves much pressed, particularly in consequence of Constantine, who had succeeded Leo as emperor of the east, having invaded their territory, equipped a very formidable naval force, which they sent to Cyprus, where, according to a previous arrangement, a considerable number of gallies, or other vessels, properly and particularly equipped for war, together with a fleet of transports filled with land forces, were to have joined, and, if it were possible to indulge such an hope, set all opposition at defiance.

The expedition and superior intelligence of the imperialists frustrated the whole of the plan. The fleet from Constantinople attacking its enemies unexpectedly, and at a time when they were totally unprepared to receive them,

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them, destroyed the whole of this very formidable force, three vessels excepted, which appeared as though exempted by fate from the general disaster, for the purpose of spreading dismay more expeditiously, and conveying to their countrymen or adherents the earliest possible intelligence of the destruction which had overwhelmed their unfortunate friends and companions. This melancholy event appeared to have convinced the Saracens how futile the attempt would be, should they again endeavour to raise themselves into public or national consequence by the assistance of a naval power or fleet, for they totally abstained from any similar attempt for the space of nearly fifty years. Having then, as the forerunner of their future operations, collected an immense army, amounting, in the report of some historians, to no less than three hundred thousand fighting men, they compelled Nicephorus, the emperor, who then reigned, to consent to the payment of an heavy annual tribute, with other very disgraceful terms, as the price of an ignominious peace. This treaty, according to the general custom of nations with respect to such as are made under similar circumstances, being as scandalously broken, as it had been submissively entered into, the conquerors, in the following year, to render their depredations still more effectual, equipped a very numerous fleet, with which they attacked the island of Rhodes, and ravaged it with the most perfect impunity. The success was not, however, accomplished without mischief to themselves, the armament of the invaders having been assaulted on its return home, and almost totally annihilated by a tremendous tempest.

With the event just mentioned, it becomes necessary to close this section of history, with respect to the Roman and Constantinopolitan empires. It has not been possible to avoid interweaving with them, that of almost every other nation in the universe, which during the same period merited the appellation of a maritime power, or occasionally, through necessity, was compelled to assume that character. The commencement of the ninth century forms rather a remarkable epoch in the political history of the world; and it certainly were improper not to embrace so favourable an opportunity of drawing a comparative view of the state of nations with respect to nautical pursuits. At the birth of the emperor Charles, better known to the world by the distinguishing appellation of Charlemagne; the empire of the west, considered as the true representative of one part of the ancient Roman dominion, had completely sunk beneath the horizon, nor did it ever throw out the smallest emanation of that splendour with which it had once astonished the greater part of the

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world. Even the embers of its power appeared as though totally extinguished; but the genius of Charles, aided by his intrepidity and general ability, both as a warrior and a statesman, attempted to revive its fallen consequence under the same title, though the spot from whence it was derived, became far removed. Notwithstanding the dominion or rule of this great man extended over a very considerable part of Europe, yet neither necessity nor inclination appeared to have raised in him the smallest ambition of becoming a naval, as he had already rendered himself a military potentate. The cause is too obvious to require the necessity of explanation, and turns exactly on the same point as that, which in the instance of Rome, produced an almost total neglect of maritime pursuits, far as they were connected with the measures of the government, or state. Nature, or rather Providence, which had permitted his conquests, had put him in possession of local advantages sufficient to have allowed the establishment of a navy, which, in respect to force, might have subjugated the universe. But though national equity or justice may probably not hold forth chains sufficiently strong to fetter the mind, or the ambition of a conqueror, wisdom frequently does: so did it prove, in respect to the emperor Charles. His army had reduced under his subjection a territory which he knew, was quite as extensive as the human mind was capable of attending to the interests, and protection of, circumstances, than which there were none so likely to enforce the implicit obedience, and ensure the quiet submission of his people. To have equipped fleets for the gaudy but insignificant purpose of conquering distant countries, over which but a merely nominal dominion could be maintained, would have been derogatory not only to the character of a great prince, but of a man possessed of common sagacity. None of those districts or states, on whom his territories bordered, appeared willing to disturb the quiet of his reign by this new mode of attack, nor perhaps were they capable of doing it, had they been so disposed, owing to their inferiority in respect to power.

The Venetians, whose state was then almost in its infancy, appeared, at that time, as the only people who even in after ages might be capable of exciting the alarm, or drawing upon them the naval vengeance of the newly erected empire. The origin of this state is too singular an instance of what human assiduity and perseverance is capable of effecting, to be passed over in disgraceful silence. Driven by the furious conduct of the Huns from the lands they had inherited from their forefathers; the preservation of what was called their independence, though it were perhaps nearer the truth to say, their lives,

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lives, and such miserable remnant as they were capable of collecting out of the wreck of their fortunes, was the first object of their concern. They retired to a cluster of small islands, situated, as is well known, at the head of the Adriatic sea *, and this emigration, if the event could be said to deserve that

* Mr. Gibbon gives the following interesting account of the origin of this people :—" It is a saying worthy of the ferocious pride of Alaric, that the grass never grew on the spot where his horse stood. Yet the savage destroyer, undesignedly, laid the foundation of a republic, which revived, in the feudal state of Europe, the art and spirit of commercial industry. The celebrated name of Venice, or Venetia, was formerly diffused over a large and fertile province of Italy, from the confines of Pannonia, to the river Addua, and from the Po to the Rhætian, and Julian Alps. Before the irruption of the barbarians, fifty Venetian cities flourished in peace and prosperity. Apuleia was placed in the most conspicuous station, but the ancient dignity of Padua was supported by agriculture and manufactures ; and the property of five hundred citizens, who were entitled to the equestrian rank, must have amounted, at the strictest computation, to one million seven hundred thousand pounds. Many families of Aquileia, Padua, and the adjacent towns, who fled from the sword of the Huns, found a safe though obscure refuge in the neighbouring islands. At the extremity of the gulph where the Adriatic feebly imitates the tides of the ocean, near an hundred small islands are separated by shallow water from the continent, and protected from the waves by several long slips of land, which admit the entrance of vessels through some secret and narrow channels. Till the middle of the fifth century, these remote and sequestered spots remained without cultivation, without inhabitants, and almost without a name ; but the manners of the Venetian fugitives, their arts, and their government, were gradually formed by their new situation ; and one of the epistles of Cassiodorus, which describes their condition about seventy years afterwards, may be considered as the primitive monument of the republic. The minister of Theodoric compares them, in his quaint declamatory stile, to water fowl, who had fixed their nests in the bosom of the waves ; and though he allows that the Venetian provinces had formerly contained many noble families, he insinuates, that they were now reduced by misfortune to the same level of humble poverty. Fish was the common, and almost universal food of every rank. Their only treasure consisted in the plenty of salt, which they extracted from the sea, and the exchange of that commodity, so essential to human life, was substituted in the neighbouring markets to the currency of gold and silver. A people, whose habitations might be doubtfully assigned to the earth or water, soon became alike familiar with the two elements, and the demands of avarice succeeded to those of necessity. The islanders, who from Grado to Chiozza were intimately connected with each other, penetrated into the heart of Italy by the secure, though laborious navigation of the rivers and inland canals. Their vessels, which were continually encreasing in size and number, visited all the harbours of the gulph ; and the marriage which Venice annually celebrates with the Hadriatic, was contracted in her early infancy. The epistle of Cassiodorus is addressed to the military tribunes ; and he exhorts them, in a mild tone of authority, to animate the zeal of their countrymen for the public service, which required their assistance, to transport the magazines of wine and oil from the province of Istria to the royal city of Ravenna. 'The ambiguous office of these magistrates is explained by the tradition, that in the twelve principal islands twelve tribunes or judges were created by annual and popular election. The existence of the Venetian republic, under the Gothic kingdom of Italy, is attested by the same authentic record, which annihilates their lofty claim of original and perpetual independance."

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that term, took place about the middle of the fifth century. Situation and nature seemed to point out to these distressed persons the peculiar path which it became their interest to pursue. They were not neglectful of the opportunity, and its manifold advantages; but their emersion from obscurity to consequence proved slow, though progressive. Cassiodorus, making mention of the same people, who acquired the name of Venetians from the territory which they had left, at the commencement of the following, or sixth century, after mentioning the spot or spots where they had thought proper to settle, observes, they had no other fence against the waves than hurdles; no other food but fish; no wealth besides their boats, and no merchandize but salt, which they exchanged for other provisions. Insignificant, however, as the origin of the Venetians, considered as a state, might be, and slow as the steps were by which they acquired power, they had certainly raised themselves into no inconsiderable degree of respectability, at the time of the reign of Charlemagne, among the Italian potentates or divisions of that country. Italy was then divided into four districts, or territories, which in the language of history are termed states. The first of these was held by the Venetians, the second by the Lombards, the third by the Popes, and the fourth by the Emperors of the East. The Venetians, it was observed, by the extensive trade which they carried on in the Levant, had acquired very extensive political consequence, and possessing a number of vessels, held no small influence in the public affairs of Italy, although it does not appear they were at that time possessed of any towns or districts on the main land or continent.

The foregoing fact, with the remark on it, stands as one of the most incontrovertible proofs, that great territorial dominion is by no means so essentially necessary to political greatness as some persons have effected to consider it. Corroborating instances of this truth have occurred in other quarters of the world, of which the Genoese, rivals to the Venetians in former times, and the Hollanders, at least in respect to conduct, at a much more recent period, may serve as examples. The empire of Charlemagne, erected entirely by military prowess, was maintained in its short-lived zenith totally by the same means. It may be easily conceived, from the peculiar nature of its extent, com-

In a note is added, Paul the deacon (de Gestis Langobard, l. ii. c. xiv. p. 784.) describes the provinces of Italy about the end of the eighth century.—" Venetia non solum in paucis insulis quas nunc Venetias dicimus constat. Sed ejus terminus a Pannoniæ finibus usque Adduam fluvium protelatur."

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prising Germany, Hungary, and France, together with a considerable part of Spain, and of Italy, that maritime pursuits had no necessary share either in its defence, or its first creation. But the reign of Charles the Great may, without any forcible stretch of the fancy or imagination, be considered as the æra from whence sprung the root or parent of that enthusiastic spirit, which some centuries later burst forth like a torrent, and urged many of the most gallant, daring personages in the universe, professing one species of faith, to attempt its propagation, by displaying a conduct diametrically opposite to its own tenets, a thirst of blood.

Europe, which at this time might be considered as a moiety of the universe, appeared to be peopled by three distinct and separate classes of beings, differing from each other as widely as creatures of the same species could do, in their habits, their passions, and their pursuits. The ancient spirit of the Romans, together with the unceasing thirst of military fame and glory, were, as just remarked, in some measure resuscitated under the auspices of the emperor, on whom it became a natural and incumbent duty to foster those opinions from which his own title must, as he well knew, naturally expect support. The Vandals, the Huns, and the Goths, the grand oppressors and depredators of that territory of which he had erected himself into the sovereign, had, through a variety of circumstances before explained, either totally ceased to exist as a public body and people, or had sunk into their original state of contemptible obscurity. Their successors possessed not, as yet, sufficient spirit and strength to render themselves formidable, or even conspicuous; and the pursuits adopted by the third division or class of mankind were, if not in embryo, at best but in a mere infantine state. Commerce, which appeared as the only cherisher and promoter of the science of navigation, or the art of constructing vessels, appeared, as it were, monopolised by a people so insignificant, as not to excite the jealousy, or even attract the notice of their neighbours. The contracted limits of their domains were, for ages, an happy and sufficient reason why the infant state was not strangled in its very birth; and the harmless avocations of the inhabitants caused them to be regarded, by the imperial candidates for military fame, with an eye of philanthropy and admiration, instead of distrust. So widely did the ambition of one party, and the humility of another, cause their tempers to diverge, that it appeared scarcely within the bounds of natural possibility for them ever to clash, or even to come nearly in contact with each other. To this cause may principally be attributed the revival of maritime pursuits, the splendid

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splendid political rank, which the state of Venice, in subsequent ages, acquired, and the short duration of that dazzling military greatness which, as before remarked, burst forth as a meteor under the auspices of Charlemagne.

It is not a little worthy of remark, that the origin and growth of all commercial states, as well as their history, far as can be traced from the earliest ages of the world, have been nearly, if not entirely, similar to each other. Surrounded by countries and kingdoms devoted to the profession of arms, and the acquisition of dominion by conquest, they have been cherished and nurtured as the best beloved children of an haughty, an arrogant parent. The savage disposition of the latter has appeared wonderfully softened by the endearments and engaging attractions of the infant, who has rapidly thriven under the caresses of its protector. Its growing youth has, generally speaking, displayed an occasional frowardness, which has soon weakened the first ties of affection, and, encreasing with the acquisition of more manly strength and years, has caused an assumption of equal consequence with that of the foster sire: a conduct which has rarely, if ever, failed to rouse his natural ferocity, and cause first the disherison, to which has frequently followed the total demolition of the imprudent child.

After the ruin of the Phœnicians had taken place, the subsequent candidates for commercial consequence were few in number, and far inferior, in point of rank, to those first professors, who had raised the pursuit so high in estimation. The Grecians, the Carthaginians, the Romans, all affected to regard it with contempt, and even suffer it to be embraced by those only belonging to their community, who were content to sacrifice what was considered glory, to pecuniary advantage, and the *ignominious* acquisition of wealth, by any other means than that of the sword. Considered as the maxims of a government entirely military, they were certainly correct; for although a social intercourse between different countries may soften the manners, polish the mind, and enlarge the understanding of man, yet those artificial acquisitions and advantages serve only to weaken, and shake the power or influence of such a state over its subjects, whether distant or domestic, who are ignorant of any other public cement than the ravages of war, and military coercion. All interchange of commodities not fairly and unequivocally considered as of the first necessity, was thought a promotion of luxury, an enervation of manners, and a consequent injury to that national ferocity, without which, it was considered impossible any national glory could possibly exist. Under the prevalence and

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bias of such ideas, it would have been extremely wonderful if mercantile pursuits had in any degree flourished. It may perhaps be considered as much more extraordinary, that reflecting on the enormous weight of prejudice, which those who were hardy enough to addict themselves to commerce, had to contend against, that it did not totally sink beneath the pressure, and become, as it were, obliterated from the human mind. Necessity, nevertheless, on some occasions, and avarice on others, served to preserve through many centuries what certainly might be considered its lingering existence, when compared with the magnitude and the power of the countries themselves; till at length, that violent and general convulsion, occasioned by the inroads and devastations of the Vandals, the Goths, and the Huns, appeared to have put a final termination to its existence.

Dormant, however, for a short time only, till a scion, casually planted in an obscure, and neglected, but on that very account a safe corner of the world, had taken sufficient root to promise the future growth, soon began to shoot forth its branches, and display its flourishing, though youthful state. The marine architects of former ages had principally, if not entirely, been under the necessity of bending their minds to the exigencies of war, or the extravagant vanity of their sovereign. The fleets of Asdrubal, Scipio, and their successors, the floating castles of Ptolemy Philadelphus, or Caligula, might have called forth the exertions of the ablest mechanics of the time; but no one has, as yet, been hardy enough to assert, that Archimedes ever bestowed a moment's attention in considering and explaining what would be the properest form which could be given to a vessel intended solely for mercantile purposes. Except among the Phœnicians, (who with a prudent precaution combined the purposes of war and commerce, well knowing that the welfare of one must inevitably depend on the support of the other) the galley, if it be fair to bestow on it that term, belonging to the merchant was built in the most artless manner possible consistent with absolute safety, a practice which may in some measure reconcile to the belief of moderns, the accounts of those enormous vessels which are reported to have been constructed in the earliest ages, when they reflect, that according to objects which they may cause to pass daily before their own eyes, a common lighter may equal, if not exceed, in tonnage, a vessel which, because more scientifically formed in certain points, has been enabled to circumnavigate the world.

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The Venetians, placing before their eyes the conduct of that people *, whose example they appeared so desirous of following, and whose acquired greatness they were consequently ambitious of emulating, soon as they began to feel themselves possessed of such power as enabled them to give the fishing-boat of their ancestors a more consequential form, immediately resolved on combining, far as could be found possible, the two points which are the only incentives to an acquisition of maritime greatness. By steps almost insensible, they acquired both wealth and strength, without exciting envy in those who might have crushed them, and whose favour they had acquired, in a very considerable degree, either by flattering their pride, under a constant profession of dependance, or pampering their luxury through the medium of a profession, which, in the midst of the sensual gratification derived from it, they affected to despise. Soon as the advantages acquired by the Venetians from their peculiar occupation became apparent to the world, it was found necessary not only to profess the intention, but to possess the means of defending them by force. The galley of war accompanied that of the merchant; and, as though it were in compliment to the genius and temper of their protector Charlemagne, they professed themselves, with all due humility, ready to embrace the profession of arms on all occasions, when the peculiarity of their own occupations would permit it, or he should consider it conducive either to their interests, or to his own.

The emperor, flattered by the demeanour as well as seriously gratified, perhaps, on contemplating the power of those whom he scarcely considered in an higher light than that of vassals, and whom he had himself contributed materially to the greatness of, addicted himself totally to those pursuits which his high spirit made congenial to him. The commencement of the reign of Charlemagne might be considered as the birth-day of chivalry, and the same spirit or propensity progressively acquired strength till the disuse of missile weapons, and the use of gunpowder put a sudden period to it. The bows or forecastles of the gallies were covered with a platform, on which the soldiers, who were always selected for that purpose from the flower of the army, could stand as on dry land, and direct their arrows at pleasure against the bodies of their foes. Every possible contrivance, however, was made use of, that was considered capable of contributing to their defence, and improvements introduced, by different

* The Phœnicians.

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countries, into the manufacture of armour, were adopted with considerably greater earnestness, in respect to those who were engaged in the sea-service, than in any other. There are, perhaps, few more remarkable epochs in the naval history of the world than the ninth century. The science of maritime war appeared to have undergone a sudden and wonderful change, and the event of battle began no longer to depend principally on nautical skill, but became regulated by the personal prowess of the opposed combatants. The different manœuvres contrived for gaining the wind, or taking other scientific advantages of the foe, were no longer practised; no more were the oars worked with particular energy, and the galley impelled with dexterity, as well as fury, for the purpose of assailing the adversary with the greatest effect, and putting a sudden decisive period to the contest, by completely destroying the opponent with the momentum of the shock, or at best disabling him for that time from entering into any farther contest. The vessels of the parties at war having grappled each other, the combatants, with cool determinate courage, joined in battle, which very rarely ceased but with the most dreadful slaughter on both sides, effected in consequence of an engagement fought literally hand to hand. In this circumstance alone, did the encounters of the more modern times resemble those which so many centuries earlier, had taken place between the Carthaginians and the Romans. During their rivalship, although such modes of decision were certainly considered uncommon, yet they sometimes occurred, and there was one material distinction to be taken also into the account, from which very distinction may be traced the origin of the individual spirit that introduced and fostered the proud, but no means unsalutary rage for chivalry, which, however it might on some grounds be supposed to further and promote the cause of warfare, had certainly no inconsiderable effect on softening the manners, and improving the general conduct of mankind. From the same source may also be derived that enthusiasm, and thirst for military glory, which gave birth to the Crusades. In short, the function of a soldier, which had for centuries been certainly ranked as liberal, though exercised by persons in the lower orders of life, became on a sudden singularly raised, and was considered as debased when filled by men destitute of pretensions to the highest orders in society. The effect produced on Marine Architecture was such as was naturally to be expected. Splendor and magnificence became intermingled with the engines of war; and without attempting to emulate the ostentatious vanity

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of Cleopatra or Caligula, the galley of Venice, even so early as the ninth century, might be said to exceed them, in all points, which did not, as was manifest in the former instances, as well as others which occurred in the earlier ages of the world, militate against real use, and the actual necessities, if they may be so termed, of a state of war, and inveterate hostility.

CHAPTER

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CHAPTER THE TWELFTH.

Principal Causes of the Want of Scientific Information in respect to the Marine Architecture of the Ancients—Conduct of the different Nations which were fortunate enough to preserve themselves from falling under the Dominion of the Romans—Origin of the Saxons—their Expeditions—their Acquisition of Power—they become a Maritime People—strengthen themselves by constant Intermarriages with the Inhabitants of neighbouring States, as well as by Alliances—Instances of their enterprising Spirit—the Invitation of Hengist and Horsa, their Chiefs, into Britain—the Policy and Bravery of the former—the progressive Means used by him to introduce so powerful a Force, under the Pretence of defending the Country, as enabled him at length to render the whole of it subject to himself—Account of the Naval Armaments fitted out, at different Times, for this Purpose—the Naval History of Britain in the early Ages—Opinions of different Authors as to the Manner in which the Island was first peopled—supposed Similitude between their Boats, which may be considered as nearly aboriginal, and some which continue to be used even to the present Time in Parts of Wales—the Invasion of Britain by Julius Cæsar—uninteresting Character of its Naval History for many Ages—the Conduct of Carausius—his Revolt from Rome—he forms an Alliance with the Franks—Naval Exertions made by the Romans to subdue him—he is assassinated by Alectus—the Defeat and Death of the Assassin—the Romans under the Necessity of abandoning Britain—Arrival of the Saxons—their Dissimulation, and gradual Conquest of the whole Country—their subsequent Neglect of Naval Affairs—Dispute among the Saxon Chiefs, many of whom, together with some of the unsubdued Britons, apply to Charlemagne for Succour against Offa—the Heptarchy destroyed by Egbert, who caused himself to be proclaimed King of all England—brief Reflections on the Naval History of the World at the Time of Charlemagne's Death.

THE history of Rome, whether general, or confined to any particular branch, naturally, as it were, involves with it that of the greater part of the world distinctly known to the ancients. America continued undiscovered for the space of nearly seven centuries subsequent to the death of Charlemagne; China, the remote parts of India, of Africa, and of Europe itself, although the actual

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existence of such territories was fully known, afforded little amusement, and still less information, to that very inconsiderable number of persons, who, when Rome was supposed in the zenith of her glory, both with respect to arms and arts, addicted themselves solely to the pursuit of scientific, or to use a more abstract, and perhaps proper term, mechanical knowlege. The customs of the ancients, as well in respect to their public, and domestic concerns, as their literary pursuits, were of that nature which rather forbad enquiry and investigation, either as to the particular arts practised by countries which Greece and Rome progressively considered as uncivilised, or the history of those districts which were despised, as being in a state of almost complete ignorance and barbarism. In mechanics, the Romans considered themselves, and generally speaking, perhaps, with no small degree of truth, superior both to the people they subdued, and those to whose arms, in the later ages, they themselves fell a sacrifice. They considered the knowlege of arts so interwoven, as it were, with their very natures, that it was impossible it should ever sink; literature would therefore have deemed that as a useles waste of time, which was expended in preserving to posterity information supposed to be not in the smallest danger of being ever either lost, or misconceived. Thus it happened, that while the poet, the rhetorician, and the philosopher, endeavoured by their several labours to transmit to future ages such information or amusement, as they could not by any other means make permanent beyond their own lives; the arts, with the means of cultivating them, were suffered to remain, as to their perfection, or advancement, almost without exception, in the very precarious and uncertain existence, in the minds of those who cultivated them.

It was sufficient for the historians to record the names, and the various acts of gallantry committed by their consuls and commanders, whether by sea or land, for they totally neglected those of the industrious persons who equipped the fleets, or the mechanical principles on which they conducted their art, notwithstanding the state might be as much indebted, on the ground of assiduity and ingenuity, to the individuals who manufactured the arms, as it was to those who used them. From the distant countries which they over-ran, the conquerors carried nothing back with them to Italy but the spoils of those whom they plundered without remorse, and the empty glory of having extended the limits of their empire. Those regions only, whose happy distance from that crater of the volcano, Rome, preserved them from experiencing the dreadful

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dreadful effects of its devastations, were permitted to pass unexplored and unenslaved, till convenient opportunity, with the fame either of their wealth, or the luxuries with which they abounded, served as a stimulus to ambition, avarice, or epicurism. Some nations there were, however, who preserved their independance to the last, and either happy in their poverty, held forth no incentives to conquest, or still more fortunate in their situation, bade defiance to it. These countries continued to enjoy their own manners, and their own arts, pure and uncontaminated. They made war with each other, and they concluded peace when fatigued with hostilities, without experiencing the dangerous friendship, or the officious interference, of the mistress of the world. Their commerce was contracted: their motives for war, and their arguments for peace, were plain and unadorned with sophistry, divested of all diplomatic argument or controversy, and as simple as the arms with which they fought. With regard to these nations, the state of Marine Architecture had probably experienced but little advancement during the space of thirty centuries, and would, in all human probability, have continued much longer in the same unimproved state, had they not been compelled to mingle much more intimately with other countries, which were fancifully considered more civilised than themselves, than they had in early times been accustomed to do.

On this ground, all accounts even of the Chinese themselves, of the different Indian and African nations not tributary to Rome, and the greater part of the northern division of Europe, at that time inhabited by nations which were considered, and with some justice, uncivilised and barbarous, is either so inveloped in doubt, contradiction, and surmise, as to render it better fitted as a subject for romance than of serious history, or is so uninteresting, as to become nugatory and irrelevant. Nevertheless, some few countries and nations there were, which, spiritedly breaking through the bounds apparently prescribed to them by providence, and the policy of their ancestors, were not afraid to employ in the greatest designs the very humble means which the infantine state of science and arts amongst them, prevented from appearing in the splendour they certainly would have done, had the novices been more fully and conveniently prepared. Among the first of these appear the Saxons, a people derived, according to common opinion, from the ancient Cimbri, once the terror of Rome, when rising into the most flourishing state, and prevented only by their distance from becoming equally formidable, after she had passed the zenith of her power.

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The prevalent opinion is, that the inhabitants of what was then called the Cimbrian Chersonesus, and now Jutland, finding their country overpeopled, and that it afforded too scanty provision to the immense numbers who had claims on the productions of it, sent forth three colonies of adventurers into different quarters. The first, bore the name of the Suevi, and having no particular predilection in favour of naval pursuits, bent their march by land into Spain, where, after many reverses of fortune, they fell victims to the superior power of the Goths. A second colony, distinguished by the name of Franks, pursuing the same measures, passed into Belgium, and, extending their ravages through France, penetrated even into Spain. The third, on whom was bestowed the name of Saxons, having possessed themselves of the whole country situated between the Rhine and the Elbe, extended their conquests, with considerable rapidity, along the whole coast of the German ocean. The interior of the countries was under the dominion of Rome, and the fortresses she had established for the joint purpose of overawing the inhabitants, and protecting them from invaders, preserved the tranquillity of them; but the shores both of Gaul and of Britain were for centuries open to the depredations of the Saxon invaders.

The territory which they had seized not improbably suggested the first idea, which, ripening by degrees into a propensity which assumed the stubborn form of nature itself, caused this hardy race to enter with avidity into the laborious and dangerous occupations of fishing and piracy. Success in their first attempt naturally created an emulation among the rest of their countrymen. Every tide, as has been judiciously remarked, might float down the Elbe whole fleets of such vessels as they possessed, which, to say the truth, were rude, and ill adapted to the purposes of naval war. The prospect of the ocean, the field of adventure, as well as of plunder which it held forth to these hardy, and intrepid associates, inflamed their minds with the rage of curiosity, the thirst of power, and the lust of wealth. Riches as well as luxury were unknown; but having indistinctly heard of the fancied pleasures which attended the possession of them, they resolved to inform themselves of the truth or fallacy of the report. Allured by the example, or invited by the promises of their neighbours, the inhabitants of the contiguous states, if an assemblage of people in so rude and uncivilised a community could be said to deserve that name, flocked in crowds as auxiliaries and followers of the Saxon standard. They possessed arms and vessels, the art of navigation, though of rather limited extent; and they had acquired

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acquired by their diligence in the pursuit of their profession, piracy, the habits of naval war in a sufficient degree to render them extremely formidable to those whom they thought proper to attack. The difficulty of passing through that narrow streight, now called the Sound, rendered still more formidable in consequence of its being in general closed up during many months in the year, confined, for a considerable space of time, the enterprises of these marauders to that immense salt lake, if the term be allowed, better known to moderns by the name of the Baltic.

Time, and the report of that success which those adventurers met with, who pushed their fortune in the open sea by means of the navigation of the Elbe, drew a considerable number of partisans to the same cause, and wonderfully strengthened this piratical society. The various hordes and parties issuing from different countries, but confederating and fighting under one standard, became insensibly united in those bonds, which even in the most savage societies and assemblages of persons, are indispensably necessary to the well being of every community. Although the cause of their union and friendship was merely rapine and plunder, yet the general laws of nature, and what is called good government, were not only established for the better arrangement of their internal policy, but enforced with as much strictness as was practised among the most polished nations. A military confederation became gradually improved into a national body, by the gentle operation of marriage and consanguinity, for the adjacent tribes, who solicited the alliance, accepted the laws and the name of the Saxons.

" If the fact," says a most ingenious author, " were not established by the most unquestionable evidence, it might appear an attempt to abuse the credulity of a modern reader, by the description of the vessels in which the Saxon pirates ventured to sport in the waves of the German ocean, the British channel, and the Bay of Biscay. The keel of their large flat bottomed boats was framed of light timber, but the sides and upper works consisted only of wicker, with a covering of strong hides. In the course of their slow and distant navigation, they must always have been exposed to the danger, and very frequently to the misfortune of shipwreck; and the naval annals of the Saxons were undoubtedly filled with the accounts of the losses they sustained on the coasts of Britain and Gaul. But the daring spirit of the pirates braved the perils both of the sea and of the shore; their skill was confirmed by the habits

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of enterprise; the meanest of their mariners was alike capable of handling an oar, of rearing a sail, or of conducting a vessel; and the Saxons rejoiced in the appearance of a tempest, which concealed their design, and dispersed the fleets of the enemy. After they had acquired an accurate knowlege of the maritime provinces of the west, they extended the scene of their depredations, and the most sequestered places had no reason to presume on their security. The Saxon boats drew so little water, that they could easily proceed fourscore or an hundred miles up the great rivers. Their weight was so inconsiderable, that they were transported on waggons from one river to another; and the pirates who had entered the mouth of the Seine, or of the Rhine, might descend with the rapid stream of the Rhone into the Mediterranean."

Such was the origin of a people, who in times when Rome had by no means sunk into a contemptible state, insulted the coasts of her most valuable colonies, committed the most serious depredations without fear either of retaliation, or punishment, and, increasing daily and progressively in its power, compelled the greater part of Britain to submit to their yoke. Unknown to the Romans by the appellation of Saxons till the fourth century, they soon rendered themselves formidable and terrible. Zosimus, speaking of them, observes, "that they are inured to the toils of war, and that, on account of their courage and strength, they were justly esteemed the most warlike of all the German nations."

About the middle of the fifth century, the unwarlike Vortigern, then king of Britain, embraced the fatal resolution of requesting the Saxons to deliver him from the inroads of the Picts and Scots, who were in the habit of making continual inroads, and spreading desolation wherever their arms reached *. The Saxons received the invitation with the utmost joy. According to the custom of those times, ancient prophecies were remembered, foretelling that they should

* Witichind, a Saxon historian, who lived in the ninth century, in his history *de gestis Saxonum*, introduces the British ambassadors making the following speech before an assembly of the Saxons:—"Illustrious Saxons! the fame of your victories having reached our ears, the distressed Britons, harassed by the continual inroads of a neighbouring enemy, send us to implore your assistance. We have a fertile and spacious country, which we are commanded to submit to you. We have hitherto lived under the protection of the Roman empire, but our ancient masters having abandoned us, we know no nation more powerful than you, and better able to protect us. We therefore recur to your valour. Forsake us not in our distress, and we shall readily submit to what terms you yourselves shall think fit to prescribe to us."

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plunder the country which sought their aid, for the space of one hundred and fifty years, and possess it in quiet for twice that space of time after the period of marauding was past. Such artifices were occasionally necessary in the ages of superstition, to encourage the people to undertakings not otherwise, perhaps, perfectly congenial to their tempers; but the soothsayers, on this occasion, were rather singularly fortunate. The Saxons took special care the first part of the prediction should not be falsified, and Providence seemed to have abetted the cause of augury, by permitting the latter part of it to be no less correct.

The force with which Hengist and Horsa, the Saxon chiefs, set forward on this expedition, amounted to no more than three long vessels, or ships, as they are stiled in the indefinite language of history, which were by the Saxons termed chiules. The leaders not only stood extremely high in the opinion of their countrymen, on account of their personal prowess, and distinguished character for gallantry, but had the recommendation of high birth, being the immediate descendants of Woden *, who was worshipped among the Saxons as a divinity. The troops which followed these illustrious adventurers are not believed to have exceeded fifteen hundred men; and to suppose they amounted even to that number, is no inconsiderable compliment to the consequence and dimensions of their marine, which could have been by no means insignificant, or trifling, if they are admitted to have transported five hundred men each, as they must have done, with their arms and accoutrements, independent of the crews solely occupied as mariners in the employment of navigating them. It were needless to enter into any detail of the operations by land. Suffice it to say, that Hengist, finding his followers too few in number to be capable of conquering Britain, as the result of having first routed its enemies, made use of the favourable impression which a complete victory over the Scots and Picts made in the mind of Vortigern, to propose the introduction of a farther reinforcement, which he represented would enable him to subdue, almost without a contest, whatever enemies should be daring enough to disturb the peace of Britain. The plausible tale and representation was listened to with avidity by the credulous Vortigern, and the offer accepted with no inconsiderable degree of pleasure. A fleet of seventeen vessels, equally large with those which had preceded them in the cause of plunder, arrived in as short a space of time as the equipment of

* Hengist and Horsa were the sons of Witigifil, the great grandson to Woden, from whom all the kings of the Saxons, with infinitely less right, pretended to deduce their descent.

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the vessels themselves, and the collection of the troops which they were destined to transport, would permit.

Their arrival placed Hengist in so formidable a situation, as to permit his acting in some measure offensively against those Britons themselves, whose cause he had undertaken to defend. Still, however, he found it necessary to keep terms with the too credulous Vortigern; and in the midst of his complaints, some of which he adopted his own peculiar mode of redressing, represented the fearful danger which was to be apprehended from the future attacks of the Scots and Picts in such striking colours, that permission was, without hesitation, granted him to add a still farther reinforcement to his band of followers, which bore a much stronger semblance to an army of invaders, than it did to a troop of friends. This addition to the Saxon soldiery more than doubled the whole of the force which had previously reached the British shore, provided the ships were of the same dimensions, and equally freighted. The third fleet consisted of no less than forty sail, under the command of two chiefs who had distinguished themselves by their valour, and whose fidelity, as well as zeal, for the cause of depredation, was additionally secured by the near consanguinity in which they stood to Hengist himself.

The system of conquest now seriously commenced. The newly arrived auxiliaries fixed themselves in Northumberland, while Hengist and his own followers were equally attentive in securing *the peace* of the southern parts: this was a convenient and synonymous, but less offensive term than that of converting them to their own use, would have been. The ceremony paid till this time to the king, of asking his permission for the introduction of any new supplies, was now laid aside. Ships arrived, and troops were poured in, in such numbers, that the population of Saxony itself was very materially diminished. The war which now commenced with the utmost fury on both sides, was carried on with varied success. If the Saxons surpassed the Britons in military skill, the latter were still superior in numbers: they fought under the command of Vortimer, son to Vortigern, who was deposed, with that courage bordering on fury, natural to men who considered themselves engaged in the defence of their dearest rights, and whose existence, as well as that of their wives and children, depended on their own prowess. The Saxons, on the other hand, fought only for plunder; and the savage ferocity of the invader, consequently, often sunk before the honest patriotism of the native.

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The war which was carried on with varied success till nearly the close of the sixth century, then ended in the total subjugation of almost the whole of that part of Britain now called England. The maritime history of it, as already observed, would very immaterially tend to the illustration of the present subject. Inasmuch as the Britons possessing no naval force capable of coping with the invaders, the whole contest was uninterruptedly carried on by land. There are, nevertheless, a few points of historical information relative to the Saxon annals, which appear so interwoven with the subject, as to render it improper they should be suffered to pass over totally unnoticed. When at particular periods, the guardian genius of the Britons had afforded them her protection and aid, to the discomfiture of the Saxons, when the latter appeared reduced, as was more than once the case, to the lowest ebb, and were in almost daily expectation of being forcibly driven from all probable possession, of that spot which had so long been the object of their hope, their desire, and their avarice, the arrival of a very inconsiderable number of ships, frequently not more than three, restored their sinking cause, and placed them once more, high in power *. The formation of the seven Saxon kingdoms, from thence denominated the Heptarchy, followed in regular succession after the establishment of the first, comprising Kent, under Hengist. In short, the Saxon rule appeared unmoveably established in every quarter where the rugged face of the country did not either prevent approach, or appear to hold forth no reward or advantage sufficiently consequential to repay the labour, and the danger of attempting its conquest.

From the naval history of the Saxons, who became the conquerors of the Britons, the transition is extremely easy to that of the conquered. It were to very little purpose to enter into those remote periods of British history, when fiction, romance, and improbability, clouded the dignity of the record, and

* A striking proof of this circumstance, appears in the time of Cerdic, a Saxon prince, who lived at the close of the fifth century. Having sustained great losses in the many battles that were fought with the Britons, he sent over to Germany for new supplies, which arriving in three ships, under the conduct of Stuf and Wilgar, his two nephews, they landed at Cerdickshore, where they were attacked by the Britons, whom they put to flight. Henry of Huntingdon, who describes this battle at large, relates, that the British forces were drawn up on the side of a hill, and likewise in a valley, a measure which at first frightened the new comers, but that the latter recovering themselves from their consternation, they fell with great resolution upon the Britons, and put them to flight.

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converted accounts which, from the nature of them, ought to have been considered as serious truths, into tales exciting ridicule on account of their improbability *. The most learned and ingenious men have been, at different times,

* The fabulous colonies of Egyptians and Trojans, of Scandinavians and Spaniards, which flattered the pride, and amused the credulity of our rude ancestors, have insensibly vanished in the light of science and philosophy. The present age is satisfied with the simple and rational opinion, that the islands of Great Britain and Ireland were gradually peopled from the adjacent continent of Gaul. From the coast of Kent, to the extremity of Caithness and Ulster, the memory of a Celtic origin was distinctly preserved, in the perpetual resemblance of language, of religion, and of manners; and the peculiar characters of the British tribes might be naturally ascribed to the influence of accidental and local circumstances. The Roman province was reduced to the state of civilized and peaceful servitude: the rights of savage freedom were contracted to the narrow limits of Caledonia. The inhabitants of that northern region were divided, as early as the reign of Constantine, between the two great tribes of the Scots, and of the Picts, who have since experienced a very different fortune. The power, and almost the memory, of the Picts, have been extinguished by their successful rivals; and the Scots, after maintaining for ages the dignity of an independant kingdom, have multiplied, by an equal and voluntary union, the honours of the English name. The hand of nature had contributed to mark the ancient distinction of the Scots and Picts. The former were the men of the hills, and the latter those of the plain. The eastern coast of Caledonia may be considered as a level and fertile country, which, even in a rude state of tillage, was capable of producing a considerable quantity of corn; and the epithet of Cruitnich, or Wheat-eaters, expressed the contempt, or envy, of the carnivorous highlander. The cultivation of the earth might introduce a more accurate separation of property, and the habits of a sedentary life; but the love of arms and rapine was still the ruling passion of the Picts: and their warriors, who stripped themselves for a day of battle, were distinguished, in the eyes of the Romans, by the strange fashion of painting their naked bodies with gaudy colours and fantastic figures. The western part of Caledonia, rising irregularly into wild and barren hills, scarcely repayed the toil of the husbandman, and were most profitably used for the pasture of cattle. The highlanders were condemned to the occupations of shepherds and hunters; and as they seldom were fixed to any permanent habitation, they acquired the expressive name of Scots, which, in the Celtic tongue, is said to be equivalent to that of wanderers, or vagrants. The inhabitants of a barren land were urged to seek a fresh supply of food in the waters. The deep lakes and bays which intersect their country, are plentifully stored with fish; and they gradually ventured to cast their nets in the waves of the ocean. The vicinity of the Hebrides, so profusely scattered along the western coast of Scotland, tempted their curiosity, and improved their skill; and they acquired, by slow degrees, the art, or rather the habit, of managing their boats in a tempestuous sea, and of steering their nocturnal course by the light of the well known stars. The two bold headlands of Caledonia almost touch the shores of a spacious island, which obtained, from its luxuriant vegetation, the epithet of Green; and has preserved, with a slight alteration, the name of Erin, or Ierne, or Ireland.

It is probable, that in some remote period of antiquity, the fertile plains of Ulster received a colony of hungry Scots; and that the strangers of the north, who had dared to encounter the arms of the legions, spread their conquests over the savage and unwarlike natives of a solitary island. It is certain,

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times, infected with this folly. Even Cambden himself, who wrote so late as the commencement of the seventeenth century, was not hardy enough totally to reject the then fashionable legend of Brute, but treated it with the most reverential awe and respect. The general opinion, however, of the learned and best informed, appears to agree in one point, that Britain was originally peopled by the Celtæ, or Celtes, who, passing from Asia into Europe, after spreading themselves over a considerable part of the latter continent, found themselves at length compelled, owing to the narrowness of their limits, to exchange the genial warmth of the southern climates, for those more northern regions, where they were able to find a resting place. Peopled from the continent, the inhabitants of Britain boasted, from the earliest times, a kind of aboriginal right to nautical fame. But though it is manifest, from the undisputed testimony of authors standing in the first class for credit, on account of their veracity, that Britain, even in the most remote ages, when she was considered as in a totally rude and uncivilised state, held no inconsiderable degree of commercial intercourse with very distant nations, particularly the Phœnicians *: yet the inhabitants appear to have rested content with suffering

tain, that, in the declining age of the Roman empire, Caledonia, Ireland, and the Isle of Man, were inhabited by the Scots; and that the kindred tribes, who were often associated in military enterprise, were deeply affected by the various accidents of their mutual fortunes. They long cherished the lively tradition of their common name and origin; and the missionaries of the Isle of Saints, who diffused the light of christianity over North Britain, established the vain opinion, that their Irish countrymen were the natural, as well as spiritual, fathers of the Scottish race. The loose and obscure tradition has been preserved by the venerable Bede, who scattered some rays of light over the darkness of the eighth century. On this slight foundation, an huge superstructure of fable was gradually reared, by the bards, and the monks: two orders of men, who equally abused the privilege of fiction. The Scottish nation, with mistaken pride, adopted their Irish genealogy; and the annals of a long line of imaginary kings have been adorned by the fancy of Boethius, and the classic elegance of Buchanan.—Gibbon, chap. xxv.

* It is insisted upon by many, that the very name of the country is derived in consequence of this intercourse. The learned Bochart, speaking of the colonies and language of the Phœnicians, offers a conjecture which most of our modern writers have adopted as the most natural. The Phœnicians, according to the author just quoted, called Britain, and other islands near it, *Barat Anac*, that is, *the land or country of tin or lead*, and more contractedly Bratanac; which name passing from the Phœnicians to the Greeks, and from them to the Romans, might have been softened into that of Britannica, and Britannia. That the Phœnicians first discovered those isles, which were afterwards by the Greeks called Cassiterides, and are proved by Cambden to be the present Scilly Islands, appears both from Strabo and Pliny, of whom the former relates, that the Phœnicians first brought tin from the Cassiterides, which they sold to the Greeks, but kept the trade to themselves, and the place private.

that

that intercourse to be carried on entirely at the option of foreigners, and in such manner as they thought fit. Even at the time when ambition and the lust of dominion prompted Cæsar to undertake his expedition, the skill of the Britons does not appear to have exceeded the construction of such vessels, if they could be said to deserve that name, as enabled them to pass in tolerable safety the numerous rivers which intersect the country, or were sufficiently capacious and safe to allow the operation of fishing at a short distance from the shore, an occupation to which all countries that had the ocean for their boundary, became, as was naturally to be expected, extremely addicted even in the earliest ages.

No contrivance could have been more artless, but there was nevertheless a trait of ingenuity in it, added to a special convenience on particular occasions, which caused the rude skill of the British boat-builder to be adopted by Cæsar himself. This circumstance, together with a brief description of the form and materials used in the construction, have been already given *; and it is a circumstance too curious to be passed over in silence, that even at the present moment, boats † are used in some parts of Wales very trivially varying either in application, construction, or materials, from those which were in use nearly nineteen centuries since. Mean and insignificant as such contrivances might be in the grand scale of Marine Architecture, they were fully adequate to the wants of the possessors, who sought not to extend their acquaintance with any other parts of the human race; but secluded almost by nature, from the rest of the world, they were content with the scanty luxuries and pleasures which Providence had placed within their grasp, and were neither prompted by ambition, by avarice, or by appetite, to seek the extension of them. Precisely in the same state, far as can be collected from the obscure history of so remote a period, did the knowlege, or at least the practice, of the science continue for several centuries. In so low a state was it, during the time the Romans remained possessors of the country, that they were compelled to keep constantly on foot a naval force, not only to protect it from the depredations of the pirates, but, as will be presently shewn, were also under the necessity of maintaining a small fleet of gallies on the river Humber, to check, and prevent, without intermission, if possible, the incursions of the Caledonians, or Scots.

The invasion under Julius Cæsar himself, appears to have been as much indebted for its success to the astonishment with which the form of his gallies

* See page 3.

† Called corracles, most probably from corium, an hide, or skin.

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impressed the Britons, as to the prowess of his soldiers, superior as they were in discipline and in arms. This circumstance is manifest from the words of the emperor himself *.

During

* At barbari, consilio Romanorum cognito, præmisso equitatu et essedariis, quo plerumque genere in præliis uti consuerunt, reliquis copiis subsecuti nostros navibus egredi prohibebant. Erat, ob has caussas, summa difficultas quod naves propter magnitudinem nisi in alto constitui non poterant. Militibus autem, ignotis locis, impeditis manibus, magno et gravi armorum onere oppressis, simul et de navibus desiliendum, et in fluctibus consistendum, et cum hostibus erat pugnandum, quum illi aut ex arido aut paullulum in aquam progressi, omnibus membris expediti, notissimis locis, audacter tela conjicerent, et equos insuefactos incitarent. Quibus rebus nostri perterriti, atque hujus omnino generis pugnæ imperiti, non omnes eadem alacritate ac studio, quo in pedestribus uti præliis consueverant, utebantur.

Quod ubi Cæsar animadvertit, naves longas, quarum et species erat barbaris inusitatior, et motus ad usum expeditior, paullum removeri ab onerariis navibus, et remis incitari, ut ad latus apertum hostium constitui, atque inde fundis, sagittis, tormentis, hostes propelli, ac submoveri jussit: quæ res magno usui nostris fuit. Nam et navium figura, et remorum motu et inusitato genere tormentorum permoti barbari constiterunt, ac paullum modo pedem retulerunt. Atque nostris militibus cunctantibus, maxime propter altitudinem maris, qui x legionis aquilam ferebat, contestatus deos ut ea res legioni feliciter eveniret: *Desilite*, inquit, *commilitones, nisi vultis aquilam hostibus prodere. Ego certe meum Reipublicæ atque imperatori officium præstitero.* Hoc quum magna voce dixisset ex navi se projecit, atque in hostes aquilam ferre cœpit. Tum nostri cohortati inter se, ne tantum dedecus admitteretur, universi ex navi desiluerunt: hos item ex proximis primis navibus quum conspexissent, subsecuti, hostibus appropinquarunt.

The barbarians (meaning the inhabitants of Britain) as soon as they became assured of the intention of the Romans, having sent off their cavalry, and their chariots, on which, in general engagements, they placed their chief confidence; made every possible disposition to prevent the disembarkation of the invaders, by opposing them with their infantry, judiciously considering, that such part of their army only could act with effect in so peculiar a situation. A very considerable degree of difficulty arose to the Romans on this occasion. The ships, or gallies, on account of their great draught of water, were prevented from approaching the shore so near as was consistent with the safety of the soldiers, and the latter had difficulties almost innumerable to encounter. They were, in the first instance, strangers to the coast, and to the country. They were grievously incommoded with the weight of their arms, and had at one, and the same time to contend as well with the waves, as with their foes, after having, with a degree of gallantry bordering on rashness, fearlessly leaped from the gunwale of their vessels, into the surge.

The Britons, on the other hand, had no such impediments to encounter. They could either remain firm in their position, on dry land, advance a short distance into the water when opportunity offered, or being perfectly masters of the ground, and its nature, could throw their javelins, or other missile weapons, covered in great measure from the attacks of the Romans, who on their part had no such defence, and particularly exposed to the desultory attacks of the British horse. The Romans astonished, and in some degree dismayed, by these multiplied obstacles, as well as being totally unpractised in contests

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During the reign of the twelve Roman emperors, who, by way of a pre-eminent distinction, are generally known by the name of Cæsars, very little alteration or improvement appears to have taken place. It is by no means improbable, that the conquerors, who undoubtedly were possessed of the strongest political reflection, considered it their interests to discountenance every effort or propensity that could tend to the erection of that particular species of force, which might in time bring the possessions of the conqueror, at least into hazard, even supposing it not to extend so far, as to permit the vassals, totally to throw off their long imposed yoke.

The remote situation of Britain, the difficulty of procuring reinforcements of soldiers in case of misfortune, and the very high opinion entertained by the Romans themselves, of that courage which their tributaries had, before their submission, given them such manifold proofs of, all tended not only to smooth and soften the asperity of the rulers, but make them wish to assume the characters of friends, of guardians, and of protectors, rather than display the natural haughtiness of their disposition, or exhibit themselves in the same trait of character which they too frequently did with respect to other countries. The equipment of petty fleets for the assumed philanthropic purpose of protecting their friends, the Britons, are the only anecdotes for naval history which present

of that nature, pressed not forward with that alacrity and spirit which they very seldom failed to display in their military character. Cæsar observing the check, ordered his gallies, (naves longas) which were not only vessels of a particular class, to which the Britons were totally unaccustomed, but whose motions were naturally quicker than those of any other in the fleet, to be withdrawn from among the transports and storeships. This being done, every effort was made, first to row them as close in shore as possible, laying their broadsides to the enemy, and then to commence as furious a discharge as they were capable of, from slings, arrows, and stones, as well as the different engines fitted on board the vessels, aided by the manual exertion of the soldiers who formed a part of their crews. This manœuvre was of the most material advantage to the Romans. The form and magnitude of the gallies, the quick motion of the oars, and the sight of the warlike engines, struck such terror into the Britons, that they began to give way. Still there was a degree of hesitation apparent among the Romans, principally on account of the depth of the water, when the standard-bearer of the tenth legion, having invoked the Gods that his attempt might be successful, exclaimed, *Follow me, fellow soldiers, unless you wish to abandon your standard to the enemy, for I myself will fulfil my duty to the general, and to the republic.* Having said this, he jumped resolutely into the sea, and advanced with the eagle towards the enemy. The Romans now exhorting each other not to suffer such disgrace as the loss of their standard would be, resolutely followed his example. Their companions in the vessels which were nearest, observing the conduct of their associates, adopted the same measure, and hastened to close with their foes.

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themselves, from the reign of Domitian to that of Dioclesian and Maximinian. The latter of these joint emperors, possessing the western part of the Roman dominions, and by consequence the coasts of Gaul, appointed, in conformity with his colleague just mentioned, Caius Carausius to command a fleet for their protection, against the depredations of the Saxon, and other pirates. This officer, who was neither deficient in courage or sagacity, is said to have betrayed his trust, and to have received bribes from the plunderers whom he was sent to chastise. Maximinian, enraged at his duplicity, impolitically commissioned a person to assassinate him, which design having by some means miscarried, Carausius passed over into Britain, where the natives, and most of the Romans, moved by a personal esteem for the man, and a sentiment of displeasure at the cowardly conduct of Maximinian towards him, with little hesitation accepted him for their prince. The people of Bullogne, and other places on the opposite shore, having followed their example, he soon became so formidable an enemy, that Maximinian, as the first step towards a treaty of peace, was forced to acknowlege him as emperor of the island. Thus Rome, the mistress of the world, found herself unable to cope with the ruler of Britain, when he became independently possessed of a navy; and here, even through the mist of antiquity, do we discern, as clearly as at the present hour, that great principle of national defence, on which Britain founds her proud superiority; a principle which nature herself has distinctly ordained, and which, in common with the rest of her ordinations, is immutable.

Nor did this circumstance escape the penetration of Carausius. One of his first acts was to form an alliance with the Franks, and other states, who had somewhat outstripped their neighbours in the knowlege of maritime affairs; this enterprising people stipulated to send a powerful fleet through the streights of Gibraltar into the Mediterranean, there to join the navy of Britain. This junction seems to have been prevented by the alacrity of the Romans, who, foreseeing its serious consequences, immediately prepared for war, and sent an army into Gaul, which besieged Carausius in Bullogne, while their fleet, mighty at least in numbers, sailed in quest of their new enemies, whom having met, they totally defeated. Carausius, in the mean time, was not only closely invested by land, but finding himself in danger also of being blocked up by some work of new invention, which Constantius, the commander of the Romans, had constructed at the mouth of the harbour, cut his way in the night through their camp, and escaped from Bullogne to the British coast: there, again in safety

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with his fleet, the Romans beheld the fugitive changed in a moment into an opponent so formidable, that their general deemed it prudent to adopt the extraordinary measure of summoning all the ships from every part of the empire into the neighbouring seas. While Carausius was preparing to repel this unprecedented armament, his hopes of future aggrandisement were cut short by the hand of his confidant Alectus, at once his murderer, and successor.

This miserable assassin, inferior in courage and in conduct to Carausius, having totally forfeited the esteem of the Britons by the singular baseness of his late crime, contrived, however, not only to keep this great Roman power at bay for a considerable time by the aid of his navy, but even to harass the coast of Gaul, and to distress its trade. At length Constantius determined to hazard the event of a sea engagement, and for that purpose sailed to meet what might fairly be called the British fleet, which then happened to lie near the Isle of Wight; but a thick fog intervening, the Romans passed unobserved even to the shores of the island, where, meeting with a hearty welcome from the natives, they landed, and in a spirit of bravery which could not readily be credited, were there not authentic testimony of the event having taken place, burned their own ships. They soon after, in a pitched battle, defeated and killed Alectus, who had abandoned his best security, to fight them on shore.

The short interval, during which Britain had remained an independent sovereignty, ceased at this period, and with its independency, fell likewise its maritime consequence. The internal convulsions of Rome, which soon after followed, shook even the most distant colonies of that mighty empire, and the conduct of its succeeding lieutenants, by turns treacherous, rebellious, or inactive, presents only a series of mutual piratical annoyance, interrupted occasionally by treaties no sooner made, than violated. At length the Romans, after a partial and fruitless possession of Britain for nearly five hundred years, voluntarily quitted the island in the reign of the emperor Honorius.

The Britons, abandoned by those who, in attempting to be their governors, had necessarily become their protectors, soon found themselves unable to resist the attacks of their ancient foes, the Scots and Picts. The arrival of the Saxons succeeded. Whether these strangers were invited as auxiliaries, or came as invaders, has been unnecessarily made a point of controversy among historians, for it is idle to suppose, that the small number which first landed

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under Hengist and Horsa, amounting only to fifteen hundred, could have appeared in an hostile character. As these (according to a remark already made *) were embarked in no more than three vessels, it may certainly be inferred, that the Saxons at that period stood very high in the scale of marine improvement, a consideration which materially relates to the present subject, as Britain, soon after, falling in a great measure under the rule of that warlike people, embraced likewise most of their manners, and customs, and partook of their advantages. There are indeed some reasons for supposing that they were superior even to the Romans in every branch of nautical knowlege and practice, and if these be admitted, the coming of the Saxons into this island may be considered as a grand epoch in its naval history.

The favourable reception which the followers of Hengist and Horsa met with from Vortigern, the British prince, was, owing to reasons before assigned, the signal for a second expedition. A numerous body of their countrymen, with a fleet of forty ships, arrived on the northern coast, and, as allies to the Britons, furiously attacked the Scots and Picts, whom they repeatedly vanquished with great slaughter, and afterwards sat down quietly in the Hebrides, and on the western shores of Scotland. But they soon quitted that situation, and, spurred on by the ambition of Hengist, as well as by the desire of settling in a climate more hospitable and productive, turned their arms, jointly with those of his troops, against the too credulous Britons. An horrible devastation followed, but in the end, the latter proved successful. Vortimer, the son of the British ruler, after having defeated the Saxons in three engagements, and driven them to their ships, gave them battle by sea, in which proving equally fortunate, the invaders turned their backs for a while on Britain, and fled to their own coast. This action is said to have happened off the isle of Thanet. It may be asked here, how came the Saxons, whom we have just conjectured to be very superior in naval skill and strength to the Britons, to be conquered at sea by the latter? Doubtless, because the whole British navy, however ill appointed, was infinitely more numerous than that which transported the Saxons hither. But hence arises another question seemingly more difficult. Why then did not the Saxons send for a naval succour from home? The answer is to be found in their own system of polity. It was among the customs of Germany to assemble, from time to time, the young men of the

* See page 217.

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country; and to draw from them, by casting lots, such a number as by their princes was thought necessary to reduce the population of their respective provinces, to a due and safe proportion. These were furnished with ships, arms, and provisions, sent abroad to shift for themselves, and forgotten at home; by the operation of this law or custom, were those Saxons, who first landed in Britain, driven from their native land, as Hengist himself expressly declared in the speech with which he introduced himself to Vortigern. This short digression seems necessary to avoid the charge of incorrectness or inconsistency.

Hengist was not long absent from Britain. The death of Vortimer, and the weakness of Vortigern, encouraged him to return, numerously attended, under the pretence of settling all differences by a personal treaty, and the Saxons met Vortigern and his chiefs apparently for that purpose. This congress ended in the slaughter of the latter, to the number of three hundred, and in the captivity of Vortigern, who afterwards obtained his liberty as an act of clemency from the Saxons.

History, as might be expected, is nearly silent on the subject of naval affairs for several years after that great event. The invaders, too busily engaged at home to think of warlike excursions against their neighbours, who, on their parts, felt no temptation to attack a warlike enemy, strongly seated in a country already ravaged, employed that time in cultivating the affections, or enforcing the obedience of the Britons. In the mean time, as human attention can scarcely ever be duly directed at once to two great objects, historians observe, that they neglected their navy, but of this no instances are given. Offa, a king of the Mercians, to whom, after the custom of Germany, the sovereignty of England had been committed by his brother princes, first distinguished himself at sea. Provoked by his tyranny, or incited by their own restlessness, these provincial kings joined in a league against him with those Britons, who still maintained a sort of independency in Wales, and were defeated. They applied for succour to Charlemagne, king of France, who wrote to Offa in their behalf, but with an haughtiness which the proud Saxon could not brook, and which produced an answer in similar terms. Couscious, however, of the power of Charlemagne, who was then on the point of succeeding to the empire, Offa made vigorous preparations for defending his coast, and established a naval force so respectable, that the emperor was induced not only to revoke an edict which he had issued for the prohibition of commerce, but to form a treaty of alliance with him.

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The Heptarchy was soon after this destroyed by Egbert, who assumed the government of England in the character of an absolute monarch. Emboldened, perhaps, by the temporary disorders which attended that important change, the Danes, who for some years past had infested the northern shores of Britain in small parties, made a descent on the coast of Kent, and ravaged the isle of Sheppey. Some historians have attributed the maritime consequence of this people to the severities and tyranny exercised against them by the emperor Charlemagne, who, though represented as naturally generous and humane, had been induced, by his religious bigotry, and rather too extravagant zeal in the propagation of those tenets which he had himself adopted and espoused, to attempt enforcing them by that most coercive of all measures, military execution. A considerable portion of the inhabitants of Germany were pagans, and being extremely uneasy as well under their civil, as their religious subjection, had revolted from their conqueror, who, not displeased, perhaps, at so fair an excuse for punishing their infidelity, not only carried all the fury of war, accompanied by its utmost horrors, through their country, but is actually reported to have decimated the inhabitants, after their surrender, for the purpose of securing their submission to his rigorous edicts, which imposed an unqualified compliance with his imperial will. Disdaining these trammels, the more warlike of the Pagans are reported to have fled into Jutland, (from whence the Saxons had issued forth) in the hope of avoiding the fury of his persecution. That country being inhabited, and in consequence of repeated emigrations into warmer climates, but thinly, by a people whose manners, and whose warlike disposition were congenial to their own, they were received not only with the kindest hospitality, but with an assurance that the personal aid of their hosts should not be wanting, to obtain full satisfaction for the wrongs and injuries which the strangers had sustained.

Stimulated and encouraged not merely by the promises, but by the actual performance of them, a part betook themselves to maritime pursuits, and spreading into the adjacent wild and inhospitable districts, became distinguished by the appellation of Danes and Norwegians, who, as is well known, became, in a subsequent age, united under the rule of one sovereign. Being obliged to maintain themselves in their uncultivated country by fishing, they had acquired no contemptible experience in the art of navigation, and in their military excursions pursued the method practised against the Roman empire by the more early Saxons. They made descents in small bodies from their ships, or rather boats,

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boats, and ravaging the coasts, returned with the booty to their families, whom they could not conveniently carry with them in such hazardous enterprises. But when, as their power increased, that of their armaments became also augmented, they made incursions into the inland countries, where, soon as they found it safe to remain, and they could establish themselves in the midst of the enfeebled enemy, they accustomed themselves to crowd their vessels with their wives and children. Having no longer any temptation to return to their own country, they willingly embraced an opportunity of settling in the warm climates, and cultivated fields of the south.

Allured by the fertility of Britain, they were tempted to try their fortune in various expeditions, which, according to the circumstances attending them, were occasionally completely successful, and at other times most fatally unfortunate. Their first appearance in Britain is said to have been in the year 787, when they made a descent on the Saxon kingdom of Wessex, of which Brithic was at that time sovereign. The insignificance of their force prevented their effecting any material injury or depredation. It is indeed most probable, that the whole intention and aim of it was merely that of discovering the state of the country, and what success might be expected from a more serious attack. In this expectation they succeeded, and returned to their own country not without having given a very manifest proof of their hostile intentions; for it being demanded of them by the præfect of the district where their disembarkation was effected, who or what their intentions were, they suddenly assailed and killed him, after having put to flight the trivial escort that attended him, more as a display of his dignity, than as a guard to his person. With this petty mischief, they rested satisfied for that time, or perhaps fearing the arrival of a force sufficient to cut off their retreat, they flew, with some precipitation, to their vessels, and were fortunate enough to effect their escape.

A division of the same people addicting themselves, some years afterwards, to the same spirit of emigration, and thirsting, perhaps, to revenge the injuries which they considered their ancestors as having sustained, burst, with irresistible fury, into the provinces of France, which the degeneracy of Charlemagne's posterity *, with the civil feuds and dissentions which prevailed there, rendered

* The following ingenious and just account of the causes which gave birth to the dismemberment of his empire, is given by Mr. Gibbon:—"The vast body had been inspired and united by the soul of Charlemagne, but the division and degeneracy of his race soon annihilated the imperial power, which would

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rendered no difficult conquest. Here they acquired the well known appellation of Normans, which was bestowed on them in allusion to the northern district from whence they had burst forth. Of this people it will hereafter be necessary, as may naturally be supposed, to enter into a more enlarged detail; and indeed, were it not on account of their natural relationship, as it were, to the Danes, the mention of them in this place might have been deemed improper, and out of time. Bearing with them those habits in which they had been nurtured, and not merely content with the conquest and possession of that more fertile country, which they had made themselves masters of, in exchange for their own, they were scarcely settled in their new territory, ere they renewed their original occupation of maritime depredation. So successful were they, in the enterprises they undertook against the Franks, who were unaccustomed to such modes of attack, that they not only rendered their very name terrible to all those districts bordering on the sea coast, but, acquiring confidence as well as strength from their success, caused the more distant provinces to tremble with apprehension, and fear of an unprovoked attack.

To return, however, to the Danes, who, in the space of a very few years, considerably improved on their first attempt, Egbert quickly engaged their fleet of thirty-five ships near Charmouth, in Dorsetshire, but with what success chroniclers *are not agreed*. It may be concluded, however, that he gained no material advantage, as the Danes maintained their ground on the neighbouring

would have rivalled the Cæsars of Byzantium, and revenged the indignities of the Christian name. The enemies no longer feared, nor could the subjects any longer trust the application of a public revenue, the labours of trade and manufactures in the military service, the mutual aid of provinces and armies, and the naval squadrons which were regularly stationed from the mouth of the Elbe to that of the Tiber. In the beginning of the tenth century, the family of Charlemagne had almost disappeared; his monarchy was broken into many hostile and independant states; the regal title was assumed by the most ambitious chiefs; their revolt was imitated in a long subordination of anarchy and discord; and the nobles of every province disobeyed their sovereign, oppressed their vassals, and exercised perpetual hostilities against their equals and neighbours. Their private wars, which overturned the fabric of government, fomented the martial spirit of the nation. In the system of modern Europe, the power of the sword is possessed at least in fact by five or six mighty potentates; their operations are conducted on a distant frontier by an order of men who devote their lives to the study and practice of the military art; the rest of the country and community enjoys in the midst of war the tranquillity of peace, and is only made sensible of the change by the aggravation or decrease of the public taxes. In the disorders of the tenth and eleventh centuries, every peasant was a soldier, and every village a fortification; each wood or valley was a scene of murder and rapine, and the lords of each castle were compelled to assume the character of princes and warriors."

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shore. Two years after, they landed in great numbers in Wales, where they were repulsed both by land and sea with great slaughter. Extraordinary and prominent an event as was the accession of this monarch to the throne, considered in the light of the sovereign over that part of Britain ever since known by the name of England, it seems but little interesting to the history of maritime pursuits, far as that country is concerned. The union of seven states under the dominion of one person, produced not on the instant, as might in some degree have been expected, that enlargement of power and consequence which the reflection and leisure, added to the patriotic gallantry of succeeding princes, allowed them to raise. But though this allotted section of history may perhaps not end with that degree of eclat, which the honest enthusiasm of those who profess themselves admirers of maritime pursuits might wish, yet the nearly coinciding consequential events which took place not merely in Britain, but other countries, appear to point out the propriety of drawing a general comparative view, in respect to the nautical history of the world, in the ninth century.

The death of the emperor Charlemagne, who had, by the incessant activity of his mind, and those exertions which his natural prowess gave birth to, not only supported, but revived the name, and in some degree the consequence of the Roman empire, appeared to forebode a revolution in the political state of Europe, which few or no persons then living, perhaps, could even guess at the extent of. The industry and gallantry of his predecessors had bequeathed to Charles a veteran army, inured to dangers, and nearly to an absolute contempt of them, by a long course of warfare, almost totally unchequered by defeat. Success naturally inspires confidence in the hearts of one party, and spreads terror, in an equal degree, over those of its opponents. The empire of the Franks, or rather of Rome, as it was affectedly called, could only be retained in the extent to which it had been raised, by a continuance of those qualities which, after having given it birth, had increased it, till it had reached a species of maturity. Still, however, its health and strength was not so sufficiently established, as to render it capable of defying the feverish attacks of foreign foes, or the convulsive disease of disunion. Of those territories which had heretofore appeared as distinct and independent kingdoms, Germany, Hungary, and a considerable part of Italy, were incapable, from their situation, of contributing to the naval strength of the empire, had its sovereign even wished it. Spain, France, and the remaining part of the Italian dominions, were not, indeed,

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indeed under the same natural prohibition, but causes, already explained, prevented the direction of their powers into that channel. Owing to this circumstance, the naval history of the world, which, in consequence of the unimproved state of navigation, and the obscurity of all information, in respect to the other quarters of the globe, is unavoidably confined to Europe, becomes additionally contracted. Even the eastern empire, and its foes the Saracens, were possessed of no permanent naval force. Their gallies and fleets, fitted out for the purpose of carrying into effect desultory expeditions, were generally abandoned to the ravages of time, soon as their first object was rendered successful, or abortive. The system of constantly maintaining a fleet, so as to be ready at a short notice, to repel the foes of its country, was a refinement which, though it had in some respects prevailed during those wars which Rome had been engaged in, during her long and uninterrupted struggle for the acquisition of universal, or at least extensive empire, yet the curtailment of that dominion, and the dereliction of the principle, rendered unavoidable by the inroads of the Goths, and their successors, had caused a total suspension of the measure. A variety of causes contributed to give birth to this conduct, which, without some explanation, may be thought more unwise than it in reality was. The first objection to a perseverance in it, was that of expence, which, except on extraordinary emergencies, the empire of the east was very ill able to sustain, considering the immense military force it was absolutely necessary should be constantly kept on foot, for the defence of the frontiers; though notwithstanding every precaution, the armies of its invaders frequently found means to penetrate even to the capital itself. The second reason was in all probability founded on the haste with which, comparatively with modern times, the fleets, then used, could be not only equipped, but even constructed; while the third, which, perhaps, was not the least forcible, though the most absurd of the whole, was the constant infatuated hope, that the quietude or avocations, as well of the Saracens as other formidable enemies, would not render even the equipment of a fleet, much less its maintenance, necessary. This is a species of folly which, though repeated and fatal experience has so often proved a political crime, has nevertheless been frequently apparent in the conduct of various countries, from the earliest ages to the present moment.

The Saracens on their part fell nearly into the same habits, because they not only were, what might be called naturally, more addicted to enterprises of a military, than of a nautical nature, but also because they placed their chief hopes

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on the suddenness of their attack, which they were accustomed to carry into effect, by an hasty collection of all vessels, various as they might be, in their descriptions and characters, which they caused, without creating alarm by the magnitude, or even appearance of particular preparation, to rendezvous, at a stated time, at the particular point from whence they intended to direct the fury of their attack. The existence of naval power throughout the globe, might therefore be said to have been contracted, at the time of the emperor Charlemagne's death, within the narrow bounds of the Venetian territories, who confined themselves entirely to the limits of the Mediterranean; and to the fluctuating navies of the Saxons, together with those of other northern states, whose mode of warfare, conducted on principles requiring the most desultory and rapid movements, have rendered the appearance of their fleets not unlike the flash and explosion of a cannon, which, though most grievously terrific on the instant, has only an actual existence for the moment, and then totally vanishing, creates dread merely by the continued apprehension of its sudden, and unwarned repetition. " In their engagements," says Mr. Gibbon, " by sea and land, they (the Saracens) sustained, with patient firmness, the fury of the attack, and seldom advanced to the charge till they could discern and oppress the lassitude of their foes." However successful they might frequently prove in their nautical pursuits, their connection with them almost invariably appeared as a species of violence done to their inclination, and as an act rendered necessary to the furtherance of their projected designs against the possessions and liberties of those to whom they declared themselves enemies. Driven from France by the gallantry of the ancestors to Charlemagne, they sought to repair their disgrace, and obtain that which was of more serious consequence to them, a proper compensation for the loss they had sustained in respect to territory. They accordingly spread their arms to the southward; and Africa, with a considerable part of the dominions of the emperor of the east became, as it were, their devoted prey.

The birth of the phœnomenon, Mahomet, and his appearance in the world at the commencement of the seventh century, might have proved of singular consequence to nautical pursuits, had not his disposition, as well as that of his immediate successors, been entirely military. The spring of his actions is obvious, and the policy of the pretended prophet was too deep to adopt any other conduct. The prosecution, or at least the success of a design, is frequently frustrated by an attempted promotion of it through varied means, and from different

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different points; while, on the other hand, the most extensive revolutions, as well religious as civil, have been carried into effect even with very inferior powers, and from the most humble origins, when those means have been steadily, and unremittingly applied to the attainment of one point, towards which all efforts have been directed as to one common focus. Mahomet, well aware that the least complex means that can be adopted in furtherance of a project must invariably prove the best, ceased not to inspire his followers with an enthusiasm for military pursuits, which he contrived, by various artifices and allurements, to raise almost to a pitch of phrenzy. This not only procured them success in their undertakings, but for a time, rendered them, apparently, almost invincible. The collection of an army, more particularly considering the simple state in which military tactics then were, was the operation of a few days, or perhaps only of a few hours. Every peasant could be transformed on the instant into a soldier. He readily became acquainted with all the duties of his profession. The productions and plunder of the districts which he over-ran with religious zeal, and in the inspired hope of obtaining eternal *sensual* felicity after death, made him totally regardless of his life, and supplied him with food, as well as with raiment; so that his sword and his Koran became the only necessary articles of equipment for the field of ravage and of glory.

A navy was not to be collected by such slender means. Its formation required a species of deliberation that was incompatible with the views of Mahomet and his followers; and even the ambition of acquiring maritime consequence was postponed for ages, till the proselytes to the new faith had acquired, by the means of support to which they had first resorted, sufficient strength and leisure to admit of their indulging themselves in those propensities and pursuits which were common to the inhabitants of other countries, and to the professors of a different religion. The success which attended the measures adopted by the pretended prophet and his successors, sufficiently proved the deep laid policy by which they were regulated and conducted. Within the short space of two centuries, the tenets of the Koran were received as of divine promulgation, from the Ganges to the Mediterranean, from the southern Atlantic almost to the Caspian. In all probability, half of that part of the globe then known to Europeans, had either voluntarily, or compulsively, embraced the creed of Mahomet, without ever experiencing the actual necessity of possessing, or finding any serious inconvenience from the want of a fleet. That celebrated and powerful prince, the Caliph Haroun Al Raschid, whose subjects as well as

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himself were disciples of the new sect (whose friendship and alliance, remote as his situation, and consequently his interests were, had been with some degree of assiduity courted by the emperor Charlemagne himself) possessed no naval force the proof of whose existence extends beyond the pompous fiction of oriental romance, or tales invented for the amusement of children. Yet this mighty prince found no difficulty in causing the Emperor of the East to tremble in his palace, and over-running his territories in eight distinct and successful expeditions. The origin and progress of the Mahometan religion may therefore be considered as having proved, during the seventh and eighth centuries, a very considerable bar to the encouragement and promotion of nautical pursuits, the commerce of its votaries having been almost totally carried on by the medium of caravans, and their conquests, during the same period, established, as already observed, entirely by their armies. If the very nature of those tenets, on which the Mahometan religion is founded be considered, it may really be inferred, notwithstanding the observation might at first sight be thought too frivolous, or perhaps too ludicrous, for so serious a subject, that the growth and strength of the new faith most imperiously forbad the encouragement of, and even the entrance into, maritime pursuits. The same chain of inclination, the same habits in thinking, the same pleasures, the same virtues, and the same vices, which have, to go no farther back, influenced as a general acting principle during the last twelve centuries the life of a soldier, and operated as his inducements to enter into the occupation of one, served to enlist and unite under the banners of Mahomet, followers, whose previous principles of religion, if they really possessed any, were almost as various as the features of their faces. A military life requiring little thought, its promised multitudinous pleasures formed the principal spring or support of all its actions, its duties, and avocations; so that the particular species of enthusiasm which is better known by the term ardour, seemed to mark for its own all the disciples of the pretended prophet. There will, therefore, perhaps be but few people sceptically enough inclined to deny their acquiescence, that Mahomet, having seriously contemplated the characters which were most likely to form that heterogenous group which he hoped to lead to victory, contrived and regulated every principle of his faith, so that religion should awaken the energy of his armies. By holding forth sufficient inducements and rewards to the warrior, that warrior felt himself, as it were conscientiously, bound to fight most strenuously, in the service of a master he adored, and from whose peculiar promises he felt

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as much real pleasure in resigning his life, provided it were in defence of his creed, as he could have received by any supposed supernatural intimation of his being permitted to pursue his thirst of pleasure, and his lust of conquest, unchecked, and with vigour unimpaired, to the latest moments of his mortal existence.

Such a creed, however fortunately contributive it might prove to support the strength, and rouse the activity of armies, must become totally devoid of influence, when its application was attempted to be introduced in aid of a maritime war. The latter is not an undertaking commenced, and carried into execution on the moment of its birth. The life of a seaman teems not, in general human conception, with that variety of fancied pleasures, and enjoyments, or rather dissipation, which is invariably attributed to his fellow labourer in the field of war. His art, even in those early times when the practice was necessarily in the most simple and unmixed state, demanded that species of consideration and cool reflection, ill suited to the temper of the volatile or the dissipated man. Such were the obstacles which appeared to the discerning eye of Mahomet an insuperable objection to raising such a body of men as his necessities might appear to require, if he attempted to man a fleet which could waft his ardent and enthusiastic followers to the most distant quarters of the world, when his armies might at any time advance and extend their force, or prudentially contract themselves into narrower limits, just as their own temper, their partial successes, or the circumstances in which their neighbours stood, seemed to allow, or invite. In the equipment of a fleet, there was a certain previous disbursement of treasure, a proclamation of approaching tempest, and a waste of time, circumstances constantly injurious to success, and which were rendered unnecessary by the simple advancement of the standard of the prophet. His clarion sounded, and with such shrillness, that few nations ventured, with any kind of hope, or prospect of good fortune, to oppose his progress, save the Emperor of the East.

The causes just assigned having proved sufficient, far as the influence of the Koran extended, to throw the occupation of ship-building if not into contempt, at least into neglect; they combined, according to the same principles which had prevailed for so many centuries, in producing the same effect throughout the eastern empire. The Ottoman power did not, however, long persevere in the same principles of action. As its strength increased, the gradual accession of nations as allies, or subjects, put the followers of Mahomet into

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into possession of ports and harbours which appeared extremely convenient for commerce; they gradually entered into nautical pursuits, as well in the capacity of merchants as of warriors. This enlargement, however, of views and ideas, does not properly come within the pending section, and is only mentioned for the purpose of averting any hasty charge of inconsistency that might arise on the sudden recollection, without immediately adverting to the chronology, that at no very distant period of time from the death of Charlemagne, the fleets of the Turks, and of the Venetians, were accustomed to meet in dreadful fury, and contend for the palm of victory, with a degree of rage that appeared to be the efflux of some still stronger passion than the love of liberty, the thirst of glory, or the ambition of conquest. Suffice it for the present to repeat, that on the demise of the emperor Charles the Great, the naval power and commerce of Venice was so well conducted and arranged, as to possess greater respect, and political influence, than that of any country in the world.

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CHAPTER THE THIRTEENTH.

Causes of the Decline and contracted Pursuit of Naval War as well as Commerce—its Revival by the Venetians—Speech of one of their Doges in Commemoration of their former Greatness—Account of a Band of Andulusian Freebooters, with a Statement of their Naval Force—the Primæval Naval History of the Northern European Nations—Origin of the Rossi or Roxolani, now called Russians—their Patience and Perseverance exemplified by their having undertaken a diplomatic Journey over Land to Constantinople—their Passage from thence in Company with the Ambassadors sent by Theophilus, Emperor of the East, to Lewis, Son to Charlemagne, Emperor of the Franks—Origin of the Scandinavians—their Passage into Schlavonia—their Reception, Dissimulation, and Conduct—their Intermixture with the Rossi, and Assumption of the same Name—their Acquisition of Strength, in consequence of the Emigration from Britain, occasioned by the Norman Conquest—Improvements in Geographical Knowlege, and Extension of Territorial Discoveries—Intercourse established between Russia and the Empire of the East—Description of the Vessels used by the Scandinavians, or Russians, for the Purposes of Commerce—the Method of conducting it, with its Extent—the various Enterprises undertaken by the Russians against the Metropolis of the Grecian Empire—their Success, with a Description of the Vessels which composed their Armaments—Commercial Spirit of the Croats—Aversion of some Individuals among them to Mercantile Pursuits—turn Freebooters, and commit various Depredations, till finally subdued by the encreasing Power of the Venetians—State of the Naval Force possessed by the Grecian or Eastern Empire, with the various Methods adopted for its Support.

THROWN into a channel almost totally new and unexpected, after having nearly experienced annihilation; narrowed, at least in extent, to almost that original state of infancy, from whence they had been so many centuries earlier introduced to the knowlege and admiration of the whole world, maritime pursuits might, without impropriety, be said to have experienced a second birth about the middle of the ninth century. The history of their preceding and first life, might be considered as almost a total void, did it not

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not serve to explain, in some measure, the causes of particular customs and habits, which, without such elucidation, might perhaps pass for some of those extravagant effects of unaccountable folly, whim, and caprice, which frequently appear as well in the life of an hero, as the history of a science. Its childhood, and perhaps even its youth, rarely affords materials sufficiently interesting, to enable either the biographer, or any other species of enquirer, to descant on them with pleasure. A series of years, and perhaps ages, pass over with less interest, that would probably be produced in a few months, or even days, of more ripened manhood, or improved science, when the enquirer begins pleasurably to trace the gradual progress towards perfection, with that degree of avidity which never fails to attend an expectant realization of hope, and its conversion from doubt, into certainty.

At the death of Charlemagne, the Venetians certainly held the most pre-eminent rank among the naval powers of Europe, which consequently was then considered as the universe, at least in respect to maritime pursuits, and in which it has, ever since, continued to retain solely to itself almost the same rate of superiority, without the smallest opposition or rivalship. The public speech of one of its Doges, made as far back as the end of the fifteenth century, when its power had, through causes which will be hereafter assigned, materially declined from its zenith, may, after making every fair allowance for national prejudice and partiality, stand as no contemptible record of its pristine consequence.—" What country was there ever in being, that more deserved to be assisted and maintained by its children, than this of ours, which obtains, and has for many ages obtained the chief place among all the cities of the world, and from which, its citizens reap vast and innumerable conveniences, profits, and honours? A city truly admirable, if we consider either its natural advantages, or the marks of its grandeur, from an almost perpetual course of prosperity, or the noble qualities and generous disposition of its inhabitants. Its situation is most astonishing, it being the only city in the world that is seated amidst the salt waters, and so compact in all its parts, that it enjoys at once the benefits of the waters, and the pleasures of the land. Secure, by its not being seated on the continent, from attacks by land, and safe, by its situation in shallow water, from naval assaults. How stately are the edifices, private as well as public, erected with incredible cost and magnificence, and full of the most ornamental pieces of foreign marble, and rare stones, imported from all parts of the world! What an infinite quantity of excellent pictures, statues, carved pieces, and ornaments of

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of mosaic work! What a number of the most beautiful columns, and other like pieces of the most curious workmanship! What city is there on the face of the earth, that has a greater concourse of foreigners, who come hither partly for the benefit of living securely in this free and blessed country, and partly for the sake of commerce? Hence is Venice plentifully supplied with all sorts of merchandize and manufactures, whence the riches of our citizens are continually increasing, and our republic receives a greater revenue within the compass of this city only, than many kings from their whole kingdom. I say nothing of the numbers of learned men in all arts, and sciences, the brightness of the scholar, and the bravery of the soldier, by means of which, in conjunction with other advantages, this republic has acquired more glory to itself, and to its subjects, from its exploits, than ever any nation obtained, since the time of the Romans. I omit to observe, how surprising it is to see in a city, where nothing grows, and which is very full of inhabitants, a superfluity of all things. Our command was at first confined to these barren and naked rocks, but the brave spirit of our ancestors extended their sway, first over the nearest sea, and the circumjacent lands, from whence afterwards, by happy successes, they enlarged their dominions to more distant seas and provinces, and penetrated to the utmost bounds of the east, acquiring so great an empire by sea and land, and maintaining it so long a time, still increasing their power, and enlarging their bounds to such a degree, that during a long course of years, Venice was the dread and terror of all the other cities of Italy, and no other means was thought sufficient to humble and depress her, than a concurrence of the frauds and forces of all the princes in christendom."

But though the consequence of this people, particularly as merchants, stood confessedly the highest, many other countries, either allured by the observation of advantage, or excited by a thirst of enterprise inherent in themselves, appeared so strongly addicted to the same pursuit, as to threaten becoming, at least, competitors in the same course. Though perhaps unequal to the task of bearing away the palm, they appeared fully resolved they would not be disgracefully outran. The Adriatic seemed as it were the natural property of the Venetians, and was not only considered, but actually claimed by them as such, which the pompous and extravagant ceremony annually performed in subsequent times sufficiently proves: but the Genoese, soon as they acquired power, as was the case in the eleventh century, set up almost equal pretensions to the exclusive right of navigating the Mediterranean. The jarring interests of two rivals,

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situated at so small a distance from each other, naturally gave birth to a scene of warfare, almost uninterrupted, which, though it answered the purpose of mutually diminishing that power, which, but for such a check, might have materially tended to the disquiet of the greater part of the world, contributed, in no small degree, towards the mechanical improvement of Marine Architecture. The reason is so obvious, as to render it almost an insult to the human understanding, to enter into any explanation of it.

Notwithstanding nautical pursuits appeared so much abandoned, considered as a public measure, and connected with the government of the state, except in the instance of the Venetians and Genoese, who certainly derived from it not only their consequence, but their political existence, yet there were by no means wanting a number of private adventurers, who either impressed with the desire of acquiring glory, impelled by an enterprising spirit, the rage of exploring distant realms, or uneasy under some particular restrictions laid on them by the government of their native country, equipped by mutual consent, and without any public authority, such armaments as their number and means enabled them to send forth. They either entered into the service of those nations which thought proper to retain them, or engaged in such prædatory expeditions as they thought most likely to be attended with advantages best calculated to repay the hazard, and enable them to prosecute, with success, their future views, directed in the same line of plunder. A society of this description was collected together in Andalusia, about the year 823: their numbers are not specified, but according to report, sufficed to man nearly twenty gallies; and the insignificance of the naval force possessed by the greater part of those nations whose territories bordered on the Mediterranean, is most forcibly proved by the success which the desultory attacks, made by this petty armament, met with. Although they could not be viewed in any superior light to that of freebooters, yet nations, far from inconsiderable, were content to purchase quietude from their ravages, by the payment of such tribute as their means enabled them to discharge, or the rapacious tempers of those who threatened them with vengeance, thought proper to exact.

The pursuit of commerce, and the naturally attendant spirit of nautical enterprise, was not long confined to the genial climate of Italy, and the shores of the Mediterranean, but extended even into the inhospitable seas of the north. The shores of the Baltic, when the milder seasons of the year permitted the rude artless vessels of those early days, navigated as they were by an uncivilised,

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lised, untutored people, to traverse such dangerous coasts, became, in great measure, covered with numerous and prædatory armaments, mutually intended by the inhabitants of one territory, or district, for the destruction and pillage of those their destined, and hoped for victims, who dwelt in one not far distant. As the voyages were short, and prudence naturally suggested a choice of favourable weather, they were, far as the obscure history of those ages, particularly in respect to countries with which the rest of Europe held so slight an acquaintance, neither marked with sufficient variety either of victory, discomfiture, or other misfortune, to render it in any degree necessary to enter into the particulars of them, even were they more distinctly known. Their canoes, or whatever other appellation the vessels of that country may be thought entitled to, were on a par with those which could be opposed to them; and though history has been silent on that point, it is not unfair to conclude, such a share of dexterity might, on many occasions, be displayed, as entitled the different commanders to as high a portion of fame and applause, (short lived though it proved) as would be reaped in modern times by the most scientific manœuvre of a powerful fleet, and the consequent destruction of a much dreaded foe. Ingenuity also might have been, and, without doubt, deservedly, as much applauded in the invention or improvement of a paddle, as it would now in the most useful contrivance suggested by a marine architect of the present day.

The first introduction of the Rossi, or Roxolani, now called Russians, to the notice and acquaintance of the more civilised and luxurious inhabitants of the south, as well as their early subsequent history, is certainly too interesting to be passed over without notice. They became first publicly known in the ninth century, in consequence of an embassy sent by Theophilus, emperor of the east, to Lewis, the son of Charlemagne, who was then emperor of the Franks, or west. The ambassadors from Constantinople were accompanied by persons invested with the same character from the Great Duke, or to use the native term which was bestowed on him, the Chagan or Czar of the Russians. In their route over land to Constantinople, they had been under the necessity of passing through the territories of people equally barbarous with themselves, and from whom escape became extremely difficult. Wishing to avoid the perils of return, they became attendants in the train of the embassy to Lewis, for the purpose of soliciting a conveyance by sea to the country which gave them birth. The suspicion of the Franks caused a minute enquiry as to the

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place of their residence, and the farther investigation terminated by no means favourably to them. It was readily discovered, that they were as nearly allied in habits, as they were situated in respect to territory, to the Swedes and aboriginal Normans, whose inroads and devastations had rendered their very name terrible to the Franks, and it was presumed, not unnaturally, that some lurking purpose of discovery, in aid of meditated attack, was the real cause of the circuitous visit, instead of that which was actually held forth as the pretext of it. Under this persuasion, the ambassadors of Theophilus were dismissed, but their northern companions were detained till the emperor of the Franks should have acquired such information as he thought requisite to the safety of his own, and the sister empire.

The Scandinavian origin, say historians, of this people, and of the princes of Russia, is confirmed and illustrated not only by the annals of the country itself, but the general history of the north. The Normans, who had so long been concealed by a veil of almost impenetrable darkness, burst suddenly forth in all the spirit and consequence of naval, as well as military enterprise. The extensive, and as they are said to have been, the populous regions of Denmark, Sweden, and Norway, were parcelled out into districts, governed by independent chieftains, possessing, almost without exception, a desperate and dangerous spirit of adventure, which caused them, to use the same high flown terms of character that have already been applied to them, to sigh in the laziness of peace, and smile even in the agonies of death. Piracy, in proof of these assertions, is represented as having been the exercise, the trade, the glory, and the virtue of the Scandinavian youth; that impatience of the restraint imposed upon their natural ardour by the inhospitable climate, and remote situation of the country which gave them birth, from the scene where enterprise promised to be more frequent, became at times so violent, that they have been known to start furiously from the banquet, grasp their arms, sound their horn, ascend their vessels, and explore every country, every coast, which promised either spoil, or settlement. The Baltic, from being naturally the first scene of their naval atchievements, afforded them no difficult passage to the eastern shores, the silent residence of the Fennic and Schlavonian tribes. The primitive or aboriginal inhabitants of Russia itself, who bordered on the Ladoga lake, were content to purchase quietude by a tribute of the skins of white squirrels, which they paid to these invaders, on whom they bestowed the appellation of Varangians, or Corsairs. The superiority of their discipline and knowlege, with respect to military tactics,

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tactics, called forth not the reverence, but the fear of the less warlike natives, and pursuing precisely the same line of conduct which their Saxon neighbours adopted in Britain, they introduced themselves not as foes, but as allies and friends. Adhering strictly to the same specious behaviour, they submitted to serve as their auxiliaries in various wars which they became engaged in with the barbarous hordes which inhabited the interior. By these means and pretexts, they acquired, without much difficulty, a perfect knowlege of the country. But their possession of it was not decisively secured till after they had experienced many of those reverses of fortune which rarely fail to occur in the conquest of nations deemed nearly impotent. Sometimes were they driven back with irresistible fury by those whom they nearly regarded in the humble light of their vassals, and almost instantly as if deriving fresh courage from their defeat, did they reinstate themselves in all the plenitude of conquest. " At length," according to Mr. Gibbon, " Ruric, a Scandinavian chief, became the father of a dynasty, which reigned above seven hundred years. His brothers extended his influence, the example of service and usurpation was imitated by his companions in the southern provinces of Russia, and their establishments, by the usual methods of war and assassination, were cemented into the fabric of powerful monarchy.

" As long," continues the same author, " as the descendants of Ruric were considered as aliens and conquerors, they ruled by the sword of the Varangians, distributed estates and subjects to their faithful captains, and supplied their numbers with fresh streams of adventurers from the Baltic coast. But when the Scandinavian chiefs had struck a deep and permanent root into the soil, they mingled with the Russians in blood, religion, and language, and the first Waladimir had the merit of delivering his country from these mercenaries. They had seated him on the throne, his riches were insufficient to satisfy their demands, but they listened to his pleasing advice, that they should seek not a more grateful, but a more wealthy master, that they should embark for Greece, where, instead of the skins of squirrels, silk and gold would be the recompence of their service. At the same time, the Russian prince admonished his Byzantine ally to disperse and employ, to recompence and restrain these impetuous children of the north. Cotemporary writers have recorded the introduction, name, and character of the Varangians, each day they rose in confidence and esteem, the whole body was assembled at Constantinople to perform the duty of guards, and their strength was recruited by a numerous band of their countrymen

countrymen from the island of Thule. On this occasion, the vague appellation of Thule is applied to England, and the new Varangians were a colony of English and Danes, who fled from the yoke of the Norman conqueror. The habits of pilgrimage and piracy had approximated the countries of the earth. These exiles were entertained in the Byzantine court, and they preserved, till the last age of the empire, the inheritance of spotless loyalty, and the use of the English and Danish tongue. With their broad and double edged battle axes on their shoulders, they attended the Greek emperor to the temple, the senate, and the hippodrome. He slept and feasted under their trusty guard, and the keys of the palace, the treasury, and the capital, were held by the firm and faithful hands of the Varangians.

" In the tenth century, the geography of Scythia was extended far beyond the limits of ancient knowlege, and the monarchy of the Russians obtains a vast and conspicuous place in the map of Constantine. The sons of Ruric were masters of the spacious provinces of Wolodomir, or Moscow, and if they were confined on that side by the hords of the east, their western frontier, in those early days, was enlarged to the Baltic sea, and the country of the Prussians. Their northern reign ascends above the sixtieth degree of latitude over the Hyperborean regions, which fancy had peopled with monsters, or clouded with eternal darkness. To the south they followed the course of the Borysthenes, and approached with that river the neighbourhood of the Euxine sea. The tribes that dwelt or wandered in this ample circuit, were obedient to the same conqueror, and insensibly blended into the same nation. The language of Russia is a dialect of the Schlavonian, but in the tenth century these two modes of speech were different from each other; and as the Schlavonian prevailed in the south, it may be presumed, that the original Russians of the north, the primitive subjects of the Varangian chief, were a portion of the Fennic race. With the emigration, union, or dissolution of the wandering tribes, the loose and indefinite picture of the Scythian desert has continually shifted. But the most ancient map of Russia affords some places which still retain their name and position, and the two capitals, Novogorod and Kiow, are coeval with the first age of monarchy. Novogorod had not yet deserved the epithet of great, nor the alliance of the Hanseatic league, which diffused the streams of opulence, and the principles of freedom. Kiow could not yet boast of three hundred churches, an innumerable people, and a degree of greatness and splendor, which was compared with Constantinople by those who had never seen the residence

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residence of the Cæsars. In their origin, the two cities were no more than camps, or fairs, the most convenient stations in which the barbarians might assemble for the occasional business of war or trade; yet even these assemblies announce some progress in the arts of society: a new breed of cattle was imported from the southern provinces, and the spirit of commercial enterprise pervaded the sea and land, from the Baltic to the Euxine, from the mouth of the Oder to the port of Constantinople. In the day of idolatry and barbarism, the Schlavonic cities were frequented and enriched by the Normans, who had prudently secured a free mart of purchase and exchange. From the harbour at the entrance of the Oder, the corsair or merchant sailed in forty-three days to the eastern shores of the Baltic. The most distant nations were intermingled, and the holy groves of Courland are said to have been decorated with Grecian and Spanish gold."

The foregoing account might be considered somewhat irrelative to the illustration of Marine Architecture, were it not subsequently connected with it, and rendered peculiarly interesting from its affording a perfect and uninterrupted detail of the history of a people, from their first emersion out of a state of barbarism, and complete ignorance, with respect to the science of navigation, and all arts connected with it, till they had attained the rank and consequence they at present hold. "Between the sea and Novogorod," continues the author just quoted, "an easy intercourse was discovered in the summer through a gulf, a lake, and a navigable river; in the winter season, over the hard and level surface of boundless snows. From the neighbourhood of that city, the Russians descended the streams that fall into the Borysthenes. Their canoes of a single tree, were laden with slaves of every age, furs of every species, the spoil of their bee-hives, and the hides of their cattle, and the whole produce of the north, was collected and discharged in the magazines of Kiow. The month of June was the ordinary season for the departure of the fleet. The timber of the canoes was framed into the oars and benches of more solid and capacious boats, and they proceeded, without obstacle, down the Borysthenes, as far as the Seve, where thirteen ridges of rocks, which traverse the bed, precipitate the waters of the river. At the more shallow falls, it was sufficient to lighten the vessels, but the deeper cataracts were unpassable, and the mariners, who dragged their vessels and their slaves six miles over land, were exposed, in this toilsome journey, to the robbers of the desert.

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At the first island below the falls, the Russians celebrated the festival of their escape; at a second, near the mouth of the river, they repaired their shattered vessels, for the longer and more perilous voyage of the Black sea. If they steered along the coast, the Danube was accessible. With a fair wind, they could reach, in thirty-six or forty hours, the opposite shores of Anatolia, and Constantinople admitted the annual visit of the strangers of the north. They returned, at the stated season, with a rich cargo of corn, wine, and oil, the manufactures of Greece, and the spices of India. Some of their countrymen resided in the capital and provinces, and the national treaties protected the persons, effects, and privileges of the Russian merchant."

Thus did the self-taught navigators of the north, either wearied with a continued scene of what might almost be called fraternal warfare, or, to speak nearer the truth perhaps, tired of a conduct productive only of carnage, without satisfying the avarice, or pampering the luxurious appetite of the conqueror, turn their attention, for a time, to less hostile pursuits, and enter by means of the rivers which intersect their country, and the diminutive oceans which that of their neighbours surrounded, into by no means an inconsiderable share of traffic with Constantinople itself. The description of the uncouth means by which this commerce was carried on, will not only prove interesting and amusing, but will serve to shew what the mind, even of uncivilised man, is capable of effecting, when applied with energy to any direct and particular purpose.

Dangerous did the connexion prove, and sore cause of regret had those potentates, who still continued to boast themselves the descendants of the Cæsars, at having encouraged that which proved a greater scourge than the empire, fallen as it was in consequence, and beset with foes on every side, had experienced since the extinction of the Goths. Enervated by luxury, and apparently almost indifferent to its own fate, a fleet, if it could be said to deserve that appellation, of Russian marauders were permitted to pass down the Borysthenes, and transfer all these horrors, which naturally as it were render the inroads or assaults made by an uncivilised people, more than commonly dreadful, from the tempestuous latitudes of the north, to the less agitated shores of the Euxine, and the milder climate of Greece, or its environs. The description of the vessels, by means of which this kind of war, desultory as it proved, was carried on, may serve to convince all future ages, as it must have done

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done all those immediately subsequent to the event itself, that there is no obstacle sufficient to oppose the attempt of a bold and daring people, more particularly when they undertake to enter into a contest with a wealthy and luxurious nation, whose vicious, or whose indolent principles have rendered them an easy and ignoble prey.

" In a period of one hundred and ninety years," say historians, " the Russians made four attempts to plunder the treasures of Constantinople: the event was various, but the motive, the means, and the object, were the same in these naval expeditions. The Russian traders had seen the magnificence, and tasted the luxury of the city of the Cæsars. A marvellous tale, and a scanty supply, excited the desires of their savage countrymen: they envied the gifts of nature, which their climate denied. They coveted the works of art, which they were too lazy to imitate, and too indigent to purchase. The Varangian princes unfurled the banners of piratical adventure, and their bravest soldiers were drawn from the nations that dwelt in the northern isles of the ocean. The image of their naval armaments was revived in the last century in the fleets of the Cosacks, which issued from the Borysthenes to navigate the same seas for a similar purpoes. The Greek appellation of *monoxyla*, or single canoes, might be justly applied to the bottom of their vessels: it was scooped out of the light stem of a beech, or willow, but the slight and narrow foundation was raised and continued on either side with planks, till it attained the length of sixty, and the height of about twelve feet. These boats were built without a deck, but with two rudders, and a mast, so that they moved with sails and oars, and contained from forty to seventy men, with their arms, and provisions of fresh water, and salt fish. The first trial of the Russians was made with two hundred boats, but when the national force was exerted, they could arm against Constantinople a thousand, or twelve hundred vessels. Their fleet was not much inferior to the royal navy of Agamemnon, but it was magnified in the eyes of fear, to ten or fifteen times the real proportion of its strength and numbers. Had the Greek emperors been endowed with foresight to discern, and vigour to prevent, perhaps they might have sealed with a maritime force, the mouth of the Borysthenes. Their indolence abandoned the coast of Anatolia to the calamities of a piratical war, which, after an interval of six hundred years, again infested the Euxine; but so long as the capital was respected, the sufferings of a distant province escaped the notice both of the prince, and the historian. The storm which had swept

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along from the Phasis and Trebizond, at length burst on the Bosphorus of Thrace, a streight of fifteen miles, in which the rude vessels of the Russians might have been stopped and destroyed by a more skilful adversary. In their first enterprise under the princes of Kiow, they passed without opposition, and occupied the port of Constantinople, in the absence of the emperor Michael, the son of Theophilus. Through a crowd of perils, he landed at the palace stairs, and immediately repaired to a church of the Virgin Mary. By the advice of the patriarch, her garment, a precious relic, was drawn from the sanctuary, and dipped in the sea, and a seasonable tempest, which determined the retreat of the Russians, was devoutly ascribed to a miracle. The silence of the Greeks may inspire some doubt of the truth, or at least of the importance, of the second attempt, by Oleg, the guardian of the sons of Ruric. A strong barrier of arms and fortifications defended the Bosphorus: they were eluded by the usual expedient of drawing the boats over the Isthmus; and this simple operation is described in the national chronicles, as if the Russian fleet had sailed over dry land with a brisk and favourable gale. The leader of the third armament, Igor, the son of Ruric, had chosen a moment of weakness and decay, when the naval powers of the empire were employed against the Saracens. But if courage be not wanting, the instruments of defence are seldom deficient. Fifteen broken and decayed gallies were boldly launched against the enemy; but, instead of the single tube of Greek fire usually planted on the prow, the sides and stern of each vessel were abundantly supplied with that liquid combustible *. The engineers were dextrous, the weather was propitious: many thousand Russians, who chose rather to be drowned than burnt, leaped into the sea, and those who escaped to the Thracian shore, were inhumanly slaughtered by the peasants and soldiers: yet one third of the canoes escaped into shallow water; and the next spring Igor was again pre-

* Modern chemistry has produced the discovery of a variety of liquids, which, though entirely harmless in their single state, will, on the instant of being mixed together, be productive of the most furious conflagration. Invention has even been stretched in the attempt and hope of rendering the knowlege of this important secret subservient to the purposes of naval war, and experiments, as it is reported, have actually been, some years since, submitted to the consideration of the British government. But whether from a generous intention of avoiding, in compassion to the foe, the introduction of such dreadful auxiliaries into naval contests, or the fear that accident might cause the dreadful mischief to recoil on the inventors, is not generally known. Certain it is, however, no use has hitherto been made of the discovery.

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pared to retrieve his disgrace, and claim his revenge. After a long peace, Iaroslaus, the great grandson of Igor, resumed the same project of a naval invasion. A fleet, under the command of his son, was repulsed at the entrance of the Bosphorus by the artificial flames; but in the rashness of pursuit, the vanguard of the Greeks was encompassed by an irresistible multitude of boats and men: their provision of fire was probably exhausted, and twenty-four gallies were either taken, sunk, or destroyed."

The example and the success which attended the enterprising spirit of these hardy northern adventurers, stimulated their southern neighbours, certainly more advantageously situated, but possessing less power of exertion, to engage in the same pursuits. Among these were the inhabitants of Croatia, a warlike, and, considering the extent of their country, a numerous people, possessing the eastern coast of the Adriatic, of considerable extent, and abounding in capacious harbours, two circumstances extremely favourable to their intended purpose. Their vessels are said to have been peculiar to themselves, by no means considerable in respect to tonnage and dimensions, but deriving their consequence solely from their numbers, and constructed almost entirely on the same principle with the ancient Liburni *. The account of their armaments, for this reason, may receive the greater degree of credit, since the crews of a fleet amounting to one hundred sail, are not supposed, when fully manned, to have consisted of more than three thousand persons, including soldiers as well as seamen. There can scarcely be a greater satire on the term, than to apply that of gallies to boats of such very inferior force; and their inequality to the task of contending even with such cotemporary vessels as either the navy of the Greek empire, or that of the Saracens, its foes, still continued to possess, most probably induced them to apply themselves to the less hazardous occupation of commerce, and to convert the warrior into the merchant. Still, however, there were certain headstrong ferocious spirits among them, who, disdaining, as ignoble, any profession but that of arms, refused to conform themselves to the easier, and perhaps not less lucrative avocations, which general public tranquillity would have permitted them to pursue unmolested. Continuing to addict themselves entirely to their favourite occupations of piracy and plunder, they became the terror of those seas, till the superior ascendancy of the Venetian republic enabled it, towards

* See page 69, et seq.

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the end of the tenth century, to clear them effectually of the freebooters, and completely protect not only their own commerce, but that of every other country, which, at the most respectful distance, and with great inferiority of means, thought it conducive to its interest that it should engage in the same kind of pursuit.

Notwithstanding the power of the Eastern or Grecian empire was to be considered as materially in the wane, and though it was under the necessity of expending an immense treasure on that army which it was indispensably necessary should be kept constantly on foot for the defence of the frontiers as well as the interior: yet the wealth which still remained in the country, (and of which the necessities of war had only occasioned the removal, from the hands of one class of inhabitants, into those of another, and not the actual export from the empire itself:) enabled the emperor and his ministers to subsidize, according to the modern term, surrounding nations, who were less affluent, and were content to barter their own personal safety for the hire which they stipulated for the receipt of, in their character of guards, and defenders of the Emperor of the East. The protection of the coasts, and the necessary chastisement of those who had the boldness to insult or attack the towns situated near it, rendered the maintenance of a fleet a measure not to be dispensed with. The Schlavonians, the Russians, the Bulgarians, and the Turks, enrolled themselves as mariners in the imperial service; and the Venetians, rapidly rising in power, were content with the honour of being considered as allies to the representative of the Cæsars. Constantinople was the grand arsenal where the different stores necessary to the equipment of a naval armament were deposited, and where the general rendezvous was appointed; so that although the Grecian empire in reality possessed little or no naval force that could properly be considered its own, yet it acted as the parent and employer of an immense body of mercenaries who fought under its banners. Owing to these arrangements, it was enabled not only to protract its own fall for many centuries longer than it would have been had it rested content with the employment of its own native force, but to reign complete master of the Mediterranean, with the exception of some short intervals, when the desultory attacks of the Saracens caused its temporary cessation. Nature had been peculiarly bountiful on her part, and afforded along the extensive coasts of Asia, and of Greece, an infinity of harbours and islands, which furnished the easy means

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of acquiring science and knowlege to the raw and inexperienced navigator, while the commerce of Venice and its dependents formed an admirable nursery for the more skilful mariners, whose superior knowlege sufficed to direct the efforts of their less tutored companions.

CHAPTER

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CHAPTER THE FOURTEENTH.

Description of the Gallies or Vessels built for the Service of the Emperor of the East during the Ninth and Tenth Centuries—the Disposition of the Crew and Officers in the Time of Engagement—the Arms and different military Engines used on board Vessels of War, with a brief Account of the simple State in which Maritime Manœuvres and Tactics then were—Method used by the Ancients in making Signals—the Manner then practised of conveying Intelligence speedily through a Country by Means of Beacons or Light-houses—Expence attending the Armament fitted out at Constantinople for the Reduction of the Island of Crete—summary Account of the Naval History of England, from the Death of Egbert to the Norman Conquest—uninteresting Reigns of Ethelwolf and his Sons—Accession of Alfred to the Throne—his peculiar Attachment to Maritime Pursuits—various Improvements introduced by him, as well in the Art of building, as manœuvring Vessels of War—Description of his Gallies, and Account of his Victories over the Danes—Description of his great Ships, as they were by way of Distinction termed—his Death and Character—Accession of Edward his Son—his insignificant Reign—is succeeded by Athelstan—singular Law passed by that Sovereign relative to Commerce—the Reigns of Edmund and Edred—turbulent Spirit of the Monks—Accession of Edwy—his Virtues—the Reign of Edgar—the Number and Disposition of his Fleets—he is succeeded by Ethelred—his various Wars with the Danes—Enquiry into the Expence of Ship-building at this Time—general Levy of Ships and Men throughout England—Account of the Numbers of both produced on that Occasion—Origin of the Danegeld—Edmund, surnamed Ironside, succeeds his Father Ethelred—is murdered at Oxford—Canute the Dane seizes the English Crown—his politic Conduct—Account of the Maritime Force maintained by him—Canute dies, and bequeaths his English Crown to Harold Harefoot—he dies, and is succeeded by Hardicanute, his next Brother—Description of the sumptuous Galley presented by Earl Godwin to the King—the Reign of Edward the Confessor—the Turbulence of Earl Godwin—his Death, and very different Character of his Son, who, on the Demise of Edward, ascended the English Throne by the Title of Harold the Second—he is immediately attacked by a powerful Fleet, collected

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collected by his Brother Tosti, aided by Halfager, King of Norway, who headed his own Division of the Fleet—Harold attacks their Fleet, which having defeated, and killed both its Chiefs, he makes himself Master of their whole Armament—Harold permits Olave, Son to Halfager, to depart without ransom, taking with him Twenty of his Vessels—William the Norman disembarks his Army at Hastings in Sussex—Causes which favoured the Undertaking—the Defeat and Death of Harold.

HISTORIANS have remarked, and with the strictest propriety, that the system of naval war had received no improvement subsequent to the time of the Peloponnesian and Punic contests, so that as a natural consequence, the science of Marine Architecture was to be considered as stationary. Some authors, suffering their ideas of excellence to be absorbed in the accounts of those immense vessels, of which the almost incredible histories of the early ages have transmitted an unintelligible description, have supposed it very rapidly on the decline; and as an incontrovertible proof of the justice of their opinion, have observed, that the method of constructing vessels, fitted even with three or four tiers of oars only, rising above each other, was as much unknown to the artificer of the eastern empire, as it is to the modern shipwright. This is certainly taking the subject in the most modest point of view, triremes and quadriremes being undoubtedly as much inferior to the accounts given of some of the vessels constructed by the ancients, as a modern sloop of war is to a first rate. The gallies composing the Constantinopolitan fleet, in the ninth and two succeeding centuries, were stiled Dromones: they were fitted with two tiers of oars only, each tier containing twenty-five benches, on which were seated fifty rowers, making in the aggregate one hundred men, who worked the oars on both sides of the vessel; so that the number of oars was equal to that of the persons employed to manage them, which could not have been the case, had the tiers been multiplied so as to render the oars otherwise than extremely short and light. To the persons already mentioned, who were to be considered in the lowest class of mariners, was to be added the captain, or commander, who in the hour of engagement took his station on the poop, as well for the purpose of viewing the occurrences which might take place during the encounter, as for that of directing the efforts of his people to any particular exertion, and also that of encouraging them by his voice and gesture.

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gesture. Two steersmen were stationed at the helm, and two officers at, or near the bow: to one of the latter the care of the anchor was entrusted, and to the other the management of the tube of Greek fire, which supplied, and perhaps with more dread effect, the place of modern ordnance. The remainder of the crew performed, in conformity with the custom of the early ages, the compound office of mariners and soldiers, being alternately or jointly employed in directing the course of the vessel, annoying their foes, or defending themselves from the attack.

Independent of that tremendous mode of annoyance just mentioned under the name of the Greek fire, the arms of offence were long pikes, nothing varying from the modern implement bearing the same name, together with bows and arrows. The latter supplied the place of musquetry: the archers being stationed on the upper deck, while the pike was equally engaged in the annoyance of the foe, through the row ports of the lower tier. Although the bulk of the fleet is unequivocally said to have been composed of vessels of the above description, yet it is not contended but that there were a few gallies of more enlarged dimensions, whose crews consisted of three hundred persons, seventy of whom were soldiers, and the remainder mariners. These vessels were probably intended, (a practice which has never since been discontinued) for the admiral gallies, their numbers being so inconsiderable, as to cause them to be esteemed rather as an excrescence from the science, than as an example of its established rules. Necessity appeared indeed to have prescribed to the marine architects of that time, the limits to which they were permitted to extend their art, in regard to the dimensions of vessels. Not only the art of navigation, considered as a science, but that more common branch of it, the method of managing a vessel in case of storms, or contrary winds, was little understood, the gallies themselves being calculated only for a tranquil sea. Hence it was, that the navigation round the Peloponnesian Cape was far more dreaded by the ancients than that round the southernmost point of South America, and the dreadful seas which washed its shores, was by Europeans two centuries since. To avoid the fearful horrors, it is said to have been customary to draw the imperial fleet across the Isthmus of ancient Corinth, a point of information that might either stagger modern belief, or sink the opinion of an ancient fleet to a mere assemblage of boats, did not a similar practice, which took place in America, under the conduct of

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of a British officer *, about twenty-five years since, reconcile to human understanding, that the undertaking, though difficult, is practicable, and with vessels considered even at the present day of no contemptible size. Still, however, it must be obvious, that the natural limits of human exertion imperiously require, that in such cases, the dimensions of vessels should be governed by the extent of those limits; yet when it is found, that a vessel, of more than one hundred tons burthen, named the Royal Convert, in consequence of its having been captured some time before, was transported over land through an American district, where it was impossible to execute such contrivances as might have been rendered subservient to the facilitation of the undertaking in a country more populous, and where the natural impediments afforded less opposition, some credit may be given to the account, as to the probability of conveying a fleet of ancient gallies across an Isthmus, where every contrivance human ingenuity, and the force of human strength, could suggest, or support, became united together.

The ancient principles of naval war, or what are generally known by the name of tactics, appear at this time to have been revived; for the change, if any, from that very remote æra when the fleets of Athens put to sea in the patriotic but almost desperate attempt of withstanding the power of the Persians, was very immaterial. The disposition for naval encounter was that of a crescent, with the horns inward; the van, or first division, which might more properly be stiled the center, endeavouring to assail and destroy its adversaries by the impression of the beaks; and in this circumstance, did the Greeks, and other subjects to the eastern empire, materially differ in their management, and opinion, from their Venetian allies. In the center of the deck was erected a machine, or engine, for the purpose of throwing large stones and darts of an extraordinary size, in annoyance of the enemy; a contrivance somewhat similar, in its situation and effects, though with less dangerous and more contracted powers, to that of the mortars in a modern bomb ketch. A strong frame of timber was erected in the midship of the galley, bearing almost a strict analogy to the principle of the mortar bed, which served not only to support the weight of the engines just mentioned, but also, on certain occasions, a crane, which raising, as was the custom in the Punic wars, and the

* Captain Schanck, who conveyed a considerable number of vessels, among which were some of no insignificant dimensions, over land from Sillery into lake Champlain.

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infancy of Roman consequence as a maritime power, a number of armed men, conveyed them instantly on board the galley of the enemy, whenever it was deemed expedient and prudent to attempt its conquest by boarding. The code of signals, by which in modern times the intention of the admiral is as explicitly made known through a whole fleet as though he gave his orders in person, was then extreme incorrect; and though the nautical manœuvres were very simple, and few in number, yet the method of directing them was confused, and extremely inadequate to the purpose. Still, however, the principle was the same with that used by the moderns, a self evident proof, that the want of practice, on the part of the ancients, was the sole cause of the imperfection alluded to. The colour and varied position of the flags hoisted on board the admiral, or commanding galley, indicated the course the fleet was to steer, or in action, the measures which it was to pursue, during the day; while the different disposition, or number of lights, on board the same vessel in the night, became equally expressive of the commander's intention. Still, however, the practice was confined to the general and common manœuvres of bringing to, chacing, attacking, retreating, dispersing, or rallying; and whenever finer movements were necessary, the skill of the officer became useless, owing to the want of power in the indication of his intention.

Nor were the ancients destitute of a practice bearing some analogy to the modern mode of conveying intelligence rapidly over land to any distance, provided proper measures had been previously taken for that purpose. Beacons or light-houses being erected in proper positions, the established signals were repeated from mountain to mountain, through a chain of stations, which are said to have commanded an extent of more than five hundred miles; so that even the inhabitants of Constantinople were capable of being informed, within the short space of a few hours, of any motions that might be attempted by their Saracen enemies in Tarsus. Historians have proposed, as a specimen of the naval power which the Grecian, or eastern empire possessed, a curious account, given with minute precision, of the armament prepared for the reduction of Crete. It consisted of one hundred and twelve gallies, with seventy-five vessels of inferior note; but though the amount of numbers which composed the maritime force of ancient nations, might be deemed a very insufficient proof of the actual strength and power which they possessed, that of their crews, when it can be obtained, may be considered as much more interesting, and in great measure as correct testimony of the fact. The equipment of the

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armament in question had extended through the sea-ports of Asia, Macedonia, Greece, and the islands in the Ægean sea: it conveyed, without inconvenience, forty-nine thousand one hundred and twenty-seven soldiers or sailors, a motley mixture of Greeks, Russians, Mardiates, and refugees from various countries. Independent of the crews, such an immense quantity of stores and provisions was taken on board, that in the language of the historian, the fancy is bewildered by the almost endless recapitulation of arms and engines, of clothes and of linen, of bread for the men, and forage for the horses, with stores and utensils of every description, better suited to the establishment of an extensive and flourishing colony, than to the conquest of a petty and insignificant island.

The sum required for the payment of the troops and mariners, prove either that the value of money was considerably inferior to what it was little more than a century since, or that the pay of a seaman, as well as soldier, had by some very strange revolution, dwindled, a century or two later, almost into nothing. It amounted, according to the calculation of those who are best informed, to no less a sum than one hundred and thirty-two thousand pounds sterling per month, and nearly six times exceeded what the maintenance of such an armament, sent forth from Britain in the reign of Edward the Third, would have amounted to.

The fact just stated is in itself so striking, as to render it unnecessary to adduce any farther argument to shew that a naval war, under the various circumstances which then affected the Grecian empire, was an undertaking not to be entered upon slightly, or without consideration; and it serves also to point out the reason why the empire became averse to the maintenance of a naval force, except in cases where necessity actually and peremptorily demanded it. To turn the eye at once to a distant quarter of Europe, England, after being divided into so many states as was the case during the Heptarchy, having become united, and subject to the dominion of one personage only, might reasonably have been expected to have risen so superior in consequence to those enemies who, when in its disunited state had proved incapable of effecting by force of arms any greater degree of injury than that which was merely of a temporary and partial nature, as to have intimidated, even by the terror of its power, any repetition of assault, or even insult. The event, however, proved far otherwise. Its northern foes, allured by the superior fertility of the soil, and the plunder which their successes afforded them, became

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the constant and uninterrupted foes to Britain; so that the reign of the peaceable and simple Ethelwolf, son to Egbert, was perpetually disturbed by those bold invaders. Naval actions were frequent, but they are so variously described, that the truth cannot be discovered. A remarkable instance of this uncertainty occurs in the different accounts of a victory gained by Ethelstan, the king's brother, near Sandwich, in Kent, in which he took nine of the enemy's ships. Of the writers who have mentioned it, one asserts, that the Danish fleet consisted of fifty sail, to which number another adds three hundred. To complete the wonders of this tale, a third very gravely declares, that the vanquished invaders immediately sailed up the Thames, and sacked Canterbury and London.

Naval intelligence is in vain searched for through the successive reigns of the three elder sons of Ethelwolf. The number of the Danes, in spite of continual carnage, had increased so formidably, that the Saxons quitted, for a time, the system of offensive war, that they might fortify their towns and dwellings; and the history of those reigns exhibits only a succession of paltry skirmishes, and thievish depredations. Well might Milton, fatigued with registering such trifles, exclaim, "These bickerings to record, what more worth is it than to chronicle the wars of kites or crows, flocking and fighting in the air." Such, however, must be, occasionally, the painful task of the historian.

Alfred, the fourth son to Ethelwolf, at length ascended the throne in the year 871. Transactions more important, and therefore handed down with somewhat more clearness, now present themselves. Among those excellent measures, in praise of which historians have exhausted the usual terms of commendation, this prince's naval regulations, perhaps, stand foremost. Convinced, by the fatal experience of a tedious and bloody warfare, that the expulsion of the Danes could never be effected by military operations, he at length turned his attention almost entirely to his navy, through the aid of which he would, doubtless, have accomplished that great object, had his reign been somewhat prolonged. His ships, twice the size of the largest ever seen before his time, built on new principles, and in a new form, were executed after models contrived by himself, and astonished the enemy as much by their appearance, as their strength. Conscious of a superiority which defied retaliation, his first instruction to the commanders of these vessels are said to have been that they should give no quarter; and thus his mode, as well as his means,

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means, of sea fight, may be considered as of his own invention. Leaving these relations to the consideration of such as are fonder of conjecture than of fact, there are other matters which rest on better evidence, and will come within the compass of a reasonable belief. Alfred's improvements in Naval Architecture stand so high in that class as to defy a doubt on the subject, but very few particulars can be added to the slight account already given of the construction of these ships. Mr. Selden, who searched all authorities, and whose sagacity was equal to his industry, could only discover, *that they were gallies*, generally with forty oars, and sometimes even sixty, on each side; twice as long, deeper, nimbler, and less waving or rolling than the vessels of the Danes. It is worthy of observation, that the latter part of this account is in a Saxon chronicle, preserved in the Cotton library, and written before the death of Alfred.

The naval engagements, however, of this prince have been described with some precision. It was in the fifth year of his reign that he first fitted out a fleet, composed only of vessels built in the old fashion, with which he attacked and routed seven of the Danish rovers, and took one of them. Some months afterwards, the navy of the Danes, which was then stretching along the western coast, was encountered by a storm so terrible, that one hundred and twenty of their ships were wrecked, and the remainder fell an easy prey to the fleet of Alfred, at that time employed in preventing the enemy from throwing provisions into the town of Exeter, of which they had a short time before possessed themselves. This good success produced a temporary peace: the treacherous infraction of which by the Danes was followed by a sad reverse of fortune to Alfred, who for a long time was continually unsuccessful in a war, which was confined entirely to the field. Some years later, however, he again became possessed of a fleet, and was victorious in several partial actions, in one of which he captured two vessels, with two of the Danish princes on board; but the most important of these engagements took place near Harwich, where sixteen of their ships fell into his hands, with a great number of soldiers in them, whom he put to the sword. It is darkly related, that his fleet, in returning home with its prizes, met with a disaster, and it was probably of no small consequence; for from that time, though the island was continually surrounded by Danish vessels, no more is said of Alfred's naval exploits till the period which produced his great ships.

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They first appeared in the year 897, and their first service was against six pirates, (as indeed all the Danish ships might be termed) of unusual strength, who had infested the Isle of Wight, and the neighbouring coasts. Nine of the new ships were sent out, with instructions to get between the enemy and the shore, but on their first appearance, three of the pirates ran aground. The remaining three, finding the superior swiftness of their assailants, desperately resolved to engage them, but were soon overpowered. Two of them were taken, and all the men killed; the third, whose crew was reduced to five persons, escaped with much difficulty. In the mean time, those which had run aground were taken off by the tide, but had been previously so much damaged by a part of Alfred's squadron, as well as by the beating of the sea, that two of them, being totally ungovernable, were soon wrecked on another part of the shore. As there is somewhat of curiosity in the preservation of so circumstantial a detail of an action at this early period, it is given here at length. For the concluding years of Alfred's reign, suffice it to observe, that they were distinguished by piety and legislation, by agriculture and commerce. Peace, the source from whence these advantages flowed, had been founded by him on the only basis which this miserable world affords for it, victorious war. As the latter had been unknown to his skirmishing predecessors, it must be inferred, that the means by which it was carried on and concluded, were new and extraordinary, and they can be ascribed only to his naval improvements *.

Edward, the eldest son of Alfred, succeeded to the throne in the year 900. The beginning of his reign was troubled by a competitor, Ethelwald, his

* The following short character of this great prince is given by a French author:—"Alfred, whose wisdom equalled the affection he had for his people, omitted nothing to repair the ravages of the Danes, and other northern nations. He not only augmented the number of his vessels, but improved the construction of them. One fleet of an hundred and twenty sail, was uniformly allotted to guard the coasts. Able foreign seamen, among whom the Frieslanders are most worthy of notice, entered into his service, and instructed his subjects in the nautical art. When the East Angles and Northumbrians constructed vessels stronger and lighter than his own, he compensated for this new advantage, by fitting out expeditiously for sea, vessels with an hundred and twenty oars, in every respect superior to the former. By these means, this great prince rendered abortive the efforts of his enemies, defeated their fleets, and chaced them from his kingdom, which he had the glory to retrieve from the abyss of domestic and foreign calamities. When dying, he desired that the English might be as *free as their own thoughts*. Certainly a vain wish, but it shewed the magnanimous feelings of his heart."

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relation in blood, but how related, is not known. The Danes, availing themselves of the divisions which Ethelwald's claim had caused in the island, attached themselves to his cause, and landed in great force, under the pretence of supporting his title to the crown. Edward gave them battle in Kent, but gained no very material advantage, except by the death of his opponent Ethelwald, who fell in the fight, together with Eric, falsely called by some writers the king of Denmark, but in fact the prince, or general of the Danes then in Britain. The loss of their leaders damped, for a time, the spirits of the invaders, and they negociated with Edward a treaty, which remained unbroken for three years. A number of Danish vessels at length appeared on the coast, and the king having mustered an hundred ships on the shores of Kent, embarked in person, and attacking the Danish fleet, forced the greatest part of it to run aground, afterwards vanquishing the troops which had landed. No other naval exploit graced the twenty-two years reign of Edward the elder, who was succeeded by the short-lived Ethelward, his eldest son, whom Campbell, mistakingly, calls his brother.

Athelstan, a base son of Edward, next mounted the throne. This prince has been much extolled by the Saxon chroniclers, who have written of his reign, and perhaps with truth. He adopted a different line of conduct from that of his predecessors, who, rather from impolicy, or avarice, than from inferiority of strength, had allowed the Danes, from time to time, to settle in Britain, on condition of tributary homage. Athelstan determined, if possible, to expel them by force of arms, and, in the execution of this design, seems to have placed his main reliance on his navy. He increased the number, and improving the mode of equipping his ships, fitted out great fleets against Ireland*, as well as Scotland, by the connivance or encouragement of whose princes the Danes had been chiefly supported. He was equally successful in these expeditions, and in his military operations at home; so that having gained a decided superiority, he was proceeding to strip the Danish chiefs of the lands, and strong holds, which they had acquired in his kingdom, when death put a period to his victories. A law made in this reign for the encouragement of commerce, is well worthy of remark, not only for its immediate relation to the present subject, but because the degree of credit due to those

* Analavus, called king of the Irish, invaded England with a fleet of six hundred and fifteen ships, and was vanquished by Athelstan at the mouth of the Humber. Selden Mare Claus. fol. 257.

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who have written of the long voyages which were made under the Saxon kings may be inferred from it. Athelstan decreed, soon after he succeeded to the crown, that " every merchant who made three voyages to the Mediterranean on his own account, should be raised to honour, and enjoy the privileges of a gentleman."

The reigns of Edmund and Edred, brothers of Athelstan, and of Edwy, eldest son of Edmund, including together a period of fifteen years, furnish no materials to the present purpose. The former of these princes having used the power which he derived from the wisdom and bravery of his predecessor, in compelling the king of Scots, and the Anglo-Saxon chieftains of the north of England, to make peace on his own terms, was stabbed at a banquet by an outlaw, whom he had imprudently seized with his own hands. The Northumbrians, upon his death, broke their treaty, and the reign of Edred was passed in skirmishing with that bold people, as was that of his nephew Edwy in disputes with the Monks, who had lately begun to display in this island the growing features of that gigantic power, which during so many subsequent centuries enthralled Europe. After causing the disaffection of the subject, they carried their insolence to such a height, as to prohibit the marriage of the sovereign with Elgiva, because she was of royal blood. The king, possessed of every quality that in times of less danger, with respect to spiritual concerns, could render a sovereign amiable in the eyes of his countrymen, and serviceable to his country, in vain attempted to stem the torrent of this abominable tyranny. His queen was forcibly torn from his arms; and after suffering every indignity that could possibly have been inflicted on the most contemptible criminal, was most inhumanly and savagely massacred. These feuds may seem to bear no affinity whatever to the science of Marine Architecture; but the mention of them becomes, as it were, unavoidably necessary, as they naturally account for that dereliction of naval pursuits which took place during this period.

The accession of Edgar, a name too familiar to a Briton to be forgotten, and, at the same time, too popular to be passed over with neglect, appeared to promise a revival of those interesting scenes which took place under the auspices of Alfred, and have become so peculiarly grateful to a British mind. Having mounted the throne at an age when he could not be said to have reached manhood, and manifested a wisdom, a political prudence, rarely to be found even in venerable age, he immediately adopted the most obvious means

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of preventing any attack from foreign foes, by the establishment of a navy, which, if the romantic representations of the ancient chronicles, and those of historians living at periods less remote from the events which they have recorded, were to be credited, must have far exceeded that of Persia itself, when Xerxes, in all the pride of eastern dignity and magnificence, sent forth his fleets, in the vain, but, as he imagined, the certain hope of an almost undisputed victory. Hoveden, and others, are extravagant enough to assert that the fleet of Edgar amounted to three thousand, or three thousand six hundred sail of vessels. Brompton is still more enormous in his account, and raises it to four thousand. But the improbability of these relations is too apparent to engage the attention of a moment. Thorne more modestly reduces his account within the bounds of probability, stating it at no more than three hundred; and reason may, without any violence to itself, assent to its authenticity, even were the report in some degree extended.

This monarch is said to have divided his navy into three squadrons or divisions, which were constantly employed in circumnavigating the kingdom, and thereby preventing the attack, and even the approach of any hostile fleet. William of Malmesbury, Hoveden, and Huntingdon, all recount the well known anecdote of this monarch having caused eight tributary princes to row him in his royal barge, of which he himself managed the helm, on the river Dee *, a circumstance which certainly proves this monarch to have considerably surpassed in power the greater part, or perhaps any, of his predecessors. Edward, surnamed the Martyr, son and successor to this great prince, who died in the very prime of life, being only thirty-three years old, during sixteen of which he had sat on the throne, reigned only four years, and was then treacherously murdered by order of Elfrida, his stepmother. During the whole of his short

* All historians, even those of other countries, agree precisely in their account of this event:—"Edgar was rowed in the river Dee by eight tributary kings. Every summer," says William of Malmsbury, "immediately after Easter, Edgar commanded his ships on every shore to be brought into a body, sailing usually with the eastern fleet to the west part of the island; and then, sending it back, he sailed with the western fleet into the northern; and then with the northern he returned to the eastern. In short, if this account, which is likewise given by Florentius Wigorn, is to be credited, he sailed round his *sea* every year." Selden Mar. Claus. fol. 258.

Each of the fleets above mentioned are said to have consisted of twelve hundred, (some say more) and very *stout ones*; but stout is merely a comparative term. Others add a fourth fleet of twelve hundred, which increases the whole naval force to four thousand eight hundred sail; a number which sufficiently proves the insignificancy of the vessels individually.

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rule, no event in the smallest degree memorable took place. That of Ethelred, his successor, became more interesting. This prince, whose reign could not, however, be considered a glorious one, paid considerable attention to his navy, according to the uniform testimony of the ancient chronicles, though he appears to have derived no very material advantage from it; for in the fifteenth year of his reign, (993) Swane, king of Denmark, and Olave, king of Norway, sailed up the Humber unopposed, and ravaged all the adjacent country; nor did the mischief end here, for a number of Danish freebooters, or pirates, encouraged by the success of their sovereign, entered the river Thames with a fleet consisting of ninety-four vessels, and having laid siege to London, threatened it, for a while, with total destruction. This sudden and unforeseen attack caused a proposal from Ethelred, who, extremely alarmed at the event just mentioned, shewing that he wished to purchase peace on any terms, the Dane, and his ally, accordingly demanded a sum which they considered adequate to the price, or perhaps as much as they thought the kingdom was able to pay. These terms being complied with, a treaty was entered into, and faithfully kept by the princes themselves, particularly the Norwegian; but the Danish pirates gave very little cessation to their ravages, which were not put an end to but by the payment of a second and more heavy tribute than the former.

The treacherous massacre of the Danes on the 13th of November 1002, proved, and with good reason, a signal for the renewal of hostilities. Swane arriving with his fleet off the western coast, disembarked his troops, and soon rendered himself master of several strong ports, among others of Exeter, which fell into his hands through the treachery of the governor, and reduced Ethelred to a third repetition of mortification, the ignominious purchase of a precarious peace. The temporary cessation, however, procured by this treaty, induced Ethelred to use every exertion in his power to collect a navy sufficient for the protection of his harassed subjects. In this respect, the ill fated king was successful, but every hope and prospect of service from this armament, which was in those days considered as extremely powerful, was totally destroyed by the factions and dissentions which arose among the nobility and commanders. Reiterated contributions were accordingly resorted to, as the only means left of averting the horrors of war; and the unfortunate Ethelred, after a most unhappy and inglorious reign of thirty-five years continuance, paid the debt to nature, an event which had it taken place some years

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years earlier, would in all probability have preserved England from those reiterated devastations which it had been condemned to suffer.

With regard to the expences of early ship-building, and the taxes levied for that service, and for victualling, &c. it appears, that in the reign of Ethelred, whosoever possessed three hundred and ten hides of land, was charged with the building of one ship, or galley, as Selden calls it in his translation; and owners of more or less hides, or of part of one hide, were rated proportionably; (so Marianus, Scotus, Hoveden, and Florentius.) Ethelred ordered, but mention is not made of the precise time, that ships should be built throughout England, which being manned with choice soldiers, and victualled, were appointed to rendezvous at Sandwich, that they might secure the bounds of the kingdom from the irruptions of foreigners.

It is doubted whether this plan produced a larger navy than that of Edgar, lately mentioned, and this depends on the quantity of ground called a hide, which has been variously stated. The most common opinion, or account is, that it was as much ground as a man could turn up with one plough in one year. Camden, proceeding, probably, on this calculation, makes the number of hides in England, two hundred and forty-three thousand six hundred, which will produce only seven hundred and eighty-five ships, a less number by some thousands than Edgar's great fleet. Yet Huntingdon says of Ethelred's, that "there never had been so great a number of ships in the time of any one in Britain." "In the days of Harold, as also in the time of his father," says the same author, "eight marks were paid by every port for sixteen, probably for the building of sixteen ships; and of Hardicanute, he affirms, that that prince raised eleven thousand and forty-eight pounds, before he had reigned two years, for the building of thirty-two ships." "He commanded also," says Matthew of Westminster, rather unintelligibly, "that eight marks should be paid to every rower of his navy, and ten marks (Florentius says twelve) to each commander out of all England." The latter calls this a tax so grievous, that scarce any man was able to pay it. "It is likely," says Mr. Selden, "that this tax was one of the two branches of the famous Danegeld, which originated under Ethelred, and which is thus explained in the collection of the old laws of England: 'The payment of Danegeld was first imposed because of pirates, for they, infesting the country, wasted it as far as they were able: therefore, for the repressing of this insolence, it was determined,

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that an yearly payment should be made of Danegeld; that is to say, twelve pence upon every hide through the whole land, for the pay of those that should be employed to hinder the irruption of pirates.'

" Ethelred," says Mr. Selden, " being brought into miserable straits by Swane, king of Denmark, was forced to buy a peace of him, by the payment of forty-eight thousand pounds, or, as some say, (see fol. 267.) thirty-eight thousand pounds; and also to hire forty-five Danish ships by agreement, for guarding his coasts, who were to receive their pay out of the Danegeld, which probably begun at that precise time, and was instituted for that purpose, and received its name, Danegeld, or Danish tribute, from the occasion of its institution. The forty-eight thousand pounds was likewise paid from the Danegeld; upon which, say several Monkish writers, the Danish navy, which was before in a body dispersed, only forty-five ships, as mentioned above, remained with the king, and sware fidelity to him, and to defend his realm against foreigners, on condition that he would provide them victuals and clothing. This Danish fleet thereupon sailed up the Thames to Greenwich, and usually lay there. This bitter tax was taken off after thirty-eight years by Ethelred's son, Edward the Confessor, or rather suspended by him for his own reign." Mr. Selden labours to distinguish the Danegeld into two classes, one for the payment of the tribute to the Danes, which was to purchase peace; the other, a yearly tax, for the charges of the forty-five Danish ships. This question is involved in a confusion and obscurity, which perhaps it would be a useless attempt to develope.

Edmund, surnamed Ironside on account of his invincible courage, succeeded his father Ethelred in the year 1016, but appears to have relied more on his own prowess, and the bravery of his soldiers, for support, than on his navy. His reign, however, was unhappily too short to warrant any positive opinion as to the measures he ultimately intended to pursue, he having been murdered at Oxford by two of his chamberlains, within twelve months after he had ascended the throne. To him succeeded the intrepid Canute, son to Swane, or Sweno, who had rendered his name so terrible to Britain during the reign of Ethelred. Immediately after the death of his father, which happened during the reign of the unfortunate prince just mentioned, he had attacked and ravaged all the eastern coast with such merciless fury, that, as historians very justly remark, the Britons found in him an enemy no less to be dreaded than

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than the prince from whom death had so lately delivered them during the reign of the valiant Edmund. He continued his reiterated attacks, which led that unfortunate sovereign to consent to a partition of his dominions, by which he resigned to the Dane the Saxon kingdoms of Mercia, East Anglia, and Northumberland. It was not difficult to foretel, that the death of Edmund would be the immediate forerunner of the entire assumption to himself of the whole realm by the bold Canute. He nevertheless acted on the occasion with a pretended moderation, which, though too flimsy perhaps to impose on the credulity of many, was nevertheless so sufficiently flattering to the vanity of all, as to induce them to bear the yoke of their servitude with apparent satisfaction and good temper. He bestowed very extensive governments on all the chief nobility, and parcelled out nearly the whole kingdom in this manner, contenting himself, till opportunity gradually offered of revoking his gifts, with the kingdom of Wessex only. Soon as he found himself securely seated on the throne, he sent back to Denmark as many of his followers as his own safety rendered it prudent for him to do. He restored many of the popular Saxon customs which had been abolished, shewed no partiality in favour of his soldiers, and native subjects, but endeavoured, by a gradual incorporation of the two nations, to prevent the common unpopularity of a new ruler, by mixing, as it were, his assumed sovereignty of a conquered people with his lawful inheritance of an established and acknowleged dominion. The character of this prince, into which is interwoven the well known anecdote of the rebuke given by him to certain courtiers, who imprudently attempted to flatter him, is drawn by a foreign author nearly in the following terms:—" The extent of his dominion, and the administration of justice through the united realms of Denmark, Norway, and England, proved in no degree too great an undertaking for his extensive abilities. Nor did the contemplation of his own greatness blunt, as proves too frequently the case, the keenness of his understanding. Having been told by some persons of his court, that his power was unlimited, and that the ocean itself (meaning to speak metaphorically, as it may be supposed) was subject to his controul, he caused a banquet to be provided, and the tables to be arranged on the sea shore, close to the edge of the water, when the falling tide had nearly reached its lowest ebb. Having seated himself in his chair of state, and invited his sycophantine friends to partake of the delicacies which he had prepared for them, an honour they were by no means averse to the acceptance of. He calmly

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kept his seat, though the water began to rise rapidly round him. His courtiers, on their wishing to retire, were restrained by the command of the king, who immediately pretended to command the retirement of the waves. The royal order producing no effect, he immediately turned round to his guests, and exclaimed, ' Behold the want of respect which the sea displays towards its master. Learn henceforward, that he who holds in his hands the extremities of the earth, can alone controul the elements, and prescribe bounds to the tide.'

Although this politic prince was under no necessity of collecting any particular fleet or armament for the express purpose of defending his own dominions, or assailing those of his neighbours, yet he constantly maintained a sufficient marine for the protection of the coasts, and the preservation of his subjects from those depredations which they, but for that precaution, might have sustained from the desultory expeditions of freebooters and pirates. This prince died in the year 1035, after a reign of eighteen years, during which the kingdom enjoyed a state of peace and public tranquillity, to which it had been long a stranger, perhaps for centuries. The short and uninteresting reign of Harold, surnamed Harefoot, his successor, which continued only four years, is not known to have been productive of any naval expedition, even of the most limited kind. Hardicanute, his brother, who ascended the throne immediately on the death of Harold, displayed, even before he obtained possession of the crown, a temper widely differing from, and much more active, than that of his predecessor. Considering himself illegally deprived, as certainly was the case, of his inheritance through the nomination of Harold, as successor to Canute, an injustice the latter had been induced to commit in consequence of the minority of Hardicanute, he resolved to attempt the recovery of his right by force, and accordingly drew together in Denmark a fleet consisting of sixty vessels, with which he was preparing to assert his pretensions, when the intelligence of his brother's death rendered the further prosecution of his design unnecessary. The character of this prince fell infinitely short of that which his royal father had acquired; for after having, in pretended vengeance for the murder of his brother Alfred, caused the body of the deceased Harold to be dug up, and thrown into the Thames, he suffered himself to be bribed by earl Godwin, who had been the actual cause of that bloody deed being perpetrated, into an acknowledgement of the earl's innocence, by the present of a galley, sumptuously gilt, and rowed by fourscore men, each of whom

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whom wore on his arm a golden bracelet, weighing sixteen ounces. This circumstance, immaterial as it is, has perhaps more relation to the present subject of enquiry, than any thing which occurs subsequent to the reign of Alfred. Some interesting points of information are given with respect to the vessels composing the navy of that prince; but except in that instance, and the present, very little specific information is to be met with, as to the state of Marine Architecture in Britain, or the form of its shipping, from the time of Julius Cæsar to the Norman conquest.

Godwin appears to have revived, on this occasion, the splendour of Cleopatra herself, nor could a galley which required the exertion of fourscore persons to row it be deemed a contemptible specimen of nautical mechanism, when it is remembered, that the cotemporary gallies of war used in the Mediterranean, were furnished with only one fifth part more. The death of Hardicanute, after a short reign of two years, afforded an opportunity for the restoration of the Saxon line, in the person of the pious Edward, surnamed the Confessor. No material naval occurrence took place till after the first eleven years of his reign, when Godwin, whose power and ambition had risen to an height which caused even Majesty to tremble on its throne, having failed in an attempt to dethrone the king, who had lately become his son-in-law, repaired to Flanders, where, for the purpose of recovering his fallen power, he purchased and hired a number of vessels, which having manned with his adherents, who received no inconsiderable reinforcements from adventurers and desperadoes, fugitives from various nations, he immediately put to sea, with an intention of making a descent on the British coast, near the place where the town of Sandwich is now situated. Edward, on his part, having been informed of the meditated attack, was not behind hand in his preparations to repel the invader. The earl, finding his intention discovered, retreated back to the harbours he had just quitted; and Edward, imprudently considering the danger as past, not only permitted his seamen to disband, but having laid up his fleet, suffered it soon to fall into an unfit state for service. The politic and wary Godwin, on the other hand, being informed of this circumstance, so auspicious to his hopes, put to sea with his whole force; and being joined off the Isle of Wight by Harold, with a squadron of vessels which he had collected in Ireland, he now became master of the sea; and having seized all the vessels fit for service which he could find in the different harbours along the southern coast, proceeded up the Thames for the avowed purpose of attacking the.

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the metropolis itself. Although matters appear to have passed beyond the limits of possible agreement, yet the interposition of the nobles, the mild forgiving temper of the sovereign, and the affected submission of the earl, obviated every difficulty, and peace became completely restored.

The death of the earl, not long after the reconciliation had taken place, quieted the fears of the peaceably disposed Edward, Harold, his son and successor in power, though equally ambitious, being infinitely superior to him in honour, and in virtue. No material event took place during the remainder of the benevolent Edward's reign. Having no children to inherit the throne, and unable, mild as he was, to forgive, much less to foster, the family of earl Godwin, he sought for a successor in the person of William, duke of Normandy, his kinsman, but had not the resolution to bequeath him the realm by will, which was then esteemed to be a sufficient and legal bar against all other claimants. Harold had, on his part, concerted his measures so well, and acquired such extensive popularity, that although the wishes of the deceased monarch, which were by the greater part of his subjects considered as obligatory to them, were fully known, and the mighty power, added to the high martial character which his Norman opponent had justly acquired, (not to mention those previous measures which, during the reign of Edward, he had taken, in the hope of securing the succession to himself,) all appeared, particularly united as they were, too mighty a bar to the ambition of a subject: yet did the son of Godwin, nothing daunted at the mightiness of these obstacles, persevere in his attempt, and with so much good fortune at the commencement of his career, that he took possession of the throne without opposition.

This calm, however, proved, as is too frequently the case, the forerunner of a dreadful tempest, which, after a very short duration, terminated in the final and fatal extinction both of his hopes and life. The first interruption to the quiet of his reign was occasioned by the invasion of Tosti, his brother, who, after having voluntarily banished himself into Flanders, no sooner received intelligence of Edward's death, and the assumption of the crown by his brother, than he began to make dispositions to wrest from him his newly acquired honour. Having for this purpose collected in the ports of Flanders a little fleet, consisting of sixty vessels, and after committing some depredations on the southern as well as eastern coasts, steered his course to the northward, where he was joined by Halfager king of Norway, who, according to a plan concerted between them, had proceeded to the same quarter

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quarter, at the head of a fleet, consisting of three hundred sail. The combined armaments entered the Humber, and disembarked their forces. After a trivial success, which they experienced in the defeat of the earls of Mercia and Northumberland, who met them with some troops hastily drawn together, and extremely ill disciplined, they were encountered by Harold in person, who after an obstinate contest, concluded by the deaths both of Tosti and Halfager, totally defeated them. Nor did the success of the victor end with the ruin of the invading army, for the whole of the Norwegian fleet fell also into his hands; and he had the generosity to permit prince Olave, son to Halfager, to depart free of ransom, with twenty of the vessels, which he had so lately captured.

Ere the rejoicings, however, for this unqualified, though as the event proved, this insufficient success had subsided, Harold received the alarming intelligence that William had made good his landing at Pevensey, in Sussex. The numbers of the fleet which conveyed him to his conquest, was almost beyond precedent, immense, for it is said to have contained not less than three thousand vessels. If so, their dimensions must have been contemptible in the extreme, considered as ships intended solely for the purposes of war, since the whole of the force employed by William in this enterprize, consisted of no more than sixty thousand men, amounting to only twenty for each vessel. Their individual insignificance was, however, a matter of very immaterial moment. Harold had no war gallies to encounter them on their passage, and the wary Norman knew perfectly well that as the conveyance of his soldiers was an unopposed service which his unarmed vessels could render him, the collection of gallies calculated to defend them, would have been an useless expenditure both of time and treasure. Harold, on this occasion, committed a very great oversight, either from the contempt in which he held the military prowess of his adversaries, or his want of reliance on the nautical exertions of his subjects. He was in possession of a naval force, which, speaking by comparison with cotemporary fleets, was far from contemptible. It had been kept in a constant state of equipment during the whole summer, and was employed in cruising off the Isle of Wight, till on the propagation of an idle rumour, that duke William, discouraged by the contrary winds, and other adverse circumstances, had resolved to abandon his design, Harold ordered it to return into port. The Normans, deriving fresh vigour, in all probability, from that circumstance,

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cumstance, having put to sea from St. Vallery, where they had arrived some time before, though not without difficulty, and the loss of several of their vessels, reached the intended place of debarkation without molestation, or farther injury. The event is known to the whole world, and particularly to Englishmen. But however interesting an epoch it may form in the history of the country itself, it certainly proved very immaterially so to the subject of Marine Architecture, the general knowlege and practice of it appears not to have been in the smallest degree advanced since the reign of Egbert, except the temporarily introduced improvements of Alfred are adduced as an exception to the remark; and the fleet of William himself, according to the observation just made, stands as a corroborating proof of its unadvanced state.

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CHAPTER THE FIFTEENTH.

The sudden Appearance of the Normans as a Naval Power—their Influence and Consequence in the Mediterranean—their Conduct to the Sicilians—they enter into the Views and Spirit of the Crusaders—Guiscard passing over into Italy, conquers a considerable Territory—Account of the Place where the first Discovery of the Loadstone took place in Europe—Proof of the enterprising Spirit of the Normans—the Expedition of Guiscard undertaken against the Dominions of the Emperor of the East—the Siege of Durazzo—Relief of the Place, and Defeat of Guiscard—Guiscard's Army continues the Siege—Description of the Army of the East—its motley Composition—the Surrender of Durazzo—farther Successes of the Normans—Commencement of the War between Guiscard and the Emperor of the Franks, or West—Retreat of the Imperial Army, and Triumph of Guiscard—his greatly encreased political Consequence—Force of his Fleet—the Disembarkation of his Army under its Protection on the Coast of Epirus—Death of Guiscard—Fate which attended his Remains—Quiescent State of the Normans for the Space of more than forty Years—Enterprises undertaken by Roger, Nephew to Robert Guiscard—Successes of his Fleet—Liberation of the King of France—Insult offered to the City of Constantinople—Defeat of the Norman Sicilian Fleet by that of the Empire—declining State of the Norman Sicilians Power—the final Extinction of their Power, and the Assumption of the Dutchy of Normandy by the King of France—Naval History of the Grecian Empire—Successes of Manuel—Naval Power of Venice—its Progression and History—War with Manuel, Emperor of the East—its ill Success—Duplicity and crafty Conduct of the Emperor—War with Barbarossa—Defeat of his Fleet, and consequent Introduction of the Ceremony of the Doge wedding the Sea—various Wars and Naval Enterprises of the Venetians prior to the Year 1377.

SUDDENLY starting into public notice from a very obscure corner of the world, the Normans appeared, in the middle of the eleventh century, ambitious of rivalling the Venetians themselves, in maritime consequence, if not in commercial pursuits, with regard to which they appeared somewhat indif-

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ferent. The first cause of their rising greatness was exactly similar to that which had elevated, some centuries earlier, the power of the Russians, and of the Saxons. The inhabitants of other countries, too impotent, or, to speak nearer the truth, too indolent to defend their own territories from the ravages of strangers, were so imprudent as to invite those nations, with whom war had become as it were a natural and common occupation of life, to become their defenders. The fatal experience of the inconveniences and miseries, which attended the adoption of this strange and imprudent system among the Britons, was not sufficient to prevent the Sicilians from inviting the Normans, though they were then considered as a barbarous, and totally uncivilised people, whose friendship could at best be considered as doubtful or dangerous, to protect them from the attacks of the Scandinavian pirates *. This circumstance took place as far back as the year 1016, but was of too trivial consequence to render it necessary that the thread of history should be broken, for the purpose of introducing it more particularly, since by avoiding that interruption, the account of the maritime transactions of the emigrators from that enterprising people, is rendered more connected and traceable to the fountain head.

Uncivilised as their state was, notwithstanding it had considerably improved since their intermixture with the Franks, on their first entrance into the Mediterranean seas, and the genial climate of Sicily, they soon considered it politic to cast off the coarseness of their manners, and assume the more polished customs as well as demeanour of their guests. They entered, with seeming avidity, into all the projects and systems of the Sicilians, and followed the banner of the cross with an enthusiasm apparently little inferior to that of the most zealous among the crusaders. By this conduct they acquired strength and consequence, while at the same time they gained the unlimited confidence of their new friends. Sicily being in great measure secured, though not as yet in that state of actual subjection which was derived from a regularly effected conquest, the Norman arms were transferred, in the year 1046, to Italy, where their successes, under the valiant Guiscard, soon rendered their very name an object of terror and affright to the enervated inhabitants. So rapid were their victories, that after being regularly invested, as well by the Emperor of the West, as of the East, with the possession of Apulia, which they might be said to hold by the additional, and perhaps stronger right of conquest, they completely overcame every

* See page 228.

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opposition which was made on all sides to both the tenures. In 1053, they totally defeated an immense army, levied and headed against them by Pope Leo the Ninth in person, though the whole of their own force exceeded not six thousand men; in consequence of which victory, their apparently inveterate foe was under the necessity of ratifying and confirming the imperial grant, with the addition of Calabria, reserving to himself, according to the custom of the time, as supreme head of the church, a certain annual tribute, an exaction to which, under different denominations, all the emperors and sovereigns of christendom were for many centuries subject. This proved the origin of the connection between Sicily, and that part of Italy now distinguished by the better known appellation of the kingdom of Naples, a connection which, strange to relate, has been most wonderfully continued, though with a few interruptions, owing to causes widely diverging from each other, and irrelative to the subject of investigation, down to the present moment.

Such was the ascendancy and power of the Normans, that in the year 1060, Robert Guiscard was regularly invested with the rank and title of Duke, or Count of Apulia and Calabria *. His ambition, still unsated by victory and conquest, prompted him to extend farther the influence of his arms, till he acquired the undisputed possession of the whole of that extensive district forming the Neapolitan dominions. The acquisition even of this territory,

* Among his conquests was that of Amalphi, a town of high nautical importance, and which some years afterwards became additionally deserving of notice, on account of the wonderful discovery, far as Europe was concerned, of the properties of the loadstone, which originated there. "Seven miles to the west of Salerno, (says Mr. Gibbon) and thirty to the south of Naples, the obscure town of Amalphi displayed the power and rewards of industry. The land, however fertile, was of narrow extent, but the sea was accessible and open. The inhabitants first assumed the office of supplying the western world with the manufactures and productions of the east, and this useful traffic was the source of their opulence and freedom. The government was popular under the administration of a Duke, and the supremacy of the Greek emperor. Fifty thousand citizens were numbered in the walls of Amalphi, nor was any city more abundantly provided with gold, silver, and the objects of precious luxury. The mariners who swarmed in her port, excelled in the theory and practice of navigation, and astronomy; and the discovery of the compass, which has opened the globe, is due to their ingenuity, or good fortune. Their trade was extended to the coasts, or at least to the commodities of Africa, Arabia, and India; and their settlements in Constantinople, Antioch, Jerusalem, and Alexandria, acquired the privileges of independent colonies. After three hundred years of prosperity, Amalphi was oppressed by the arms of the Normans, and sacked by the jealousy of Pisa; but the poverty of one thousand fishermen is yet dignified by the remains of an arsenal, a cathedral, and the palaces of royal merchants."

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proved insufficient to satisfy the soaring mind of Robert. After an interval of twenty years, he not only invaded Sicily in form, but conceived the daring project of attacking the dominions which still continued to own subjection to the Emperor of the East.

" The Norman veterans (say historians) wished to enjoy the harvest of their toils, and the unwarlike Italians trembled at the known and unknown dangers of a transmarine expedition. In his new levies, Robert exerted the influence of gifts and promises: the terrors of civil and ecclesiastical authority, and some acts of violence, might justify the reproach, that age and infancy were pressed, without distinction, into the service of their unrelenting prince. After two years incessant preparation, the land and naval forces were assembled at Otranto, at the heel or extreme promontory of Italy, and Robert was accompanied by his wife, who fought by his side, his son Bohemond, and the representative of the emperor Michael. Thirteen hundred knights, of Norman race or discipline, formed the sinews of the army, which might be swelled to thirteen thousand followers of every denomination. The men, the horses, the arms, the engines, the wooden towers covered with raw hides, were embarked on board one hundred and fifty vessels: the transports had been built in the ports of Italy, and the gallies were supplied by the alliance of the republic of Ragusa.

" At the mouth of the Adriatic gulf, the shores of Italy and Epirus incline towards each other. The space between Brundusium and Durazzo, the Roman passage is no more than one hundred miles: at the last station of Otranto it is contracted to fifty; and this narrow distance had suggested to Pyrrhus and Pompey the sublime or extravagant idea of a bridge. Before this general embarkation, the Norman Duke dispatched Bohemond with fifteen gallies, to seize or threaten the isle of Corfu, to survey the opposite coast, and to secure a harbour in the neighbourhood of Vallona for the landing of the troops. They passed and landed without perceiving an enemy; and this successful experiment displayed the neglect and decay of the naval power of the Greeks. The islands of Epirus and the maritime towns, were subdued by the arms, or the name of Robert, who led his fleet and army from Corfu, to use the modern appellation, to the siege of Durazzo. That city, the western key of the empire, was guarded by ancient renown and recent fortifications, by George Palæologus, a patrician victorious in the Oriental wars, at the head of a numerous garrison of Albanians and Macedonians, who in every age have maintained the character

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character of soldiers. In the prosecution of his enterprise, the courage of Guiscard was assailed by every form of danger and mischance. In the most propitious season of the year, as his fleet passed along the coast, a storm of wind and snow unexpectedly arose. The Adriatic was swelled by the raging blast of the south, and a new shipwreck confirmed the old infamy of the Acroceraunian rocks. The sails, the masts, and the oars, were shattered or torn away, the sea and shore were covered with the fragments of vessels, with arms, and dead bodies, and the greatest part of the provisions were either drowned or damaged. The ducal galley was laboriously rescued from the waves, and Robert halted seven days on the adjacent cape, to collect the relics of his loss, and revive the drooping spirits of his soldiers. The Normans were no longer the bold and experienced mariners, who had explored the ocean from Greenland to mount Atlas, and who smiled at the petty dangers of the Mediterranean. They had wept during the tempest: they were alarmed by the hostile approach of the Venetians, who had been solicited by the prayers and promises of the Byzantine court. The first day's action was not disadvantageous to Bohemond, a beardless youth, who led the naval powers of his father. All night the gallies of the republic lay on their anchors in the form of a crescent, and the victory of the second day was decided by the dexterity of their evolutions, the station of their archers, the weight of their javelins, and the borrowed aid of the Greek fire. The Apulian and Raguscan vessels fled to the shore, several were cut from their cables, and dragged away by the conquerors, and a sally from the town carried slaughter and dismay to the tents of the Norman duke."

Such was the fate of the armament and misguided ambition of the brave, but impolitic Robert Guiscard, and such were the dawnings of that naval glory which the Venetians afterwards acquired. But the fiery ambition of the Norman, though checked, was not depressed; for notwithstanding Durazzo derived a very seasonable and unexpected relief in consequence of the victory, yet the intrepidity of Robert disdained to raise the siege, and the impotence of his foes, in respect to military force, prevented them from even attempting to compel him to the measure. The attempt was accordingly most resolutely persevered in, when Alexis, Emperor of the East, with a resolution and activity that had rarely been equalled, and never surpassed, in the annals even of ancient Rome, drew together an army amounting to seventy thousand men, in the ardent hope of repelling the invader, and disabling him, at one stroke, from making any farther

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farther attempts to disturb the tranquillity of the empire. Notwithstanding these spirited efforts, the Grecian or Constantinopolitan army displayed such a motley mixture as could scarcely be expected to promise success. Its strength is said to have principally consisted of Varangians and Scandinavians, of raw levies hastily collected, of the garrisons of various towns in Asia Minor and Anatolia, which of necessity became immediately abandoned to the Turks, and lastly, of a corps of adventurous exiles, or emigrants, who, strange to relate, had traversed the ocean from the extremity of Britain, for the purpose of serving under the banners of the Emperor of the West.

"Under the yoke of the Norman conqueror, (observes Mr. Gibbon) the Danes and English were oppressed, and united a band of adventurous youths, resolved to desert a land of slavery: the sea was open to their escape, and in their long pilgrimage they visited every coast that afforded any hope of liberty or revenge. They were entertained in the service of the Greek emperor, and their first station was in a new city on the Asiatic shore; but Alexius soon recalled them to the defence of his person and palace, and bequeathed to his successors the inheritance of their faith and valour. The name of a Norman invader revived the memory of their wrongs, they marched with alacrity against the national foe, and panted to regain in Epirus the glory which they had lost in the battle of Hastings."

Superior as was the army of his foes, the intrepid mind of Robert shrunk not in dismay from the contest; and as a proof that he was determined to obtain victory, or perish in the attempt, the few vessels which still remained to him after the former defeat of his fleet, were, with the full approbation of his followers, consigned to the flames. Desperate was the situation of the Normans, and nothing short of the greatest exertions the human mind and frame was capable of making, could possibly save them, for their numbers, which were destined to oppose the immense army of the empire, were reduced to fifteen thousand men. In addition to these fearful odds, the battle no sooner commenced, than the Lombards and Calabrians ignominiously turned their backs. They fled towards the river, and the sea, but the bridge had been broken down to check the sally of the garrison, and the coast was lined with the Venetian gallies, which played their destructive engines among the disorderly throng. The fate and discomfiture of the Normans was, however, arrested under all this mighty pressure by a woman. The wife of Robert, forgetting the natural timidity of her sex, with a heroism that perhaps was never surpassed, fought by the side of

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of her warlike husband; and exhorting the fugitives by her voice, as well as encouraging them by her example, once more restored the fate of the battle. The army of the empire was completely routed, and Durazzo abandoned to its fate. The zeal and gallantry of the besieged sunk not, however, under this accumulation of misfortune; but though they boldly affected to treat with scorn the open and avowed attacks which were made upon them, they were not capable of defending themselves against treachery. A secret correspondence with a Venetian grandee, as it is said, afforded an entrance into the city in the dead of night; and after a defence, even then, almost incredibly, made for the space of three days, the army of Guiscard put him into possession of this strong and ably defended fortress.

The conquest having opened an easy passage for the Normans into the heart of the Grecian empire, Robert advanced without difficulty into Epirus, and having made himself master of the city of Castoria, caused, through his rapid successes, the utmost apprehension in the mind of the emperor, lest Constantinople itself should become the ultimate reward of the invaders. Providence appears to have compassionately interposed, and in some degree to have arrested their further progress. Shipwreck, and the events of war, notwithstanding they had proved so fortunate, had diminished the original force at least two thirds, and instead of deriving the supplies expected from his Italian territories, Guiscard had the mortification of finding it was absolutely necessary for him to return thither, in order to reduce to his obedience several cities which had revolted from him. A dreadful schism took place at this time in the church. The emperor of the Franks descended in his wrath from the Alps, with the intention, and in the hope, of driving from the Vatican the Pope himself, who placed all his reliance in the exertions and friendship of his Norman ally. The expectation was not disappointed. An army, more extensive than he had ever before been at the head of, for it amounted to no less than thirty-six thousand men, was levied by the Norman with the utmost promptitude. The emperor, terrified at the approach of so formidable an adversary, shrunk from the contest, and retreated in dismay. Thus had Robert the glory of compelling the emperors both of the east and west, to retreat before the army of a people, who, notwithstanding their successes, were scarcely regarded in an higher light than that of a banditti.

The latter success, obtained without even the fatigue of a victory, left Robert perfectly at liberty to pursue his farther schemes of conquest and depredation.

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He resumed the important attempt of attacking the Emperor of the East, and the spirit with which he engaged in the undertaking sufficiently proved his zeal for its success.

" The fleet of Guiscard," say historians, " comprised one hundred and twenty vessels, and as the season was far advanced, the harbour of Brundusium was preferred to the open road of Otranto. Alexis, apprehensive of a second attack, had assiduously laboured to restore the naval forces of the empire, and obtained from the republic of Venice an important succour of thirty-six transports, fourteen gallies, and nine galliots, or ships of extraordinary strength and magnitude, Their services were liberally paid by the licence or monopoly of trade, a profitable gift of many shops and houses in the port of Constantinople, and a tribute to St. Mark, the more acceptable, as it was the produce of a tax on their rivals of Amalphi. By the union of the Greeks and Venetians, the Adriatic was covered with an hostile fleet, but their own neglect, or the vigilance of Robert, the change of the wind, or the shelter of a mist, opened a free passage, and the Norman troops were safely disembarked on the coast of Epirus. With twenty strong and well appointed gallies, their intrepid duke immediately sought the enemy, and though more accustomed to fight on horseback, he trusted his own life, and the lives of his brother, and two sons, to the event of a naval combat. The dominion of the sea was disputed in three engagements in sight of the isle of Corfu: in the two former the skill and numbers of the allies were superior, but in the third the Normans obtained a final and complete victory. The light brigantines of the Greeks were scattered in ignominious flight; the nine castles of the Venetians maintained a more obstinate conflict; seven were sunk, two were taken; two thousand five hundred captives implored in vain the mercy of the victor, and the daughter of Alexis deplores the loss of thirteen thousand of his subjects, or allies."

Fortune certainly favoured this bold attempt, but the chief merit of it is universally attributed to the gallantry and abilities of the chief. Repulsed as he was in his first attempt, he sought not to repair his disgrace, as is too often customary, by a rash expenditure of his force, and an extravagant attack frequently productive of still more heavy misfortune, but by most studiously endeavouring to discover the errors in his own conduct, and contriving the most proper means to remedy them in future. This great man did not long survive his last victory, and is supposed to have met that premature death which not uncommonly attends persons of his enterprising and ambitious character. As

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if Providence too had ordained that ill fortune should instantly follow his decease, the galley which conveyed his inanimate body was wrecked on the Italian shore.

The power and consequence of the Normans appears to have remained in a dormant, or at least quiescent state, for more than forty years subsequent to the death of Robert, when his nephew, Roger Guiscard, quitted Palermo at the head of a squadron consisting of no more than seven gallies, in the ambitious hope of extending his conquests, till by the union of Sicily with a dominion spreading over at least a third part of Italy, he might lay the foundation of a kingdom which might vie with many of those then existing in Europe, and be surpassed only by a few. The disputes which then raged among the Christian princes in regard to the person most proper to fill the Papal chair, and the unlucky choice made by the Norman of the least popular candidate, caused him to be driven for a short time from his Italian possessions. But the king of Sicily, which title he had assumed before his expedition commenced, soon rose superior to misfortune, having effected, as is darkly hinted by historians, that victory by corruption which in this particular instance he was unable to procure by force of arms.

Whether in the hope of wiping off the check and disgrace, which he considered as having tarnished the lustre of his arms, or in the ambitious expectation of rivalling in extent the possessions of the Emperor of the East, is impossible, at this distant period of time, to be ascertained, nor indeed is it of the smallest consequence. But having equipped, in the year 1145, a fleet, the extent of which is not mentioned, the Sicilian monarch first attacked the island of Malta, which, together with the city of Tripoli, he soon rendered himself master of, and annexed to his dominions. Mahadia was the next destined object of assault, and the force allotted the service appears to have been equal to an undertaking of the first magnitude, for its force is reported to have amounted to one hundred and fifty gallies of considerable magnitude, and fully manned. The conquest was rapid, and Tunis, with many other towns and ports since fallen to decay, served to elevate the ambition, and pamper the pride of the Sicilian conqueror.

Elated by so rapid a stream of good fortune, the nephew of Robert Guiscard exasperated at being refused, with some marks of contempt, a princess of the imperial blood, whom he demanded in marriage, resolved, after a peace of sixty years continuance, to renew hostilities against the Emperor of the East.

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A fleet, consisting of seventy gallies, being equipped, was put under the orders of George, the same naval commander who had led the former expedition against the cities of Africa. Corfu surrendered without contest; Corinth, Athens, Thebes, and the whole of Greece, felt the force, and experienced the ravages of the Norman army. The expedition was productive of other still more extraordinary events: the first was the deliverance from captivity of Lewis the Seventh, king of France, who had been most basely intercepted by the Greeks in his return by sea from an unfortunate crusade, but falling into the hands of the Sicilian Normans, was treated with all possible respect due to his high rank, and conveyed in safety to his own kingdom: the second, an insult offered by the Sicilian fleet to the city of Constantinople itself. What must have been the dismay and terror of the inhabitants, their emperor absent, and themselves totally destitute as well of naval, as of military force capable of protecting them from the attacks of their enemies, when they beheld a formidable line of hostile gallies anchoring in front of their city. Their enemy, however, had no serious intention of making any attack, nor was the fleet furnished with any means adequate to the purpose. The intention was merely that of affront and insult: for the Sicilian admiral contented himself with landing a few soldiers, whose depredations were solely confined to the petty plunder of fruits from the royal gardens, and the discharge of a few arrows tipped with silver, or, according to some authors, with gold, (though Mr. Gibbon, in opposition to both opinions, rather wishes to believe they were headed with wild-fire) against the imperial palace. This outrage, which was certainly effected in an unexpected moment, and consequently proved successful, bore the appearance of an unmanly, childish act of petulant mischief, much stronger than the dignified attempt of a brave and gallant foe. The emperor accordingly affected to treat it with contempt, though at the same time he prepared to chastise and revenge it. The Archipelago and the Ionian sea are reported, in historic metaphor, to have been covered with the fleets of the empire, and the auxiliary squadrons of Venice: but the stated extent of their numbers, taken in the aggregate, can scarcely be reconciled to belief, when that account raises them to the enormous number of fifteen hundred gallies.

So comparatively inconsiderable a force as that of the Sicilian, would have been too ignoble a prey to have given birth to such expensive exertions; and the contracted success which crowned them, though it served as almost a death stroke

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stroke to the Sicilian naval power, is a corroborative proof of the exaggeration; nineteen gallies only out of the whole fleet happening to be separated from the main body were attacked and taken. This was, however, but the forerunner of greater successes. Corfu reverted back into the possession of its original master, and the whole of the Eastern empire became almost instantaneously freed from the hostilities, as well naval as military, of the Sicilian Normans. That animating spirit of the prince, which had communicated energy and fire to all the operations of war, had for some time been sinking under the infirmities natural to old age. Intelligence of repeated disasters could not fail to augment the force of his malady, and after his death, a case which frequently occurs in the history of empires and states, the powers, the soul, as it might be called, which had given life to the body, became suddenly annihilated, so that the distracted state of the country during the succeeding reign, served to destroy almost every trace of the former victories and triumphs of the Guiscards. With the death of this sovereign, the naval consequence and power of the Normans, as well in Italy as Sicily, totally ceased. Driven in succession from the fruits of their conquests by the ascending power of the emperor, their name only continued to be remembered during the continuance of half a century, when (in the year 1204) the kings of France having annexed the dutchy of Normandy to their dominions, and the original right and title of its ancient dukes having been transferred by marriage through a daughter of William, surnamed the Conqueror, to the House of Plantagenet, these bold adventurers, who had so highly distinguished themselves in preceding ages, who had acquired such honour and renown in France, in England, and in Ireland, in Apulia, in Sicily, and in the empire of the east, were lost in victory, or in servitude among other vanquished nations.

The greater part of the maritime history of the Constantinopolitan or Grecian empire during the eleventh and twelfth centuries, has been through necessity so intermixed with that of the Normans, as to render it unnecessary to repeat any of those transactions in which such connection has existed. Indeed till the year 1174, the attention of the emperor was so much occupied by that application to military affairs, which the growing consequence and perpetual inroads of the Turks rendered necessary to allot, that he could not bestow a single thought on any other point. At length, however, Manuel having curbed the insolence of the Sicilian Normans, felt himself ambitiously urged to attempt an union between the two empires of the east and west in his own person.

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person. Having conquered Apulia and Calabria, he aimed, as a preliminary step to his future project, at acquiring undisputed possession of Italy, but the design was frustrated by the policy and prudence of Pope Alexander the Third; so that although by promises and other arts he had prevailed on Ancona, and many cities in Lombardy, to incline to his scheme, yet the Papal decree, which pronounced a fulminating interdiction against the union of the two churches of Constantinople and Rome, caused the immediate revocation of the temporary acquiescence. Without having been able to acquire the friendship of Ancona, the extensive trade, wealth, and situation of which, rendered it an object of the first magnitude in respect to his designs, he had the additional mortification of being involved in a serious dispute with the republic of Venice, whose power and consequence was much more important. The emperor, on some occasion, the particulars of which are not given, having taken umbrage at the conduct of the Venetians, caused their effects to be confiscated, little recollecting that the maritime power of the republic, contracted as its limits were, was far superior to that of the whole Grecian empire. Reflection produced concession, and concession peace, though under such terms as loudly proclaimed the impotence of the Emperor of the East. From this period to its final extinction, in consequence of the capture of Constantinople itself by the Turks in the middle of the fifteenth century, nearly all traces of maritime power, if, considering its fallen state, it could be properly so called, appear to have vanished.

In proportion as the naval greatness of the eastern empire dwindled, and diminished, that of Venice acquired strength. Its fleet, as already shewn, had the honour of checking the progress and victories of Guiscard at the siege of Durazzo. The armament was commanded by Dominico Selvo, the thirty-first Doge, in person, but a second conflict terminating disadvantageously, this unfortunate captain was deposed from his high office without any enquiry being made as to his conduct. Such was the arbitrary and indeed ungrateful conduct of the Venetians towards their commanders who were unsuccessful. Under Vitalis Michaeli, the thirty third Doge, the Venetians became strongly infected with that rage which induced every country in christendom partially to take up arms, and send forth their bravest soldiers, who, fighting under one and the same banner, were distinguished by the general and well known appellation of crusaders. The armament equipped by the senate of Venice certainly did honour to its zeal for the public cause, whatever it might do to its understanding.

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standing. It consisted of two hundred gallies, but the fury of this armament was destined to fall first on the republic of Pisa, whose fleet, though inconsiderable in force, defended itself with a spirit highly meriting a better fate, but was, after a most bloody conflict, completely defeated. The Venetian navy became for a time invincible. The capture of Ascalon, with that of many other places equal in consequence, may be attributed to its exertions; and what the extent of its farther success might have been, had the Doge not been under the necessity of returning into the Adriatic, for the purpose of repelling the Normans from Dalmatia, is impossible to be calculated without at least a probable chance of depreciating its value.

Under Ordelapho Faliero, the thirty-fourth Doge, (A. C. 1087.) the Venetians again equipped a strong fleet of gallies, the force of which is somewhat variously represented, though the lowest statement proves it to have been considerable. The different accounts make it to have consisted of from sixty to one hundred gallies. Its destination was in conformity to the effects of the same religious enthusiasm which had promoted the equipment of the armament under the former Doge, the coast of Africa, and its object to assist in what was curiously termed the holy war. The city of Acon, or Ptolemais, surrendered to its assault, combined with that made by count Baldwin on the land side. Other ports, scarcely inferior in consequence, formed the trophies and rewards of the campaign. Baldwin, to whom Ptolemais had surrendered, in gratitude for the service, which he considered the common cause had derived from the exertions of Faliero and his fleet, bestowed that part of the conquests on his Venetian allies. The people of Croatia, in two or three years after this, having given umbrage to Venice, preparations were accordingly made for their chastisement both by sea and land. The fleet, as generally proved the case, fulfilled its object: the army was not equally successful, the Hungarians having given it a signal defeat, and killed the Doge himself, who commanded it in person.

Domenico Micheli, his successor, entering as well as the people into the spirit of crusading with more zeal and spirit, if possible, than his predecessors had done, caused a fleet of sixty gallies to be equipped almost immediately on his accession, and proceeded with it against the Saracens. The siege of Joppa was raised, and the assailants obliged to retire with the greatest precipitation, leaving behind them an immense booty. Information of this success, the envy which it excited, and the alarm at the growing power of the Venetians, combined

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combined in causing the Emperor of the East to meditate an attack on them during the absence of their fleet. But intelligence of the intended enterprise naturally caused the recall of the Doge, and his arrival dispelled the impending mischief. Rhodes, where he intended to procure refreshments for his people on their return homewards, having refused admittance to his armament, was immediately attacked, and being almost as speedily carried, was, in vengeance for the baseness of the emperor's design, completely razed. The capture of Chios, Lesbos, Andros, Samos, and the other islands situated in the Archipelago, which were subject to the emperor, completed his punishment, and the successes of the Doge in that quarter. Entering the Adriatic, the return of Zara, with other places in Dalmatia, which had revolted from the dominion of Venice, and their return once more under that of their former masters, very materially contributed not merely to the honour, but to the actual advancement of the power, and consequence of the Venetians.

Under Pietro Polani, who succeeded to Micheli, the naval glory of the republic was considerably advanced by the success of an expedition undertaken against Roger Guiscard, at the request of the emperor Manuel. The Doge being seized with a violent indisposition, was under the necessity of transferring the chief command to his brother Giovanni. The deputed commander proved himself completely worthy of the high trust; for though the Sicilian Normans received their assailants with the greatest spirit and bravery, yet the superior skill and conduct of the latter proved thoroughly decisive against Guiscard. A considerable part of his fleet was either captured, sunk, or destroyed, and the Venetians had the satisfaction of returning home replete with honour, and what was, in all probability, a not less serious gratification, laden with spoil. A flying squadron, consisting of six vessels only, was sent out to scour the Adriatic, and free the merchants from the depredations which had been frequently committed by the Croatian pirates, and such became the maritime consequence of the republic, that if the account of historians may be credited, a boat laden with gold might have passed in the most perfect security from one end of the Adriatic to the other. The reign of the succeeding Doge, Domenico Morosini, was not marked by any maritime event more material than the equipment of a trivial armament, fitted out against the Istrians, who had committed, in imitation of that disposition which their Croatian neighbours had shewn, various acts of the most atrocious piracy. Pola was taken by storm,

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storm, and the rigour with which the chief promoters of the mischief complained of, were treated, prevented for some time, the smallest repetition of it.

About the year 1160, Vitalis Michaeli the Second, being then Doge, Manuel, Emperor of the East, thought fit, without any properly grounded reason, to order the effects of all the Venetian merchants, who, according to the accustomed spirit of commerce, had spread themselves throughout his dominions, to be seized and confiscated. His unbounded avarice was not satisfied with this very unwarrantable means of acquiring wealth, but having had the base subtlety to make a pretended acknowlegement of the impropriety of his conduct, accompanied by a solemn promise of reparation, the Venetian merchants were induced, through the hope of repairing that loss which the temporary stop put to their traffic had occasioned, to fit out an extraordinary number of vessels, which having poured into the ports of Greece, were, as in the former instance, immediately seized, the crews imprisoned, and the cargoes declared forfeited to the use of the emperor. The rage of the Venetians, at this accumulated instance of insult and injury, burst forth like an explosion. A more formidable armament than had ever before sailed from their harbours, was equipped on the occasion; and the distinguishing appellation of ships, to separate them from gallies, became first made use of in the Mediterranean wars. The latter deviated not from the long practised mode of construction, and relied principally, as well in action as otherwise, on their oars; the ships on the other hand were considerably more lofty, were broader, and used, as was the custom in France, in Britain, and all other countries, those bordering on the Mediterranean excepted, their sails only, as well in the hour of combat, as in pursuit of more quiet avocations. The force of the fleet is said to have consisted of one hundred gallies and twenty ships, from which the supposed superiority of the latter may, without any extraordinary stretch of the fancy, be fairly inferred. The reduction of various cities in Dalmatia, which had revolted to Manuel, appeared to promise a favourable as well as speedy termination to the dispute. The emperor, alarmed, and not without reason, at the rapid advances of his justly incensed foes, attempted to temporize. So craftily did he conduct himself, as to render the Doge the complete dupe to his artifices; and the whole season for enterprise was not only consumed in pretended negociation, but a dreadful and contagious distemper breaking out among the seamen at Chios, where the Venetians wintered, this once mighty

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armament was rendered completely incapable of making the smallest attempt for the chastisement of the Greek, and the service of the republic. The unfortunate, though personally brave Doge became the innocent victim to the rage of the populace, and the injuries offered to the state by Manuel went unavenged.

Scarcely had the successor to this unhappy man found himself in possession of his high office, ere he was under an absolute necessity of entering into war with a no less formidable enemy than Frederic Barbarossa. The defence and protection of Pope Alexander was the primary cause of the dispute, and humanity, zeal for the religion of their ancestors, together with the honour of the republic, forbad that the Venetians, as the price of their own peace, should abandon the fugitive pontiff in the hour of his distress. After the latter had made some fruitless attempts to avert the impending storm by negociation, Otho, son to Barbarossa, entered the Adriatic with a strong fleet composed of seventy-five very large gallies, and advanced towards Venice with a professed intention of attacking the city itself. Notwithstanding the naval force of the state, owing to the attack being sudden, and totally unexpected, was considerably inferior to that of its enemy, the Doge did not despair, but equipping, with the utmost expedition, such ships and gallies as were in a condition for sea, resolutely advanced to meet and engage the foe. His intention was not long frustrated, and the most decisive victory rewarded the boldness of the attempt. Forty-eight of the vessels composing the fleet of Otho were either sunk, captured, or destroyed, while the dismayed survivors considered themselves fortunate in being able, by the most speedy flight, to escape from the fury of their enraged enemies. This victory gave birth to that well known ceremony of state practised by the Venetians of wedding, as it is called, the Adriatic. "Take Ziani," said the elated Alexander to the victorious Doge, "this ring, and present it to the sea, in token of your dominion over it. Enjoin your successors to perform annually the same ceremony, that succeeding ages may learn, your valour acquired this great prerogative, and has subjugated the ocean, even as a wife is subject to her husband."

The capture of Otho, who became prisoner to the Doge on this occasion, furthered the restoration of public tranquillity, and the emperor himself became so completely reconciled, as to visit Venice in person. The reign, if it be not offensive to the principles of republicanism to adopt the term, of Osorio Mastropietro, successor to Ziani, was distinguished only by the reduction of some rebellious

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rebellious islands on the coast of Dalmatia, and the capture of Acon, in conjunction with the force of other crusaders, on which occasion mention is made of a considerable naval force contributed to the common cause, by the Pisans. These people, who from a very obscure origin had raised themselves into some kind of public notice, had the temerity to shew so great a desire to emulate the Venetian power, as could scarcely fail to excite the indignation of the republic. During the siege, a variety of trivial feuds and disputes arose, which rather served to advance a quarrel, originating on both sides, perhaps, in envy. The conduct of the Pisan fleet when on its return from Syria, materially contributed to widen the breach. The town of Pola, then tributary to the Venetians, and consequently under their protection, was not only assaulted and plundered, but a Pisan garrison was left in it, as an indisputable proof that the assailants by no means wished to disown the violence of the act, but that they were resolved to profit by the success of it, and retain for their own use, till by the fortune of war they might have wrested from them the fruits of their conquest. The insult was too great to be pardoned, or slightly passed over by Venice. The honour of the republic was concerned, and the necessary measures were immediately taken to vindicate its wrongs. A squadron consisting of six ships, and as many gallies, was immediately equipped; and the expedition was terminated not only by the restoration of the ravished city to the dominion of its former masters, but by the capture of a considerable number of gallies or vessels belonging to Pisa which were then in the harbour. The vengeance of Venice did not terminate even here, an exceedingly valuable fleet belonging to the same people being either captured or destroyed, ere the Doge and senate thought proper to consent to terms of pacification. The people of Verona fell under the displeasure of the republic in the ensuing year. They had imprudently plundered some Venetian vessels in the river Adige, and all commerce or intercourse with them was immediately prohibited as a punishment for the delinquency. An immediate concession, however, accompanied by proper satisfaction for the injury offered, calmed the rage of the offended, and sufficed to restore tranquillity.

The Pisans, after a truce, (for the relaxation from warfare which took place could scarcely be said to deserve the appellation of a peace) which continued for a few years, prevailed on the Brundusians to declare war against Venice: fearful, from the chastisement they had before experienced, that if unsupported by alliance they should meet with a similar discomfiture from the former. Venice

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on her part smiled at the confederacy. A squadron considered adequate to the purpose of convincing those united foes of their impotence, was fitted out: it not only succeeded in totally destroying the confederate armament, but threw the whole country, and even the inhabitants of Brundusium itself, into the utmost panic. They immediately concluded a separate peace; and the Pisans, deprived of all extraneous assistance, gladly accepted of such terms as the superiority of their victorious foes prompted them to dictate. This insignificant warfare was scarcely settled, when an expedition, or armament, of greater extent than had proceeded from Venice for many years, was ordered to be fitted out, in consequence of a treaty concluded between the republic, Alexis, or Alexius, son to the deposed Emperor of the East, and Baldwin, earl of Flanders. It consisted of sixty gallies, twenty *ships of war*, specifically so termed, with a very considerable number of transports for the conveyance of troops. The Istrians, who were destined to feel the first effects of this armament, were so terrified by the very sight of it, that without waiting for attack, they sent ambassadors, offering, as a preliminary to peace, to acknowlege themselves vassals to the republic, and to submit to all such subsequent conditions as their new masters should think proper to prescribe. A number of petty states and independant cities, were happy in purchasing their tranquillity on similar terms; and Zara alone, in conformity to her former conduct, presuming to resist, was assaulted, compelled to surrender after a brave defence, dismantled, and to crown the climax of misfortune, deprived of all the privileges attendant on political liberty and freedom.

The principal object of the confederacy, and this expedition, had not as yet developed itself. It did, which very seldom proves the case in respect to such undertakings, honour to humanity. The Emperor of the East had been, at a very advanced age, not only deposed, but thrown into prison, and his son banished. The restoration of this much injured prince to liberty, and to his throne, was the cause of benevolence. The wrongs and the pathetic pleadings of the young Alexis, accelerated the assault of Constantinople, which the confederated powers purposed to have deferred till the ensuing spring. The city surrendered almost without resistance. The usurper fled, but the joy which the success would have occasioned, was in great measure clouded by the unfortunate death of the old emperor very soon after his restoration, and the subsequent murder of his son by Myrtillus, a person of very low origin, who had been raised from obscurity by the favour of the emperor. The usurper derived

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derived but very short-lived honour from his sanguinary elevation. The city was besieged by the Venetians, and earl Baldwin; Myrtillus contrived to make his escape, and Constantinople, after a siege of eighty days, once more received its former conquerors. Earl Baldwin was immediately elected to fill the imperial throne, and in gratitude for that service which the Venetians had contributed towards his elevation to the dignity, he not only conferred on them all the first offices of the state, but the subsequent conquests made in Thrace during the ensuing spring, as well as that of Candia itself, with other islands in the Archipelago, contributed, through the imperial bounty, to augment the power, and enlarge the territories of Venice.

So boundless was the munificence and gratitude of Baldwin, that very soon after this time, permission was granted to the Venetians that they might undertake the conquest of all those Grecian islands which they thought would repay the trouble, and the expence of reducing them to subjection; so that at this æra may be dated the foundation of that very extensive power and national weight which the Venetian republic not long afterwards acquired. The powers of the state were considered as insufficient to procure food sufficient to satisfy the ambition of the people. Licences were granted to private individuals, who immediately equipped petty armaments proportioned to their means, and the magnitude of their undertakings. A multitude of persons, who, in consequence of the indulgence they experienced, had settled in the character of merchants throughout the Grecian empire, united in fitting out a fleet, which rendering the actions of war consonant to those of trade, may be considered as a partnership concern. The terms established by this community for the purpose of carrying into effect a newly introduced species of speculation, were, that every person whose property amounted to a certain sum, should furnish a ship of a given description and force; and so by a proportionate scale, that those more wealthy should contribute two, or even more, while others less affluent, either furnished an inferior vessel, or contributed a proper quota towards the maintenance of one in the superior class. As the expence became thus made a general, though private concern, the profits resulting from it were apportioned properly to each man's contribution. Allured by the hope of gain, many were induced to exceed their own means, and even exhaust their credit in support of the undertaking. The armament was formidable, and its success proportionably extensive. Lemnos, Andros, and all the other islands in the Archipelago, which had not previously formed a part of the Venetian dominions,

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were subdued with little difficulty, and the triumphant standard of the republic proudly waved, without a rival, along the shores of the Adriatic, and the Archipelago.

Notwithstanding Venice had reached a summit of glory, and what was of still greater consequence, of power also, which appeared to elevate her beyond the reach of foes, or of rivals, yet such is the uneasy temper of mankind, and such the aspiring disposition of public bodies, or what are called states, that though disgrace and ruin heavily impend o'er the attempt, it is frequently persisted in even till destruction follows. The Genoese, situated on the western, or opposite shore of Italy to Venice, had long beheld with envy the encreased wealth and power of those who could scarcely be considered as their neighbours, and resolved to use every exertion possible, in order to acquire such a degree of strength as should render a public quarrel, entitled, in public opinion, to a term somewhat less harsh than an act of national frensy. Hostilities commenced with the capture of a celebrated Genoese pirate, who had, for a considerable space of time, infested those seas, and committed various depredations, capturing the vessels of every country whatever that were unfortunate enough to fall in his way. The attack and defeat of the Genoese fleet itself quickly followed. The victory appeared an act of public justice, since it was totally derogatory to the honour of a public state, that a ruffian should be countenanced in piratically attacking and plundering, without discrimination, whatever vessels were unlucky enough to meet the contest. The result reflects no small degree of honour on the tactics and skill of the Venetians: for while the whole force of which their squadron consisted is related to have amounted to no more than nine gallies, these are said not only to have discomfited the Genoese fleet, whose force is not mentioned, but to have captured or destroyed *twelve* ships out of those which composed it. The possession of the island of Candia became immediately after this time a constant bone of contention for a series of years between the two rival states. The envy of the upstart republic having been excited by the prosperity of her elder sister, seized that kind of opportunity which frequently will offer itself, particularly in conquered countries, and distant colonies, of exciting the disaffected part of the inhabitants to revolt, under the promise of such sufficient succour as would effectually enable them to throw off their allegiance. The superior power of Venice proved, nevertheless, too great for the joint exertions of rebellion, and its abettors, for the sovereignty of Candia reverted over to its former possessors. The terms of submission were the payment

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ment of an annual tribute, and the aid of a certain portion of naval force, which it was stipulated should be kept in constant readiness for service, so that it might join the Venetian fleet, whenever called upon, at the shortest notice.

The tranquillity thus restored proved but of short duration. Continued insurrections were excited to harrass the Venetians; and in aid of the means before used, the disaffected applied to Vattasus, governor of Lesbos, offering to elect him for their sovereign, on condition he should afford them such succour and assistance as should enable them to expel their masters. Encouraged by the offer, the Lesbian equipped a fleet, consisting of thirty gallies; but though successful at the commencement of his enterprise, he found at length the undertaking too great for his force, and was compelled, with unsated ambition, to abandon the revolters to their fate. A renewal of the attempt from the same quarter was equally unsuccessful. But discomfiture, though repeated, was not yet a sufficiently strong incentive to stop or paralise the ambition of Vattasus. It even seemed to rise in its extent, as though defying all misfortune. The declining state of the eastern empire, and the treasures of Constantinople itself, appeared too glorious a prize not to merit the greatest exertions, and seemed sufficient to avert the charge of rashness from so hazardous an attempt. Venice appeared among the firmest supporters of the imperial dignity, faded and withered as its state then was; but notwithstanding every possible expedition was used, the siege of Constantinople was actually commenced ere the Venetian fleet arrived. The complete discomfiture of the besiegers, amounting almost to their total annihilation, instantly followed; and the naval glory of the republic was very soon afterwards still farther advanced by a solicitation, in the strongest terms, of a treaty of alliance and friendship from their quondam enemies and rivals, the Genoese.

Pope Gregory the Ninth proved the cause of this apparently wonderful coalition and reconciliation. The emperor Frederic had entered the ecclesiastical territories with a numerous army, and committed the most dreadful ravages. The Venetians repaired to the assistance of the former with a fleet consisting of forty ships, or gallies, having on board a strong body of troops; and the murder of the Doge's son, after being taken prisoner by the Franks, contributed to raise the fury of the public mind almost to a pitch of frensy. Frederic, however, having formed an alliance with the Pisans, collected a fleet consisting of more than one hundred gallies, and the Genoese, who trembled for their own safety, while

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while so formidable a force was on foot, proposed a triple alliance between the Venetians, the pope, and themselves, for the mutual security of all parties against a foe whose ambition was rendered tremendously alarming by the extent of the power which he possessed of gratifying it. The Venetian fleet quickly made its appearance at sea for the service of the general cause, and in compliance with the engagements which it had entered into. It was unavoidably, however, soon withdrawn from the Italian seas, and dispatched to the relief of Constantinople, which city was for the second time besieged by Vattasus. Its arrival was productive of the same effect which it had been on a former occasion, and the danger was no sooner averted from the empire, than the Venetians returned to the shores of Italy, for the purpose of once more joining the forces of their confederates. Mutual envy and animosities prevented the accomplishment of that purpose, which was the avowed object of the alliance; for no encounter taking place, the power of the Franks, and their friends the Pisans, went unsubdued, so that the only advantage which the pope derived from the treaty was, that the armaments of both were, by the junction of the rival fleets, so far kept in check, as to be afraid of making any farther attempt on his dominions.

The jealousies and feuds which had so long injured the cause of the confederacy, and had, in proportion to their continuance, progressively widened between the rival republics, at length reached such an height, as caused their mutual secession from the cause and interests of the unfortunate pope. This measure proved the almost immediate forerunner of a very bloody and destructive war, which commenced between the Venetians and the Genoese. Religion, the pretext most frequently used during the twelfth, thirteenth, and fourteenth centuries, for the commencement of hostilities, afforded its aid in this instance. The claim made by the zealots of the two states to a particular church in the city of Acon, captured from the Saracens, caused, at first, a dispute which required very little assistance from art to be ripened into a serious quarrel. The fanaticism and furious zeal of both parties, totally prevented all possibility of reconciliation. Notwithstanding the pope himself used every possible endeavour to abate their public, as well as private anger, the fleets of both countries met to terminate, if possible, that dispute which was so furious as to have baffled the benevolent attempts of his holiness. The contending and furious rivals met near the city of Ptolemais: their force was so nearly equal, and the courage of both parties

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parties so uniformly displayed, that the contest was not only long, but the event of it extremely doubtful, till the superior skill and knowlege which the Venetians possessed in naval tactics, gave them a complete, though hardly earned victory. The Genoese armada was entirely broken and thrown into confusion, so that a considerable number of ships, or gallies, together with upwards of two thousand prisoners, fell into the hands of the conquerors. Elated with their success, the Venetians failed to use their victory with that moderation which is the strongest characteristic of a great and noble mind, for they not only completely banished the Genoese from Acon with every mark of tyranny and oppression, but even compelled the prisoners to row their gallies in the quality of slaves, making no distinction between them and the Mahometan captives who were unfortunate enough to fall into their hands, and whom it had long been the practice to treat with that dreadful and unchristian-like severity.

During the reign of the succeeding Doge, an alliance was entered into between the feeble remnant of the Grecian empire, (happy in its adversity to embrace every possible chance of prolonging its political existence) and the Genoese; the Venetians, who had uniformly appeared in the character of supporters to the Constantinopolitan throne, having deserted the cause which they had so long espoused, and manifested no slight intention of extinguishing that glimmering and tremulous ray of former grandeur, which seemed to wait, as it were in anxiety, for that puff which would destroy in an instant every trace of its former existence. Gilberto Dandolo, the Venetian admiral, soon fell in with the combined force of his adversaries; and as it rarely happens that the mariners, or the soldiers of a state seemingly sinking into obscurity, are animated with the same degree of spirit which actuates the natives of a country elated and arrogant in its prosperity, the Grecian vessels fled after a very trivial resistance, and their dismayed allies being consequently surrounded, only a very small number of them were able to make their escape. The resources of Genoa proved far superior to those of the empire: the latter sunk under the disgrace, apparently content and happy that its insignificance protected it from farther hostile persecution; but the republic, burning with rage at the discomfiture, fitted out, with the utmost expedition, a fleet far exceeding its former armament, both in numbers and in strength. The Venetians, on their part, had received a reinforcement of fifteen gallies; but this augmentation of force was considered to be in great measure outweighed by the very elevated abilities of

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the renowned Andrew Doria, who put himself at the head of the fleet, in the hope of wiping off that stain which he considered the arms of his country had received by the former defeat.

When rival nations, mutually animated and exasperated against each other, enter into contest, the commanders on both sides frequently feel themselves urged by a stronger impulse than that of public animosity, and seek the termination, if possible, of the pending dispute in all the avidity, of personal quarrel. The fleets soon met, say historians, and the battle was fought with the utmost resolution, skill, and obstinacy. Hatred, revenge, and glory, animated both parties, and a rivalship subsisted as well between the commanders themselves, as the states, whose armaments they conducted. The honour of each country was considered to depend on the ability and courage of the two admirals, so that nothing was left undone which great and skilful officers ought to direct, or soldiers perform; but fortune did not second the great qualities and merit of the renowned Doria. After one of the most bloody actions recorded in history, the Genoese line was broken, but not the courage of the commander: he continued to defend himself with infinite intrepidity, after the greatest part of his fleet was taken, sunk, or burnt. At last, overpowered by numbers, he fell into the hands of the Venetians, a circumstance which gave them juster cause of triumph than all their other conquests. This victory cost the republic many of her best officers, together with an incredible number of private men; but the public joy at having humbled a proud rival, suppressed all reflections on the loss sustained. It was the first fair trial of valour and skill the two republics had ever made, the event of which gave the Venetians that superiority at sea which they maintained for a series of years. The conduct of the admirals was no less to be admired after, than during the battle. One bore his adversity with that greatness of soul, that invincible spirit and resolution, which made even the enemy acknowlege he deserved victory: the other, his prosperity, with a moderation, calmness, and generosity, which obliged Doria to confess that he ought to conquer. In short, those two great men, who were inveterate enemies before fortune had declared herself in favour of either, became the warmest friends, as soon as their almost equal merit had proved to each, how deserving he was of the other's esteem.

Notwithstanding the preceding victory, peace still continued denied to the Venetians, owing to the uneasy and jealous temper of their rivals. The continued exertions of the latter raised a third fleet so powerful, that it was considered necessary to send a further reinforcement to that of Venice. This supposed necessity appeared,

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appeared, for a short time, more likely to contribute to the downfall of the republic, than the arms of its adversaries. A seditious insurrection was excited in consequence of the imposts which the continued equipment of so great a force unavoidably occasioned; nor was it quelled without difficulty, till the ringleaders being imprisoned, reason began to rise superior to popular fury, and convince the dissatisfied of that critical situation which gave birth to those grievances of which they complained. Scarce had the Venetian admiral been joined by the newly fitted squadron, ere he was attacked near the island of Rhodes by the Genoese, who burned with the utmost impatience for revenge; but it was very soon apparent how extensive the advantage was, which they had derived from the abilities of their former commander: their line was broken even at the first onset, and the speedy capture of a very considerable part of the fleet, afforded to Venice an easy and almost bloodless victory. The success of the victory seemed almost boundless. The Venetian admiral having had the good fortune to fall in with a considerable fleet of merchant vessels belonging to Genoa, sent home the whole in triumph, and pursuing his tide of fortune, having proceeded with his fleet to the coast of Syria, not only drove the Genoese from Ptolemais, but from every other valuable post which they possessed in that quarter. It is remarked, that at this period the republic attained to a very high pitch of power, consequence, and reputation abroad, though it was not equally prosperous at home. The finances were low and exhausted; industry and commerce gave way to martial atchievements; and public glory seemed to be eagerly desired, while private œconomy and happiness were universally neglected.

The reduced state to which the force of the crusaders was brought, became productive of a peace, or rather a truce, between the rival states, brought about under the mediation of the pope, who naturally considered that, which was called the Holy, war, ought to suspend all private animosities, as every contest between nation and nation were considered, when compared with that which was esteemed as the common cause of all christendom. The alliance and concurrence of two such states as Genoa and Venice, which were then very deservedly termed the most formidable among the maritime powers of Europe, was held, as indispensably necessary to the furtherance of the great religious cause, in which half the civilised world was then engaged. Every effort and attempt towards mediation had been unsuccessfully applied on the part of many who appeared among the most powerful states in Europe. At length,

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Philip of France had sufficient address to accommodate the existing difference, and the war, which during the space of eleven years had been with the utmost rancour carried on between the two rival republics, terminated in apparent friendship.

The force of example never appears to possess greater influence than it does in political affairs. The resistance of Genoa to the growing power of Venice, encouraged other states, infinitely inferior in power, as well as exertion, to make not indeed an equal, but as much resistance as they were capable of effecting, against the will and commands of those who were considered imperious masters. Bologna had the arrogance to make the first attempt, in which she failed. Ancona, though treated with somewhat more respect, was equally unsuccessful; and to such an height had the naval power of Venice raised the consequence of the state, that in the year 1274, the Genoese publicly acknowleged the superiority of her rivals, by not only ordering immediate restitution to be made of a merchant vessel, which had been captured by two of the state gallies, but that full compensation should be made for the loss which had been sustained on the occasion. Petulance frequently prevails over a sense of inferiority, so did it in the case of Ancona. Encouraged by the consideration of a rebellion which had broken out in Istria against Venice, that state had not only the rashness (for its conduct cannot merit any other appellation) to commit various depredations on the commerce of that state, but refused to pay a stipulated duty required from all vessels which entered a particular part of the Adriatic. Three successive expeditions were set on foot, for the purpose of humbling the upstart rebels, ere the purpose was effected; but the failure of the first two were certainly not effected by the puissance of the enemy, but by tempests and stratagem.

The naval power of the Venetians at this time rose superior in every quarter where it was exerted, to all opposition that could be made to it. The Istrians, who had thrown off their allegiance, and appeared in open rebellion, were quelled, almost on the instant their treason was known, by a naval armament, far from considerable in force, commanded by Andrea Brascio, and the inhabitants of Ancona, finding both the solicitations and menaces of pope Nicholas, who interfered in their behalf, of no avail, were compelled to purchase peace at the expence of an heavy tribute, in order to preserve their city from the horrors of a siege.

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During the five subsequent years, the Venetian marine enjoyed a perfect state of quietude, but in 1280, the Istrians having again revolted, a strong squadron was equipped, for the purpose of investing Trieste by sea, while the Venetian army pressed it on the land side. On this occasion the prosperity of the republic received a check; several years were not only consumed in fruitless attacks, or stratagems, but misfortune in a more vital quarter, because the exertions of the state had been particularly directed thither, occasioned the loss of Acon, together with the complete expulsion of the christians from Syria, and proved that the Venetian arms, though powerful, were certainly not invincible. Public misfortune is seldom single, and there appears a species of tide, or current, in the history of all states, which during certain periods displays uninterrupted success, and then for a time takes the contrary direction, which becomes equally uniform in opposition to the former. The term of the truce formerly concluded between the rival states of Genoa and Venice having drawn to an end, neither of them appeared inclined to be content to live in amity, or even in any longer cessation from war. The fleet of Venice appeared first at sea: it consisted of no less than sixty gallies, and was commanded by an officer named Moresini, who had most deservedly acquired the highest reputation by his gallantry and good conduct during preceding wars. The commencement of this war proved tolerably auspicious to Venice during the first year. Pera, then much frequented by the Genoese merchants, with many though inferior settlements and ports, were brought under subjection to Venice by the same armament; while during the same period, a second, which was commanded by Giovanni Souranza, made itself master of Capha, a city of some consequence in Chersonesus. Under this accumulation of apparent misfortune, the people of Genoa were not idle, or intimidated. They most diligently applied themselves in the convoy of their merchant vessels to and from the different ports of their destination, as well as in equipping a naval force sufficient to meet that of their antagonists, so as to afford well grounded hopes of success.

These preparations being completed, the chief command of their armament was conferred on Lampadio Doria, a collateral descendant from the same stock of the renowned Michael Doria, who had been defeated by Dandolo. That of Venice was also under the orders of an admiral bearing the same name as the latter, and descended also from the same family; so that there might be said to exist a species of hereditary enmity. The rivals met in dreadful conflict near the island

island of Corfu, which was maintained for many hours with equal courage, and without any apparent advantage. "Nothing," say historians, "besides the dreadful shouts of the combatants, the shrieks of the dying, or complaints of the wounded, could be heard. Nothing seen but dead and mangled bodies. Ships burning, sinking, or broken to pieces. Thus the fight continued with prodigious slaughter, both pushed on by hatred, encouraged by the hope of victory, and animated by the conduct and harangues of their admirals. At last the Venetians were defeated, if that could be called a defeat where scarce a number of the conquerors remained sufficient to report the news of their victory. Dandolo was made prisoner, and not a ship belonging to the republic but was taken, or destroyed. Sabellicus says, that four thousand Venetians were made prisoners; but from the accounts of other historians, not half that number remained alive on both sides. Andrea Dandolo was so much affected with the disgrace of having yielded up that honour acquired in the last war, that in the agony of despair he dashed out his brains against the side of the cabin where he was confined; a conduct very different from that of Doria's, but scarcely less indicative of greatness of mind, delicacy of sentiment, and public spirit."

It is reported by some cotemporary writers, that this signal defeat was occasioned by the misconduct of thirty gallies, whose commanders stood aloof, and were very trivially engaged in the contest; a behaviour which experienced the reward it merited, an ignominious and public death. Although the loss sustained by the Venetians in the destruction and capture of their fleet was great, added to the slaughter among their bravest seamen and commanders, many of whom belonged to the noblest houses, it was not considered as irreparable; so that instead of sinking under despondency and despair, every exertion was made to cause the equipment of an armament, in force sufficient to wipe off the recent disgrace, and repair the injury which the naval power of Venice was considered as having sustained. Every inhabitant, from the highest rank down to the humblest, seemed animated with the same patriotic zeal, and equally anxious to restore, by their best exertions, the fallen dignity of their country. A considerable part of the renovated navy was judiciously stationed in the Adriatic, for the defence of that sea, and the city itself; but a fleet consisting of twenty-five sail, was ordered, under the command of Marco Brascio, into the Ionian and Ægean seas, for the purpose of protecting the Venetian colonies and settlements

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ments in that quarter. A second defeat, however, though less consequential than the former, inasmuch as the force engaged was very far inferior, served to humble still lower, the pride and haughtiness of Venice. Although the Genoese appeared to triumph almost without competition, and had even acquired such an ascendancy as enabled them to make various attacks on different ports belonging to Venice, yet the latter did not yet abandon herself to despair, and give up her cause as desperate. An armament was ordered to be equipped, and various conflicts took place with varied success, but all indecisive as to the fate of the war: at length the rivals by mutual consent, not owing to any relaxation of animosity, but to the mere want of ability in both parties to continue the contest, yielded to the necessity which their situation imposed on them, and for a time ceased to be enemies.

Various internal feuds continued to disturb the tranquillity of Venice for nearly seven years subsequent to the cessation of hostilities, but the almost equally distressed state of the Genoese, prevented them from taking that advantage which the political code of law might probably have pretended to justify. Not so the ancient rebels of Zara; but Venice was in this instance successful enough to bring them back to their allegiance, and no naval event sufficiently consequential to attract the notice of the historian, took place for more than thirty years after hostilities had ceased with its ancient rivals. At length, the Turks, who had long been gaining ground against the crusaders, owing to the intestine disputes which prevailed among some of them, and the causes, as was the case of the Venetians in particular, which not only diverted the attention of others, but prevented them from affording that succour to the common cause, which their zeal prompted them to, were not content with having obtained possession of Syria, and deriving confidence from success, aimed at erecting themselves into maritime consequence. So supine were their foes, or so great were their own exertions, that the trade to the Levant was completely destroyed, and the coasts of Rhodes, of Cyprus, and of Candia, became the continued scene of plunder and devastation for the Mahometan gallies. To check, and destroy, if possible, this rapidly encreasing evil, a league was entered into, under the auspices of the pope, between the king of France and the Venetians. The terms of it fully prove the naval consequence of the latter; for it was stipulated, that as their quota to the naval and military force of the latter, they should furnish a fleet consisting of no less than one hundred ships of war and gallies, exclusive of transports for the soldiers, store-ships, and other attendant vessels.

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vessels. The failure of the French to comply with their part of the treaty, produced the failure of this grand scheme, which at the commencement almost threatened annihilation to the Ottoman power. The Turks on their part, who on the first intimation of the storm which threatened them, had shrunk with apprehension for the consequence, deriving additional courage from the cessation, or at least postponement, of danger, over-ran nearly the whole Mediterranean with their corsairs, and put a total stop, though it proved a temporary one, to every species of maritime commerce.

The Venetians not being able to brook the insult, and what acted still more forcibly on their minds, not choosing to submit to the injury, delayed not, though deserted by their allies, to fit out a fleet, which not only restored to them the freedom of trade, but compelled the Turks to owe their safety to their harbours, and actually defrayed all expences, which attended the armament, by the captures which it made. The naval consequence which Venice acquired in the eyes of all surrounding nations by the event just related, was so great, that no country thought proper for many years to enter into naval contest with her; and so highly was her friendship esteemed, that Edward the Third, of England, solicited an alliance against Philip, king of France, who was joined by the Genoese, a request which, though earnestly made, was peremptorily refused. The Turks, who during the short time they had reigned masters of the Levant, had derived sufficient advantage to convince them of the benefits resulting from maritime consequence, were resolved not to abandon them lightly, and accordingly kept a naval force, consisting entirely of gallies, in constant readiness for service. Such adepts did they prove, that the fleet of Venice experienced a signal defeat from them about the year 1344: and intestine commotions, for the space of two years after the above event, kept the republic from making any attempt towards the recovery of its honour. To this event succeeded a fresh rupture with the Genoese. The latter had, for a considerable period, been using every endeavour to advance their trade, a point which they had been successful enough to effect, to the great injury of the Venetian commerce. The Venetians, on their part, conducted themselves with singular moderation; and although their rivals had committed the most unqualified depredations against them, they contented themselves with calmly demanding reparation for the violence, instead of arming, as is frequently the custom with states, a fleet to punish it, without the condescension of remonstrance. The Genoese, being too much elated with their own supposed consequence, peremptorily refused the

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the required submission: the Venetians prepared to compel them. In a very few weeks, a fleet consisting of thirty-five ships, or gallies, was ready for sea, and placed under the command of Marco Rusino. He had not long been out, ere a violent storm compelled him to take shelter in the port of Cariste, where fourteen large gallies belonging to Genoa then lay at anchor. They were stationed and anchored with the utmost judgment, so that the attack of them, even by a force far superior, was not only difficult, but dangerous. The prize was, however, so valuable, that trivial obstacles and impediments were not suffered to avert the attempt. It was commenced and carried into execution with so much success, that ten were either taken, sunk, or destroyed: the remainder attempted to make their escape under cover of the night, but were not able to effect their retreat in safety, Morosini, who commanded a second fleet stationed in the Adriatic, having fallen in with, and conducted them into Venice without resistance.

The triumphs of Genoa now appeared drawing to a close. The king of Arragon entered into an alliance with Venice, and engaged to send a fleet to its assistance; a treaty is also said to have been entered into with the Emperor of the East of the same tenor and effect. Pisani, the Venetian admiral, whether previous or subsequent to his receiving reinforcements, historians are not agreed, fell in with the Genoese fleet in the Bosphorus. The action commenced in the evening, but the coming night parted not the combatants. All the horrors of surrounding darkness, say those authors who have indulged themselves in describing the dreadful contest, the crash of falling masts, the clang of arms, the groans of the wounded, and the shouts of the survivors, all contributed to render the scene not only awful, but dreadful. During the succeeding day, the contest not merely lingered, but might be said to cease. This relaxation was not, however, produced by any decisive advantage gained on either side, but their mutually sustained disasters rendered it difficult, and indeed almost impossible for either to display farther proofs, at that time, of their animosity and fury. Both parties, a circumstance by no means uncommon in all such cases, claimed the victory, and the contradictory reports of historians very considerably encrease the difficulty of deciding to whom it properly belonged. The Venetians on their side declare, that they captured twenty-eight gallies belonging to the enemy, with the loss of no more than four: while their antagonists are equally strenuous in denying this asserted point, but have entered into no particulars concerning the action, a circum-

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stance which rather induces a doubt of their correctness. The Venetians themselves, considering their admiral had conducted himself rashly, though bravely, in the preceding contest, introduced a system which has, on some occasions, been much more recently adopted by the Hollanders, though without affording any material advantage in either instance. Certain deputies, considered as well qualified to direct all matters relative to the conduct and management of a fleet, were sent on board the galley, or ship of the commander in chief, to whom they were to act as counsellors or advisers, and without their approbation no measure of moment was to be undertaken.

The chief command (the admiral who had served during the preceding cruise being removed) was conferred on Rusino, who had in the earlier part of the war very deservedly acquired the highest reputation. His own force consisted of no more than thirty gallies, but having proceeded to Sardinia, which was the appointed place of rendezvous, he was there joined by the fleet of Arragon, which consisted of forty more. Thus strengthened, he immediately proceeded in search of his antagonists, who, feeling the inconvenience which attended a protracted war, were equally desirous of taking every measure that appeared likely to end the dispute. The two fleets met on the coast of Sardinia, and the contest was, if possible, still more dreadful than the former had been, but ended much more advantageously to the Venetians. Rusino ordered his ships to grapple with the enemy, and caused them to be chained to each other in such a manner, that conquest or death must ensue, it being impossible for either party to escape. Thus a kind of land battle was fought upon the sea, in which there was no room for disputing the victory, the whole Genoese fleet having been either taken or destroyed, except the ship of Grimaldi. The case of the vanquished appearing desperate, they immediately strove to strengthen their shattered cause by alliances, a conduct which was immediately followed by their victorious foes; and such was the confidence with which their successes had inspired them, that they dismissed the ambassadors of Visconti, duke of Milan, who came to propose a negociation, with the answer, that the Venetians were accustomed to end their disputes by the sword, and not by treaty. No farther memorable occurrence, in respect to the naval affairs of Venice, took place till after the year 1350: when Pisani, having been dispatched with a squadron consisting of fourteen gallies in quest of a Genoese armament, which appeared off the coast of Dalmatia, not only succeeded in driving them from thence, but being reinforced by twenty more gallies, attacked Doria himself, who had

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had not only entered the Adriatic, but caused considerable alarm in Venice itself, having taken a considerable number of vessels, and ravaged the coast of Istria. The contest was short, and ended in the total discomfiture of the latter, the greater part of whose fleet was either sunk, burnt, or destroyed.

Three years after the event just mentioned, the same Genoese admiral had his complete revenge, having defeated Pisani, his former adversary, who was himself, according to Sabellicus, taken prisoner, together with five thousand of his seamen, and a proportionate number of gallies, exclusive of twenty which were sunk in the action. So dreadful and apparently decisive of the fate of the war, was this disaster, that all Venice, on receiving the first intelligence, was in the utmost consternation, nothing less being apprehended from the victory than either an immediate siege, or at least an attempt towards forming one; but these fears were soon dispelled by the agreeable information that Doria had returned home. Assiduity and exertion then took place of despair: a formidable fleet was built and armed with almost incredible dispatch; besides which, they contrived to draw off the attention of the Duke of Milan, by entering into a treaty with the King of Bohemia, who immediately marched a powerful army into the heart of Visconti's dominions. Internal feuds and conspiracies, added to the experience that war, however successful in its event, proved injurious even to the victors, inclined the Venetians to embrace terms of accommodation, which their rivals, still more distressed than themselves, thought it expedient to propose. The mutual release of prisoners took place, and the utmost joy was manifested on both sides at the return of tranquillity. Still, however, the animosity was not removed, though the means of continuing it were weakened, and friendship could not be said to be restored, although the contest, after a furious continuance of many years, appeared to have in great measure abated.

A war with Candia, which had rebelled, commenced about the year 1362, and stands as the next subsequent proof of the necessity, under which the republic laboured, of equipping a fleet. It amounted to forty sail, including gallies and ships; but notwithstanding the force of this armament, four years elapsed ere the revolters were completely quelled, and the island again returned to its allegiance. This disturbance was scarcely compromised, ere a second commotion of a similar nature took place in Istria. The facts which led to it stand as the strongest proof of that height to which the state of Venice carried its

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pretensions of sovereignty over the distant colonies. Certain duties were imposed on their trade, and in order to enforce the payment, however grievous it might prove, armed gallies were constantly stationed in particular places, where they were considered as necessary, for the prevention of any evasion with respect to them. The Istrians, considering these imposts not merely as oppressive, but ruinous, destroyed one of the guard vessels, or gallies, employed for the purpose just stated, but not satisfied with this outrage, they also pulled down the Venetian flag. A force considered as sufficient for the purpose being sent against the revolters by the senate, the former solicited the protection of the Duke of Austria: the contest, however, owing to the situation of the ally, and the condition of the revolters, was almost entirely military. It continued till the year 1377, and then ended, as generally has proved the case in all contests of the same nature, in the unqualified surrender of the principals, and the submission of their allies to such terms as their impolitic and impertinent interference seemed to require.

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CHAPTER THE SIXTEENTH.

Insignificant State of the Genoese previous to the Tenth Century—rapid Advancement of their Consequence after that Time—their Wars with the Pisans—Confederacy formed with the same People against the Moors—the Genoese enter into the Views of the Crusaders, and furnish them with Vessels for Hire—Description of their Shipping—the Exertions of Genoa compared with those of Venice—the inert Disposition of France during the eleventh and twelfth Centuries to Maritime Affairs—it embraces the Custom of hiring Vessels from the Genoese—Inferences drawn in respect to the considerable Size of the Ships employed in the Service of King Philip during a Part of the Fourteenth Century—Cause of the Rejection of Gallies in the Atlantic, and the Reasons which operated to promote the Use of Carracks, or Ships—Account of the James of Dieppe captured by the Earl of Huntingdon—the total Discomfiture of the French Fleet by that of England which King Edward himself commanded in Person—Philip meditates the Invasion of England, but the Attempt is frustrated by the previous Expedition of Edward—fallen State of the French Marine subsequent to the Battle of Cressy—Naval Power of Spain when divided into the Kingdoms of Arragon and Castile—Strength of the Arragonian Marine—Attack made by it on the Island of Sicily—Defeat of the Neapolitan Fleet by Roger de Lauria—Reduction of the Tunisians—Consequence of Arragon, and the various Successes of its Fleet—Insignificance of the Castilian Navy till the Thirteenth Century—Discomfiture of the Moors—Maritime History of Portugal, of the Neapolitans, Saracens, Danes, Russians, and Swedes—Account of the Hanse Towns—Naval Events in the Maritime History of England, from the Conquest, to the Death of Edward the Third—State and Practice of Marine Architecture at that Time.

THE history of the Genoese has, through necessity, become much involved and interwoven with that of the Venetians, as will frequently prove the case with respect to other countries, between which such a frequent state of warfare has subsisted, as almost to render any separate account unnecessary. It would be immaterial to the present purpose to state any particulars relative to the origin, or ancient history of this city, even though it were not improper on the score of chronological arrangement. Suffice it to state briefly, that Genoa, after following the fate of the rest of Italy, and falling under the dominion of various invaders,

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invaders, some of whom captured Rome herself, once the pretended mistress of the world, was, with its surrounding territory, erected by Charles the Great into a marquisate, and afterwards formed into a republic about the middle of the tenth century. In less than an hundred years after that time, it had, from the humblest origin, acquired no inconsiderable share of commerce: the vessels by which it was carried on being, according to the custom of the Venetians, and other nations, alike fitted for mercantile, and warlike purposes. So early as the beginning of the eleventh century, they were invited by the Pisans, their neighbours, to join in an enterprise against the Moors, who had made themselves masters of the island of Sardinia. Very little information of this enterprise has been transmitted down to the present time, but the confederates not long afterwards disagreeing, a most destructive war took place between them, which raged with the utmost violence during the space of eighteen years, and had nearly been productive of ruin to both republics. Peace and amity being at length restored between the contending states through the mediation of the pope, they again joined their arms against the infidels in Africa. Success, in the most unlimited sense, accompanied the undertaking; and the spirit of crusading, which broke out in almost every christian country in Europe, soon after that time contributed very highly to nurse, and improve the growing consequence of the Genoese.

The conduct of this people strongly resembled what that of the Hollanders, in all probability, would have been, had the latter then existed as a flourishing nation, and been placed in the same situation as the former were. Bearing little or no part themselves in the crusades, they had the ingenuity to convert the general mania to their own advantage. Their vessels were constantly employed as transports for the conveyance of troops, or as storeships in attending the armies of other nations from one part of the coast to another; so that while their employers were lavishing their wealth and strength, impoverishing their native country, and draining it of its best support, the Genoese reaped every advantage that could be derived from the most perfect state of quietude, and uninterrupted tranquillity. Not that they could be charged with merely looking on the flames of war, without attempting to cherish them, but the assistance they afforded was rather to be considered as fanning a fire which they feared should be extinguished, than as throwing into it that species of combustible which they possessed, and which appeared likely to extinguish it by the suddenness of its explosion. They distinguished themselves, however, very considerably at the siege of

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of Jerusalem, a species of service in which they were considered to be particularly well versed, being universally esteemed as the ablest engineers in the world. The naval force employed by them varied, according to circumstances, from twenty to forty gallies; but even the lowest of those numbers fully proves them to have acquired maritime strength with greater rapidity than even the Venetians themselves. It were uninteresting and irrelevant to the present purpose, to enter into any more enlarged detail of the different encounters which took place either while they were employed in this line of service, or in their wars with the Pisans, whose tranquillity they never failed to disturb, till they had annihilated their power, and consequence as a maritime state. Their wars with the Venetians have been already recounted, and it is unnecessary to add any thing farther to that report than to observe, that even in the early part of the thirteenth century, Genoa, in imitation of Venice, boasted of its ships, being vessels (on which that appellation was conferred) of superior size, and different form from gallies; and indeed if the political weight and force of each republic be weighed and compared together, it will be very evident, allowing for the superior length of time which Venice required ere she rose into public notice, that the exertions of the Genoese were by far the most rapid, and extensive of the two.

France, whose dominions, and consequently whose strength, might have enabled her to become superior to both the states last mentioned, even though the whole of both their marines had been united, followed at very humble distance. Her force was entirely military, and a greater proof of this truth need not be adduced than the march undertaken by the emperor and the king of France over land to Constantinople, in the middle of the twelfth century, when the transport by sea would have been so much more easy and expeditious, had they possessed any possible means of using that species of conveyance. No mention indeed, whatever, is made in history of any naval armament belonging to France till after the commencement of the thirteenth century, when Philip, who then reigned, attacked by land the count of Flanders with a numerous army, while what was called a naval armament repaired to the port of Dam, in order to assist at the siege of Ghent. Of the individual force of the vessels composing this fleet, it is as impossible to speak, as it is to believe implicitly the account of their numbers. In respect to the total, cotemporary as well as subsequent authors are rather at variance, but if any estimate * can be formed from

* The English chronicle writers assert, it consisted of seventeen hundred sail.

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the quantity of those which were captured, or destroyed, it must have been immense, since John, king of England, is reported to have captured three hundred of the ships, which were laden with various military stores intended for the campaign, and after sinking an hundred more, to have blocked up the whole remainder in the haven, or port. In the ensuing year, Philip, whose armament either by the foregoing disasters, or by the enlarged individual consequence of the vessels which composed it, had become reduced to *seven hundred vessels*, invaded England, but though in some degree successful at the commencement of the expedition, little progress, or subsequent advantage was made of it. Three years afterwards, a fleet consisting of fourscore French (as they are stiled) ships, were attacked by one half that number belonging to England, and were totally defeated, the greater part being sunk or taken; a discomfiture which seemed to have quieted all similar enterprises, on the part of France, for many years.

In the middle of the thirteenth century, however, Lewis, then king of France, having entered, with the greatest zeal, into the views of the crusaders, is said to have collected a force consisting of no less than eighteen hundred vessels, but these were merely transports, no service having been effected by them whatever, and the whole campaign ending most inauspiciously in the total discomfiture of the army, and the capture of the king himself. No further particular mention is made of any French naval force, till some time after the commencement of the fourteenth century. In 1339, a fleet fitted out by king Philip, or, to speak much nearer the truth, hired, at least the greater part of it, from the Genoese, attacked the town of Southampton. Ancient report makes this armament to have consisted of fifty gallies, and though the attempt was unfortunate, Philip appeared to feel his desire of becoming a maritime potentate rather encreased than abated. New exertions were more productive of success, for ere the conclusion of the year, a squadron consisting of thirteen French ships, falling in with five belonging to the English, captured two, which were the largest, and, as it appears, both of them what were called royal ships. Some estimate may be formed of the size and force of them, far as the term force can be understood to be implied solely by the numbers of the crews, from that of the persons who are said to have fallen in the encounter, which continued for nine hours. Six hundred men were killed on both sides; and recent encounters have taken place within the space of a few years, where though an equal number of ships, mounting on an average seventy-four guns each, have been

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been engaged for nearly the same space of time, the slaughter, though considered great, has scarcely been superior. The conclusion is obvious; for though it can by no means be rationally supposed, that the vessels in question equalled, either in burthen, or the numbers of their crews, modern ships of the third rate, yet they certainly had become considerably augmented, in respect to dimensions and size, beyond the gallies then employed in the Mediterranean.

The new system was evidently introduced by the Genoese, and very soon became generally adopted in all wars on the Atlantic, on account of its superior convenience and safety, in respect to navigation, when compared with that of the milder climates. The defeat which England had sustained, was sufficiently avenged before the conclusion of the year; for a squadron fitted out by the Cinque Ports attacked the port of Bullogne, which having entered, they set fire to and destroyed nineteen gallies, *four large ships*, and twenty of inferior rate: these appellative distinctions serve very materially to elucidate and point out the different classes into which the practice of Marine Architecture was at this time divided. In 1340, the contention between France and England appeared to have reached the utmost height to which the exertions of both countries were capable of carrying it. Edward the Third appeared at sea in person at the head of his own fleet, while that of Philip seems, from the magnitude and consequence of the ships themselves, to have been in every way suitable to the power of a mighty prince, resolutely bent on overcoming his adversaries, if the ostensible strength of the force opposed to them could be capable of effecting their downfall. The French armament is stated to have amounted to four hundred vessels, one hundred and twenty of which were large ships. The force of them may be in some measure conceived from the particular description given of one named the James of Dieppe, captured by the earl of Huntingdon after a long and desperate fight, and on board which four hundred persons were found slain at the time of its surrender. In respect to the magnitude of the whole fleet taken in the aggregate, it will be unnecessary to say more than that the French are reported to have had the almost incredible number of thirty thousand men slain in the dreadful conflict. Some authors diminish this number one third; but even that, according to the modern conception of naval slaughter, appears to exceed easy belief. The fatal blow * which the French navy thus experienced, as well on its own part, as that of its mercenaries, prevented

* Two hundred vessels are said to have been captured.

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any farther display of naval force till the year 1345. During this interval, their vessels, whenever they ventured out to sea, were, generally speaking, hunted down and captured by the English, who roved undisputed masters of the sea along the whole of the French coast, fronting the Atlantic.

Wearied, however, with this long and ignominious restraint, Philip at length resolved to attempt the invasion of England, in order to try if, by transferring the scene of war into the country of his antagonist, he could possibly compel the recall of those hornets which tormented him daily. To this end, he not only used every possible exertion in augmentation of the navy of France itself, but adopted those means before practised, and which were still more effectual, of hiring a very considerable number of the largest vessels or ships, that could be procured, from the Genoese. The assemblage of the naval as well as military force was very nearly completed, when the vigilance of Edward frustrated the whole plan. Philip was under the necessity of bending his whole attention to the protection of his own kingdom, which was itself invaded by the king of England in person. John, who succeeded to Philip, was still more unfortunate than his predecessor had been. He was not only taken prisoner by the English at the fatal battle of Cressy, and his country subsequently ravaged by a desperate banditti, but its finances so completely ruined by these and other events, that it was in no situation whatever to make any naval exertions during the remainder of his own reign, or that of Charles the Fourth, who succeeded him, and died about the year 1380.

Spain, comprising the kingdoms of Arragon and Castile, which became united under one government towards the close of the fifteenth century, shewed no particular attachment to naval pursuits till many years subsequent to the Norman conquest of England had passed away. Arragon exhibited the first example, having early in the twelfth century began to establish a naval force, which grew by degrees into such consequence, that about the year 1148, its aid was solicited by the emperor to join in the siege of Almeria, then in the possession of the Moors, which he proposed to attack with his army on the land side, while the Arragonian fleet should press it on that of the sea. The capture of the port which had afforded a constant refuge to a numerous fleet of Moorish corsairs, proved the reward of the enterprise. Little mention, however, is made of the Arragonian navy for the space of twenty years afterwards, till the crusading mania having extended thither, as it had before done over nearly all Europe, the king collected a numerous body of the best troops in his kingdom, which he embarked on board a sufficient number

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number of transports, and proceeded with them to the holy land: their escort consisting of a squadron of thirty vessels armed solely for war, which are distinguished by the appellation of large ships. The whole expedition was rendered abortive by a storm, which dispersed the whole fleet. No subsequent notice is taken of the employment of any Arragonian fleet till the year 1281, when Don Pedro, who then reigned, drew together a fleet consisting of one hundred and fifty vessels, intended for the assault of the island of Sicily. Nor was this the whole of the force belonging to that kingdom, a sufficient naval strength being left behind, which, in the course of a few months afterwards, defeated in a naval encounter the fleet of Charles, king of Naples. The naval consequence of this prince extended still farther, since historians remark, that his good fortune by land, which was by no means inconsiderable, had been far exceeded by his maritime successes. The following instance is adduced in proof: a squadron consisting of forty gallies, commanded by Roger de Lauria, being employed on a cruise off the port of Naples; Charles, surnamed the Lame, prince of Salerno, and son to Charles, king of Sicily and Naples, who was then admiral of his father's fleet, disdaining the insult incurred by suffering the ships of the enemy to parade off the principal port in all the dominions, put out to sea at the head of seventy gallies, well and completely armed. The fight is said to have been long, bloody, and obstinately contested, and the event of it singularly extraordinary: the Arragonians not only having obtained a complete victory, but having captured one galley more in number from the Neapolitans than that of their own fleet. Among the captives was the prince of Salerno himself. The conquest of Malta had preceded the victory just mentioned, and the repeated discomfiture of the inconsiderable armaments which the French, in spite as it were of their own attachment to military pursuits, contrived to send into the Mediterranean, completed the triumph of this fortunate monarch.

It were of little consequence to give any detail of the perpetual feuds and contests that were continually taking place between the Arragonians, the Neapolitans, and other states of greater and inferior consequence, whose territories were washed by the Mediterranean. Suffice it to say, that not long after the commencement of the fourteenth century, the people of Tunis having committed divers acts of piratical depredation, were attacked, and in the most summary manner compelled to submission, which was not accepted but with the condition of an annual tribute annexed to it. In short, the Arragonian alliance was unceasingly courted by all the neighbouring maritime states, not ex-

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cepting the Venetians themselves. If the successes were not crowned with the most splendid advantages, the services were faithful, and the friendship not inauspicious. In conjunction with the fleet of Venice, Arragon had the glory of obtaining one of the most splendid victories over the Genoese that stands recorded in history: the latter having had eight thousand of her best seamen and officers killed, among whom were a considerable number of the principal nobility, together with thirty-three gallies, and upwards of three thousand men taken prisoners; while the loss on the part of the victors amounted to no more than three hundred and fifty men killed, with two thousand wounded. In 1353, the navy of this people had received the most extraordinary augmentation, one armament alone, collected for the purpose of invading the island of Sardinia, having consisted of twenty-one capital ships, one hundred gallies, and a number of transports sufficient for the conveyance of fifteen hundred horse, and ten thousand foot. In fine, without displaying any ostentation of its consequence and might, the Arragonian navy was respected and feared. Without oppressing or even threatening the neighbouring states, it maintained its own independance; and although the extent to which it became, without any ambitious views, augmented in the course of the fourteenth century, would have warranted, in a nation possessing different sentiments, a claim or competition in the commercial advantages which were almost entirely engrossed by the Genoese and Venetians; yet the people rested patiently contented with the internal productions and treasures peculiar to their own country, without coveting those of others, or deluging the sea with blood, in the precarious hope of extending their transmarine dominion.

The inhabitants of Castile were far more confined in their nautical pursuits. The first mention made of any naval power possessed by them is in the year 1114, when the archbishop of Compostella fitted out some gallies, which appear to have been his own private property, against the Moorish pirates. Nothing farther is said of the Castilian navy till the middle of the thirteenth century, when Don Ferdinand formed the sudden resolution of erecting himself into a maritime potentate, for the purpose of rendering himself more formidable to the Moors, with whom he was then at war. A foreigner of note and reputation, as appears from his name, an Italian named Raymond Boniface, was both the builder and the admiral. The armament consisted entirely of ships, of which thirteen were of the first rate or dimensions then in use, exclusive of several inferior in consequence. The siege of Seville was entered upon, and the

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the fleet of Boniface, blocking up the port so closely as to prevent any succour from the Moors, the devoted city was soon reduced to such extremity as to be compelled to surrender. Success, as generally proves the case both in public and private affairs, proved the stimulus to greater enterprises. An augmentation of the marine was resolved on, and no less an expedition than the invasion of Africa itself was meditated. The Moors were not dismayed, but advancing with their fleet to meet Don Raymond, instead of waiting for his attack, were defeated with considerable loss. The death of Ferdinand soon after this victory, put a stop to any farther naval preparations for some years; nor is mention made of any other attempt till the year 1273, when the infant, Don Sancho, is said to have equipped a stout fleet at Seville, through the means of which he so alarmed the king of Morocco, that he retired in dismay, and fortified himself in Algesiras, which was not long afterwards blocked up by the Castilian ships. This success was, however, but short lived; mismanagement in civil matters, and ill judged parsimony, ruined the fleet, which, when in its reduced state, was attacked and totally discomfited by the Moors. No naval force belonging to the Castilians appeared at sea for nearly ten years after this, notwithstanding a constant and uninterrupted state of warfare subsisted with the Moors; but the Genoese having entered into alliance with them, and sent a squadron to their assistance, they again triumphed over their enemies, whose naval power they almost totally ruined. The sight of the confederate fleet parading the streights of Gibraltar, to the number of more than one hundred sail, produced a disposition for peace on the part of the sovereign of Morocco, as well as Grenada. It was concluded without delay, but proved of no long continuance; and a second alliance with the Genoese, on the recommencement of warfare, was productive of the same good fortune with the former.

All naval pursuits appear to have been relinquished for many years after the event last mentioned; since, till the year 1337, no subsequent mention is made of a Castilian fleet being equipped: it then proved completely victorious over the Portuguese, against whom it was employed. The dispute terminated soon afterwards, and the kings of Portugal and Castile united their arms against the Moors. The magnitude of the preparations made by the infidels, appeared indeed to demand more than ordinary exertions, for their naval force consisted of thirty gallies, and two hundred vessels of different descriptions. The navy,

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of Castile was, however, dreadfully on the decline. All the force that could be collected to oppose the enemy amounted to no more than six ships and twenty-seven gallies. To have attempted a contest with such a fearful disproportion of force, would have been an act of the most unpardonable rashness. The Moors passed unmolested *. Tarefa was immediately besieged; but when reduced to the utmost extremity of distress, in consequence of the dispersion of the Christian fleet, it was preserved from surrender by the unexpected and glorious victory of Saluda. The enemy, however, was not subdued. The king of Morocco renewed his preparations and equipments, both by sea and land, in 1341; but the destruction of twelve gallies belonging to him by a Castilian squadron, commanded by the Spanish admiral De Boccanegro, proved only the immediate forerunner of the total defeat of the Moorish fleet by the combined force of Castile and Portugal. The victory just mentioned put a final period to all naval equipments on the part of Morocco for many years, and by consequence to those of Castile also.

The history of Portugal follows in natural order and succession to that of Arragon and Castile, but the former appears to have possessed no naval force till the twelfth century drew near to a close, and even then it consisted of nothing more than a very inconsiderable squadron of gallies, which joined the English in an attack on the city of Silves, in Algarve. The conquest itself, which was made without difficulty, was very trifling, nor did it remain long in the hands of the conquerors, being recovered by the Moors two years afterwards, and again restored to the Portuguese by an occurrence similar to the former, the arrival and assistance of a fleet of Flemish and German ships, which were casually on their voyage to some other country. The disposition of this country appears to have been at this time totally military, for except in the instance of the alliance with the Castilians, and the consequent defeat of the Moorish fleet by the combined squadrons of Castile and Portugal, no particular mention is made in history of the naval force of Portugal; and indeed it must

* The event was productive of a very extraordinary proof of the high pitch to which Castilian honour is on some occasions carried: Donna Elvira, the wife of the admiral, hearing what weak and improper judges said, wrote to her husband that his fidelity was suspected, and that it was supposed he had received a vast sum of money to let the Moors pass. Upon which the admiral having received a reinforcement of six gallies, sailed with so inconsiderable a strength; and to wipe off this imaginary stain, sacrificed himself, with the whole fleet, five gallies only excepted.

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have been insignificant in the extreme, for in the year 1372, war having commenced with Castile, the fleet of that country entered the Tagus, and made itself master of the whole Portuguese navy at one stroke, as well ships as gallies, four of the latter description only excepted.

A considerable part of the Neapolitan history has been already given under another title, that of the Normans: the remainder forms only a repetition of events before recorded in the history of Arragon, or other countries, and forming a circuitous detail of victories and disputes, such as were common in the cotemporary histories of all the neighbouring states, from Venice, the proud mistress of the Mediterranean, down to the most inferior follower in her train. It must, however, be remarked, that the Neapolitan navy appears to have been almost entirely composed of gallies: its force was proportioned to the extent of the country from whence it issued, and the services on which it was employed, proved such as were consonant to the disputes of a people somewhat indifferent to the advantages of commerce, but attached with enthusiasm to the pursuit of that glory which is supposed to result from victory and conquest.

The Saracens, who from the humblest origin acquired ultimately so high a political rank as to make not only the adjacent nations, and the empire of the east itself, but all christendom tremble, and though occasionally worsted, in the end overthrew all opposition that could be made to their progress, come next in historical rotation. The growth of this people, together with the rapid extension of their faith and power, might, in ages far remote, excite incredulity, were they not established on grounds too solid to be shaken by scepticism. The second sovereign of the Saracens in descent from Mahomet, who assumed the character of a prince, or leader, when at the head of no more than thirty subjects, subdued Persia, and extended his levies of tribute even into Egypt. Syria, Mesopotamia, Chaldea, with a considerable part of the African coast as far as Tripoli in Barbary, very soon afterwards owed submission to the Mahometans. These people, who from their intermixture are frequently confounded with, and whose history is extremely difficult to be separated from, that of the Turks, under which appellation, after a very few centuries, they completely inveloped the Othmans, or Ottomans, and in some respects even the Arabs themselves, became so formidable to all christendom on account of the rapid propagation of their tenets, and the means by which they effected it, as to call forth a general confederacy against them, which, though entered into with much zeal, proved in the end unable to effect that purpose for which it was first set on foot.

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This suddenly raised power was, as before observed, entirely founded on military exertions, and the same system which had given it birth was pursued for its nourishment, till a change of circumstances of necessity caused the employment of a maritime force. Some centuries, however, passed away ere this necessity arose. But the minds of this extraordinary people appeared most peculiarly adapted to such uncommon exertions of the mind, as might be nearly termed prodigies. So early as the reign of Salaha'ddin, who was in the height of his career more than ten years before the conclusion of the twelfth century, they possessed ships of enormous size, and appear to have been not meanly skilled in naval tactics. Richard Cœur de Lion, king of England, sunk one of their vessels having fifteen hundred men on board, a success which fully establishes the first fact, and the total defeat of an armada belonging to the Franks on the Red Sea by a Saracen fleet, fitted out through the exertions of Salaha'ddin's brother, stands as a sufficient proof of the latter. Still, however, these instances of energy appear not as the natural production of a well established system, but as exotic plants, which tended more to the pleasure than the advantage of the industrious rearer, and seemed as though exhibited rather as proofs of the height to which his art could extend in aid of nature, than as the genuine or unforced productions of herself. Still prejudiced in favour of military prowess, the means which had raised them into consequence, the Saracens, the Ottomans, (or by whatever other name the chieftains under whose rule and guidance the Mahometan armies acted are to be most properly distinguished) entered not with natural avidity into nautical pursuits till the fury of the crusaders had in great measure abated; and the followers of the pretended prophet, satisfied as to that extent of country where they had, by various means, established his Koran as containing the tenets of the true religion, sat down sufficiently sated with success, and acquired sufficient leisure to enjoy the blessings of peace.

In the northern and less genial latitudes, the science appears either to have lain dormant, or at least to have been destitute of those aids which are necessary to preserve to posterity the remembrance of transactions which have taken place beyond the reach of human recollection, or at most of oral tradition. The Russians seem to have been content with directing all their naval efforts, in the ages past, against the treasures and luxuries of the Grecian empire, and in other respects rested quiet in their own country, leaving the navigation of the stormy Baltic to be the renewed undertaking of subsequent ages. Sweden followed the example of its neighbouring country, or was in the same predicament

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ment with respect to its history, which is so enveloped in obscurity and surmise, as to render it much safer to be silent, than to hazard the doubtful record of events, which, if any trait or semblance of them ever really existed, are in all probability extremely distorted from a true and genuine statement.

Denmark, however, was in a very different situation and rank: the sea was open to it, and its expeditions could be undertaken against every country in the world, Sweden and Russia excepted, without the danger and difficulty of encountering the inclement navigation of the boisterous Baltic. The inhabitants, long addicted to prædatory, or, to give them their highest appellation, desultory enterprises, had acquired an almost habitual propensity to nautical pursuits, a propensity that had been strongly cherished by those occasionally great successes which had crowned their arms. While they considered England as open to their invasions, an abridgment from these benefits was too great a mortification to be patiently submitted to, and the charms of plunder outweighed the terrors which the military fame of William the Norman impressed them with. Canute, surnamed the Pious, accordingly collected a naval armament considered as sufficient to attempt the recovery of the Danish power in Britain. The attempt, however, failed; and the naval genius of the kingdom appeared to have received so grievous a shock at the disappointment, as rendered it a work of time ere it could recover its original spirit.

The kingdom appears to have been indebted for the revival of its energy to Eric the Fourth, and the fourth sovereign also in succession from that Canute who had proved so unfortunate. The internal disputes which had long distracted the country, and indeed almost without intermission since the death of Canute the Pious, encouraged the northern Vandals to invade Holstein, where, according to their accustomed method of making war, they committed the most barbarous enormities. To put a stop at once to this scourge, Eric drew together a fleet amounting to the enormous number of eleven hundred vessels, and the particulars of the force which they were destined to transport, affords, if to be credited, some interesting information as to the individual size and quality of them. It seems pretty clear, that they were nearly all of the same dimensions, as near as can be calculated, about thirty-six feet in length, without a deck, which, as the voyage was short, was of no very material consequence, and furnished with one mast nearly in the center, on which was hoisted a square sail. These particulars appear tolerably well confirmed by the collateral evidence of cotemporary sculpture, or coins, and other rude testimonies, which, though vague,

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form the best evidence that can now be collected. On board each vessel, four horse soldiers, with their horses, arms, and accoutrements, together with ten foot, were embarked; so that the army, which consisted of the flower of the Danish troops, was considered as equal to the task of coping with its antagonists. The event proved that this opinion had not been hastily or extravagantly formed. The Vandals were not only driven back, and compelled to submission in their own territory, but the inhabitants of the island of Rugen, who had renounced the Christian religion, supported the Vandal cause, and committed various acts of piracy against the Danes themselves, were compelled to surrender on such terms as Eric thought proper to impose. The conditions were, however, ill observed, and a second rebellion of the Rugenites naturally produced a second punishment similar to the first.

Soon as this dispute was settled, Eric made a still farther augmentation of his naval force, and invaded Norway in favour of Harold. He succeeded in placing the latter on the throne, but completely sullied the glory of his victory by the unheard of cruelties which he exercised towards the prince Magnus, whom he vanquished. A variety of naval expeditions were at very short intervals set on foot, subsequent to this time, against the Vandals and others, but none of them are marked with sufficient variety to require, or merit any particular notice. One circumstance, however, may stand as an exception to so summary an account: the Vandals having about the year 1158 renewed their incursions, a fleet was sent against them under the command of the *bishop* of Roschild: that of his antagonists proving however superior, and amounting to no less than two hundred and sixty vessels, which are denominated stout ships, the venerable admiral was under the necessity of waiting for a reinforcement ere he ventured to attack them. After some delays and losses by tempests, an engagement took place, which proved favourable to the naval reputation of the reverend commander, and to the cause of Denmark, the Vandals being completely routed. Peace was, notwithstanding this victory, an event little to be expected from such restless spirits as the Vandal aggressors were. Even the death of their prince, who fell on a renewal of the contest, proved not so sufficient a check to their fury, as ensured quietude; but wars were made, and peace concluded, without affording any occurrences or information in the smallest degree interesting, and without the other countries of Europe being concerned, or not unfrequently, perhaps, totally unacquainted with either of those occurrences having taken place.

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On the commencement of the crusades, the Danes entered into the cause with the same degree of enthusiasm that appeared to actuate all the rest of christendom. "The powerful succour," says Mr. Gibbon, "of Flanders, Frise, and Denmark, filled near an hundred vessels; and the northern warriors were distinguished in the field by a lofty stature, and a ponderous battle-axe." Nor were they renowned only for their military prowess and exploits, since in a note subjoined by the same author is the following extract:—"Northmanni, et Gothi, et cæteri populi insularum quæ inter occidentem et septentrionem sitæ sunt gentes bellicosæ corporis proceri mortis intrepidæ bipennibus armatæ, navibus rotundis quæ Ysnachiæ dicuntur advectæ." "The Normans (meaning the Norwegians, or any other people inhabiting the northern districts) the Goths, videlicet the Danes, and other nations dwelling in the islands situated between the west and north, are of warlike disposition, of lofty stature, and great intrepidity, armed with double edged battle-axes, or halberts; they navigate *round*, that is to say, ships infinitely shorter in proportion to their length than gallies, which were called Ysnachiæ." The latter part of this information is extremely consequential, as it points out very concisely what is quaintly termed the character of the vessels then in use among the northern nations, which, as has been before remarked, varied in form from the gallies of the southern latitudes, from the certainty of their being better calculated than the latter to endure the shocks of those more tempestuous seas, which they were destined to pass through.

A statement of the revenue of this country, as it stood soon after the commencement of the thirteenth century, exceeds all credibility, though said to have been faithfully extracted from the parchment register of Nicholas Bilde, who acted in the capacity of steward, or treasurer, to Valdemar the Second. If the account there given is to be believed correct, the revenue of Denmark amounted at that time to no less a sum annually than twenty-three millions seven hundred and thirty thousand pounds: a considerable part was applied to the maintenance of a powerful navy, which, according to Witfrild, a writer of that time, comprised no less than fourteen hundred ships of different rates and dimensions, each carrying on an average one hundred and twenty-one soldiers; a fleet which, as well in numbers, as in the size of the vessels individually composing it, might be considered almost vying with the hyperbolical representations of romance, and the account of it to be occasioned by the overstrained prejudice of an heated mind, anxious to augment in belief the power

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of his native country at the expence of truth. This opinion is confirmed by a knowlege, that about the middle of the thirteenth century, Denmark became involved in various disputes with the inhabitants of Lubeck, and that the latter having acquired considerable commercial consequence, contrived, by various intrigues, to gain such an ascendancy over the Danes, that they themselves rather imposed, than acceded to the terms of accommodation. It were, nevertheless, ridiculous in the extreme to expect that a people so powerful as the Danes, without exaggeration certainly were, could ever continue, for a long space of time, in quietude and tranquillity. Their wealth and consequence naturally excited the envy of surrounding nations, and drew upon them wars, even though their own forbearance, and want of arrogance in prosperity, caused no disturbance on their part against the peace of their neighbours. The disputes were nevertheless of immaterial consequence, that between Christopher the First and the princes of Holstein, which took place soon after the middle of the thirteenth century, with the attacks of the Lubec and Vandal pirates about the same time, being the only consequential contests which took place for more than one hundred years, when the Hanse Towns declared war against Valdemar the Third, who then reigned; but after two or three sharp combats between squadrons, more worthy of notice on account of the size of the vessels composing them, than their numbers, the dispute terminated.

That part of Germany which has since made so conspicuous a figure in the maritime history of the world, under the denomination of the republic of Holland, had but recently, as it were, emerged from the ocean with which it had been covered. "Formerly (say historians, treating of its state at the end of the ninth century) its frontiers were more confined than they are at present." It contained, on the testimony of John of Leyden, only four cities even at the end of the eleventh century: these were Dordrecht, Harlaem, Leyden, and Delft. But though this modern emporium of commerce during the early part of the eighteenth century, was in such a state of insignificance during the eleventh, and several succeeding periods of the same duration, the northern parts of Europe were not destitute of mercantile concerns. The Hanse Towns fully supplied the place of their successor, which rose as they diminished in consequence; and their connection with the maritime history of the world, will well warrant a brief account of them. The appellation of Hans, or Anse, is supposed to be derived from the German word Ansee, signifying near the sea. The confederacy or alliance entered into

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into between them was obligatory between the different contracting parties, which mutually engaged to support and improve the commerce of each other. The city of Bremen suggested the first plan of this society about the year 1164. Several ports situated in Livonia entered with pleasure and avidity into the scheme, but the names and numbers of them are uncertain. It afterwards, however, encreased so rapidly, as to comprehend fourscore trading towns; a confederacy which made sovereigns tremble on their throne, and caused the parties in it, for a considerable number of years, or it might not be improperly said, ages, to engross at least the Atlantic commerce of the world, and own no rivals in any other quarter of it, except the republics of Genoa, and of Venice. Their successes against the king of Denmark have just been noticed: in after times their friendship was every where courted; and their vessels, which in magnitude frequently surpassed those of almost every country in the world, were employed in the service of the most powerful nations. Their policy taught them, however, to be content with the civil advantages their unmilitary pursuits afforded them, and they appeared, on all occasions, averse to warfare, except where the absolute invasion of their property, or what they considered their rights, seemed to render such violence, done to their inclination, necessary to their preservation. Steadily pursuing this system, they were not engaged in any serious contest with foreign powers, from the time they first acquired consequence, till after the middle of the fourteenth century. The king of Denmark (Valdemar the Third) having committed some acts of violence on the property of the merchants, a general clamour for revenge spread like lightening through all the towns which were members of the confederacy. The first measure taken on the occasion, was that generally customary in all similar cases, the effects of all the Danes residing amongst them were confiscated, a seizure quickly followed by a formal declaration of war.

It is not a little surprising, that commercial states, particularly republics, rarely become involved in public disputes that they do not, by some means or other, contrive to draw over to their party, as active supporters, many of the sovereigns and princes whose territories are contiguous. So did the Hanse Towns in the war with Valdemar. The king of Norway, together with the dukes of Holstein and Mecklenburg, and many other princes, were not only their declared partizans and friends, but even condescended to become commanders of their fleets. Lubec, which had long been considered as the head or chief of the league, fitted out an entire armament at its own charge, which having

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having proceeded to Helsingburg, for the purpose of attacking that city by sea, while the army of the Hanse Towns invested it on the land side, was engaged by the Danes with such success, that six of the ships composing it were captured, and a still greater number burnt. The siege was raised; and to finish the climax, the commanding officer was sentenced, as the only victim that could satisfy the fury of the enraged mob, in conformity with the practice of the Genoese, to lose his head. These commercial people were not, however, averse to such kind of warfare as did not involve their country in a dispute. The Lubeckers, and the inhabitants of many other among what were termed the Hanse Towns, entered into the crusades, and the plains of Syria were frequently moistened with the blood of these confederates. The Hamburghers also, the inhabitants of Frizeland, and others, who considering their apparent acquiescence in the fashionable rage of christendom as materially conducive to their mercantile interests, were as ready to draw their swords with as much seeming earnestness in support of their faith, as they would have been in that of their property.

England, a term under which, in respect to naval history, may be included all the districts or countries into which the British isles were at that time divided, gained no acquisition of maritime strength from the gallantry and puissance of William the Norman. Like Mahomet, he was a soldier, and apparently despised all means, whatever, of advancing his power and dominion, except by military valour and might. Rufus, his son and successor, though possessing less martial prowess, was, during the greater part of his reign, equally inattentive to maritime affairs, till roused by an invasion and attack made by the Norwegians, headed, according to some authors, by their prince, but who, in the report of others pretending to be better informed, is said to have been of no higher consequence than a pirate named Magnus. This fact, if true, considerably lessens the consequence and probable force of the attack, at the same time that it very materially diminishes that possessed by England, which was unequal to the task of repelling it. Roused from this state of indolent torpidity, the king gave orders for the collection and permanent establishment of a considerable naval force *, but was prevented by his untimely death from seeing this salutary measure carried into execution according to his wishes. Henry, his brother, seems to have been more attentive, for though no specific particulars are given of his fleet,

* One fleet belonging to this prince is said to have been dispersed in a storm. See Preface, page xxxii.

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yet the spirit of crusading which at the accession of this prince had reached a formidable height, seems to have caused the equipment of a navy which could not have been inconsiderable in numbers or dimensions, having sufficed to transport seven thousand soldiers, with their necessary stores and military engines, to Joppa. Some judgment may also be formed in respect to the individual burthen of ships built at this time, from the melancholy accident which befel William, eldest son to the king, and recently created duke of Normandy. This noble personage having embarked on board a new vessel, built under his own direction, for the purpose of conveying himself and suite, inconsiderately attempted to outsail that of the king, his royal father, in consequence of which it unfortunately ran so near to the shore, that it struck on a reef of rocks. The boat was immediately hoisted out, and the prince, with some of his attendants, might have preserved their lives, had he not been induced by fraternal affection to return, in the hope of preserving his sister. On this opportunity, so many persons crowded in, that the boat itself sunk, as well as the vessel. On this dreadful occasion, the whole crew, amounting to two, or as some authors say, three hundred persons, were drowned, no one being saved except the butcher, who, almost miraculously, preserved his life by clinging to the main-mast. The indolence and neglect of Stephen, the successor to Henry, may fairly be inferred from the good fortune which attended an invasion made on the northern coast of England by Robert, earl of Gloucester, bastard brother to the empress Maud, whose fleet, though superior to all the force the king could collect, amounted to no more than fifty-two small vessels.

Henry, son to Geoffrey Plantagenet, earl of Anjou, and Maud, the empress, daughter to Henry the First, succeeded Stephen as king of England by the title of Henry the Second. Being possessed of very considerable dominions and territories, independent of his crown, he was perhaps a more powerful prince than had ever before been seated on the English throne. He possessed Normandy, Main, Anjou, Touraine, and Aquitain, in his own right. He was in the prime of life, being only twenty-eight years old when he became king, and was considered one of the bravest, as well as most accomplished princes in Europe. All these circumstances appeared to promise his realm not merely an uninterrupted tranquillity, but a grandeur of character to which it had never before reached.

Nothing very material occurred till the thirteenth year of his reign, when an event nearly similar in its disaster and extent to that which had taken place in the

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the preceding, serves in no slight degree to mark the state of Marine Architecture at this time. The king having made an excursion into Brittany, accompanied by his son Henry, the ships on board which himself and suite had embarked were overtaken by a violent tempest, and one of them foundered, on board which there were three hundred persons, all of whom unfortunately perished. This unhappy circumstance is an additional convincing proof, that the vessels in use during this king's reign, were by gradual steps constantly augmenting in size, and by no means so contemptible as some persons are apt to imagine. The invasion of Normandy, the attack of Wales, and of Ireland, are reiterated proofs of the naval exertions made under the guidance of the same prince; and the Pere Daniel himself, the celebrated French historian, notwithstanding his avowed partiality towards his countrymen, feels himself compelled to confess, that Henry the Second most justly claimed, and most undeniably maintained, the sovereignty of the sea, which he very properly considered as the most valuable gem in his crown.

Richard, on account of his daring and noble spirit, surnamed Cœur de Lyon, being the eldest son of Henry then living, succeeded him as a matter of course. Being endued with the most enterprising and martial disposition, he had entered, even pending his father's life, into the views of the crusaders, and had resolved to venture his person, as well as his interest, in support of the cause they had undertaken. This intention he did not forego after he came to the crown; but having immediately on his accession used those means in augmentation of his former preparations, which the influence, power, and wealth of a monarch enabled him to do, he proceeded in the following year (1190) with a fleet, consisting, as is reported, of nine ships of extraordinary size and burthen, one hundred and fifty others, which, though of inferior dimensions, were all fitted for war, thirty-eight gallies, and a considerable number of smaller vessels serving as victuallers and tenders.

There is one anecdote relative to this expedition, which is too singular to be omitted. Philip, king of France, conceived so high a jealousy on seeing the force of Richard's armament, when he arrived at Messina, that he ever afterwards bore him a fixed and unconquerable hatred.

A dispute taking place between Richard and Tancred, who then governed Sicily, the former laid siege to the city of Messina, and having compelled it to surrender, reduced Tancred to the sad necessity of purchasing peace at the expence of sixty thousand ounces of gold, (certainly an immense sum in those days)

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days) four ships of the largest burthen then built, and fifteen gallies, which being added to the English fleet, proceeded with Richard on his enterprise. On the passage of the armament to Cyprus, it had the misfortune to encounter a most violent tempest, which caused the loss of many lives, and some of the ships, which were driven on the shore of that island, and there plundered by the natives. This circumstance, in addition to the refusal of entrance into the port, to the vessel on board which was the daughter to the king of Navarre, whom Richard was betrothed to, so irritated him, that he disembarked his troops, and was so rapid, as well as successful in his attack, that he is said to have reduced the whole island in the short space of fourteen days, making the king and his daughter both prisoners. This enterprise being accomplished, he left a sufficient land force, under the command of two able captains, to keep the conquered country in proper subjection, and proceeded for Ptolemais with his fleet. By the reduction of Cyprus, Richard acquired such an addition to his naval force, as rendered it, notwithstanding his former loss, even superior to what it had been, when he quitted Messina. According to the report of historians, his armament consisted of more than two hundred and fifty ships or vessels, so called, all armed, and properly fitted for war, with upwards of sixty gallies.

Richard, when on his passage to Ptolemais, which city was then besieged by the Christian army, fell in with a vessel belonging to the Saracens, the size of which was so extraordinary, considering the early period when it was built, that it would be improper not to make some particular mention of it. Its crew is said to have consisted of fifteen hundred persons, but such was the resolution and spirit of the assailants, that the enemy were very soon compelled to surrender. Richard is reported to have sullied the glory of this success, by ordering thirteen hundred of his prisoners to be thrown into the sea. The horror that would be excited by this act is, however, in some degree lessened, by reflecting on the barbarous customs which were too prevalent in those early times, and the peculiar manner in which it is almost unnecessary to state war was carried on with so barbarous and uncivilised a foe. The fleet proceeded onwards to its port of destination, and Richard uniting his arms with those of the other Christian princes, who had been some time occupied in the siege of Ptolemais: compelled it to surrender after a stout resistance, a defence which, gallant as it was, is the less to be wondered at, when it is remembered that it was defended by the whole power the Saracens could muster, and that they were then headed by that most renowned and gallant chieftain, Salaha'ddin the Great.

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The capture and captivity of this great, but unfortunate prince, when on his return from the scene of glory, are well known, as well as the circumstance of his death, which happened at the siege of Chalons. John, his successor, became no less attentive to the naval power of his realm; and however his conduct might, in some respects, deserve reprehension, few persons, considering him as a politic ruler, have been hardy enough to deny, that he on all occasions paid the greatest regard to its maritime interests. He was indeed, if possible, more tenacious of his claim to the sovereignty of the seas than any of his predecessors had been. In proof of his great attention to this particular, it stands on record, that having assembled divers of his peers at Hastings, previous to his sailing for Normandy, he there enacted, with their consent, that if any English commander in the royal service should at any time meet any foreign ships at sea, and the masters of those vessels should refuse to strike their colours, and pay obedience to the royal flag, that such ships should be immediately detained as lawful prizes, even though it should afterwards appear, the owners of these vessels were the subjects of states actually in amity with England.

This act, authenticated as it appears to have, in some measure, been by another branch of the legislature, the barons of the realm, proves not only how enamoured this king was of those privileges which had been claimed and possessed by his predecessors, but also the antiquity, and very remote assertion of them. This enforcement of a claim was not set up, arrogantly, as the enforcement of an imperious demand, but as an old and long established right, or custom; so that, as has been very properly remarked by historians, it may be fairly concluded, this transaction, together with a warrant issued by his Majesty for pressing all ships into his service whenever any emergency required so strong a measure should be adopted, were both of them founded on very ancient usage, and the undisputed rights of former sovereigns.

Against France John was eminently successful, for though not, by any means, remarkable on account of his benevolent disposition, he flew with the utmost speed to the relief of the earl of Flanders, who was, without committing an apparent offence, most vehemently attacked by king Philip. The triumph of the latter was, however, but of short duration, for John, on receiving the intelligence of the attack, ordered his fleet to be drawn together. He gave the command of it to the earl of Salisbury, and dispatched it to the succour of his ally. The earl meeting with the assailants, and their fleet, a part of which was at anchor in the haven of Dam, while the remainder lay in the road;

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attacked them with the utmost resolution and good conduct. His success was equal to his intrepidity, and after a very obstinate contest, the assault being carried on at the same time both by sea, and land, he possessed himself of the whole of the enemy's fleet. Three hundred sail, all laden with provisions and stores, were dispatched for England with the glorious tidings of the foregoing event; and the remainder, through the want of seamen to bring them off, were set on fire, and destroyed. Thus, as is shrewdly observed by an eminent historian, was this prince fortunate at sea, because his sailors were loyal; though he was, on the other hand, so unlucky in his land contests, owing to the treachery of his nobles.

In the midst of subsequent distresses, and disputes with the barons, such was the firm and unshakeable loyalty of his seamen, that though there remained not a single house on shore where the king could with safety have taken refuge, yet from the midst of surrounding rebellion he found a constant sanctuary on board his ships. Thus was he enabled to collect those few friends who still remained faithful to him, and by the captures he occasionally made of vessels belonging to those of his subjects, whom he considered in a state of insurrection, he was enabled to subsist his followers and adherents. Henry the Third, his son and successor, had scarcely ascended the throne, when he found himself involved in a most serious warfare with Lewis, king of France, who had invaded England, and was then in the center of the kingdom, at the head of an army consisting of twenty thousand men. Forcibly driven from the realm whose dominion he wished to usurp, he returned in much greater force, having a numerous army under him embarked on board transports, escorted by no less than eighty large ships, armed purposely for war. Hubert de Burgh, at that time constable of Dover castle, having been joined by two other powerful barons, Philip d'Albanie and John Marshall, put to sea with such force as the Cinque Ports were able to collect, in the hope of delaying the approach, if not discomfiting the invader. The whole force which these gallant chiefs were able to collect, equalled not that of Lewis by one half; but the superiority possessed by the English in point of skill, almost compensated for the inequality of numbers. Availing themselves of the weather gage, they ran their ships on board the French transports, several of which were sunk by those means, together with their whole crews, and the soldiers which were on board them. Nor was this all, for making use of a new species of annoyance against their enemies, they fixed a number of pots on their decks filled with unslaked

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lime: water being poured into these a moment only, before the commencement of the encounter, and the English cautiously keeping the windward side, the reek or smoke was driven so forcibly into the faces of their enemies, that they were in great measure deprived of all power of defence. The English, taking every advantage in their power of this singular, but beneficial stratagem, plied their cross-bows and missile weapons with so much vigour, that the enemy was compelled to bear away for the English shore, which was to leeward of them. Lewis who, notwithstanding his discomfiture, still possessed a force so superior to his antagonists, that they were compelled to be content with the advantage they had gained, and ventured not to commence a pursuit, effected his landing at Sandwich, which, in mean vengeance for his defeat, he burnt to the ground.

This attack, notwithstanding the apparent success which attended it, completely ruined his affairs: having proceeded to London, of which city he made himself master, and in consequence thereof vainly considered his success complete; he was very soon besieged by a numerous army on the land side, while the English fleet so completely blocked up the Thames, that he could not receive any succour whatever. In this dilemma, Lewis had recourse to the only existing means which could possibly effect his deliverance, he entered into a treaty with the earl of Pembroke, by which he engaged to renounce, for ever, all claim to the realm or crown of England, on condition of being permitted to retire to France, with the remains of his army, unmolested. This, among many others, remains, as is wisely remarked by the chronicle writers, and others, an incontestible proof, that, as nothing but intestine disputes can ever encourage a foreign foe to attempt an invasion of England, so while Britons retain their sovereignty at sea, every attempt of that nature must in the end prove fatal to those who are rash enough to attempt it.

The navy of Henry the Third, meaning that which it was in his power to employ in case of any national emergency, was extremely unconsequential, and there was at that time no marine in existence over which the sovereign had an exclusive power or jurisdiction. The reliance on the executive arm was placed in the exertions of certain towns or corporations, who, in return for various privileges and immunities granted to them by royal charter, were bound to furnish a specified quota of shipping and seamen, in proportion to the wants of the country, and their own means, whenever the royal demand was made on them. The requisitions were sometimes sparingly complied with,

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nor were there instances wanted of their being peremptorily refused. At the head of these auxiliaries, stood the Cinque Ports, and there need not be produced a stronger instance of the precarious state in which the public wants of the sovereign stood, when militating against the inclinations, or caprice of his feudal allies; (for there appears to be no term more appropriate which can be given to them) than that which happened in the course of the dispute which took place between king Henry the Third and his nobles in the year 1244. On this occasion, the Cinque Ports decidedly espoused the cause of the latter, nor were they content with the simple act of refusing their aid for the reduction of the malecontents, but, using the pending dispute as a pretext for arming their vessels, they were enabled to commit various acts of piracy, and extend their depredations not only against the shipping of all countries unfortunate enough to fall in their way, but even to effect the most unwarrantable ravages on the coasts of their own countrymen. The sovereign possessing no naval power under his own controul capable of suppressing these, and similar enormities, they continued, unrestrained, for the space of more than twenty years, till the more conciliating temper of Edward, surnamed Longshanks, who afterwards ascended the English throne by the title of Edward the First, gained from them, partly by persuasion, and partly, perhaps, through the fear of his future resentment, that submission which his royal parent had so long, and so ineffectually attempted to procure.

No circumstance can more strongly prove the low ebb to which the naval powers of England were reduced, under the sovereign just mentioned, than that which took place in 1269. All the force that could be collected, though the strongest national exertions were made for that purpose, to attend the princely Edward, with his brother Edmund, on a crusading expedition to the Holy land, consisted of no more than thirteen small vessels, the crews of which, including both mariners and soldiers, amounted to no more than one thousand persons. The same poverty of incident which pervaded the maritime pursuits of Britain during the reign of Henry the Third, continued to prevail during a considerable part of the early reign of his son, and successor, Edward. The causes, however, which produced this seeming inertness, were diametrically opposite to each other when the same districts were under the rule of the different princes. When Henry possessed the crown, it was the effect of a relaxed and timid government, enduring with patience, insults and injuries which it was fearful of resenting. After Edward became the sovereign, it was occasioned by a dread created among surrounding nations,

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nations, of rousing that spirit, the effects of which they had reason to apprehend might prove fatal to them. At length, the long uninterrupted state of naval quietude was disturbed in 1295, by a dispute which arose in Normandy between some English seamen belonging to the Cinque Ports, and some French mariners; the circumstances of which have been very minutely and particularly related by Walter de Hemingford. An English ship, it appears, having put into a Norman port, remained there some days, and while it lay at anchor, two of the crew went ashore to procure fresh water, at a place not far distant from the shore, when an affray took place between them and some Norman seamen, in which the former were overpowered, and one of them killed: the survivor flew with all speed to his vessel, and related the disaster, adding, that the Normans were pursuing him. The English immediately put to sea, and being followed by their adversaries in great force, made their escape, though not without the utmost difficulty. France, encouraged by this apparent victory, immediately began to equip ships, and in some of the piratical excursions, newly made, for as yet they were unsanctioned by the government, two English vessels were unfortunately captured, the crews massacred, and their bodies hung up at the yard arm, together with as many dogs. Nor were the inhuman captors content with even this act of outrage, but, as if glorying in their outrage and murders, they paraded the sea for some days, as pointedly signifying, according to the remark made by historians, that they made no difference between an Englishman and a dog. England was not slow in taking measures to revenge this insult and injury. Numbers of vessels were fitted out by private individuals, for the government of neither country then interfered in the dispute, and various piratical depredations were mutually committed by both parties. Wearied, however, with this incessant petty warfare, which did not promise any termination to the dispute, a certain day was fixed, in the true style of naval chivalry, for the final decision of the quarrel. Both the principals in the dispute incessantly applied themselves to the acquisition of auxiliary aid. England procured assistance from Ireland, Holland, and other places; Normandy from France, the Flemings, and the Genoese. The dreadful appointment was kept with scrupulous exactness on both sides, and the contest was maintained with the most singular spirit. Even the meanest individual, particularly among the chief antagonists, feeling himself so interested, that he fought as though he considered the honour and the welfare of his country, would experience the most inseparable disgrace and ruin, should his relaxed exertions sink, in the smallest degree

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degree as a warrior, below the character of an hero. The English at length prevailed; and some estimate may be formed of the strength of the armaments which met in dreadful array to terminate this almost private quarrel, from the reported loss of the vanquished, and the spoils obtained by the victors. Many thousands of the former were slain, an equal number were swallowed up by the waves, together with the vessels on board which they had fought; and, exclusive of these signal proofs of discomfiture, the English are said to have captured, and carried off no less a number than two hundred and forty vessels.

The dispute having terminated so much to the disadvantage of France, and its dependancies; king Philip thought proper to come forward in his capacity of sovereign, and protector of his people, demanding reparation from Edward for the mighty wrong. The latter proposed an appointment of plenipotentiaries on both sides, who should enquire into, and adjust all matters appertaining to the preceding contest. Philip refused to accede to this equitable proposal; but, according to the true spirit of those times, summoned Edward, as a personage owing fealty to him, to appear at his court on a certain day, and answer to the complaint. The requisition not being complied with, though at the same time Edward manifested every possible disposition to treat on the most open and fair terms, judgment was regularly passed as in a court of civil jurisdiction, that king Edward should lose Aquitain, with all his transmarine dominions, for his contempt in not appearing. The conduct of Philip on this, as well as subsequent occasions, induced Edward to dispatch a considerable army into Gascony, which was then over-ran by a numerous French army. Among the arrangements made by this sovereign, according to the report of historians, on this occasion, was that of dividing the marine of England into three distinct fleets: one from Yarmouth, called the navy of the north, the command of which was given to John de Bottetort, with the title of admiral of the north; another from Portsmouth, which was put under the orders of William de Lisburne, styled admiral of the south; and a third, to which the defence of the western coast was confided, to an Irish knight, whose name is not mentioned, but who is said in Trivet's Annals to have belonged to the illustrious house of Ormond. This circumstance, though perfectly correct in point of fact, is by no means equally regular in regard to its historical date, and although since the several appointments undoubtedly took place in 1292, three years elapsed before any dispute whatever with France existed; various expeditions, though

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though principally of an unconsequential nature, presently succeeded on the part of England. As an exception, however, the town of Cherberg was plundered and burnt, and a fleet, consisting of fifteen large merchant vessels, belonging to Spain, was captured on the coast of Flanders. But these successes were not obtained without some bloodshed. Philip is said to have effected a debarkation near Dover, and, though driven off with some loss, to have done no small previous injury to that town. A division belonging to the Yarmouth, or northern fleet, having too incautiously entered the harbour of Berwick, were attacked with such fury by the Scottish vessels in that port, that four ships were totally destroyed, and the remainder received so much damage, that it was not without the utmost difficulty they were able to effect their retreat.

In 1296, however, the king, in spite of every opposition which he unremittingly experienced in pursuit of this object, collected a very formidable fleet, capable of transporting an army of sixty thousand men, with their necessary equipage, and having proceeded to sea from the port of Winchelsea, in Sussex, towards the latter end of August, effected his landing in Flanders, without any sinister accident, on the twenty-seventh of the same month. Nevertheless, a most unlucky and unforeseen accident totally frustrated all those hopes of conquest which the king, and his commanders had sanguinely formed. The mariners on board the squadron fitted out by the *Cinque Ports*, having had an affray with those belonging to *Yarmouth*, it quickly rose to such an height, that notwithstanding every personal interposition the king himself could offer, so relaxed was the state of discipline at that time, that ere the ferment could be allayed, not fewer than twenty vessels were burnt, others very materially damaged, and three of the largest in the whole armament being driven to sea, were not preserved from foundering, but by the greatest exertions. To have attempted any thing farther with people in that disorderly state, would have been an act of imprudence, if not madness. France, deriving spirit from this circumstance, made an attempt to set fire to the remainder of the fleet as it lay at anchor, after its return in the harbour of Dover: the project, however, failed; and under the pious mediation of pope Boniface the Eighth, peace was concluded in the ensuing year between the contending sovereigns.

Soon after the commencement of the fourteenth century, a most interesting occurrence took place, than which, nothing can more strongly prove the unqualified acknowlegement of the right claimed by Edward, and many of his royal predecessors,

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predecessors, to the sovereignty of the British seas. War having never ceased to rage between Philip, surnamed the Fair, and the Flemings, the former felt himself under the necessity of fitting out a formidable naval force, the command of which was given to a noble Genoese, named Reyner Grimbaldi. That nobleman using his commission as a pretext, thought proper to seize, after the manner of a pirate, on a variety of vessels belonging to different countries, merely because they chanced to be bound to different ports in Flanders. This conduct having excited a very considerable clamour, the kings of England and of France were respectively appealed to. The complaints being heard, the two monarchs took upon themselves the office of umpires. A regular commission was accordingly issued to certain persons, therein named, to hear and determine all matters then in dispute. To this board a regular remonstrance was given in, in the name of the procurators of the prelates, and nobles, of the admiral of the English seas, of the communities of cities, and towns, as well as of the merchants, mariners, strangers resident, and all others belonging to the kingdom of England, and territories subject to the same, as also the inhabitants of other maritime places, such as Genoa, Spain, Germany, Zealand, Holland, Frizeland, Denmark, Norway, &c. setting forth the right which the kings of England had, from time immemorial, held in the sovereignty of the adjacent seas, and the power that was vested in them of making such ordinances as they should think necessary for maintaining and ensuring the peaceable navigation thereof, &c. " Such," remarks the great Selden, " is the libel of so many nations manifestly acknowleging the sovereignty and dominion of England over the sea, and thereupon demanding protection for themselves; and whereas (proceeds the same writer) no mention is made of this thing in the histories either of the French, English, or others, it is no wonder, since the proceedings of courts of judicature are seldom set down in histories."

No other material naval occurrence took place during the life of the first Edward; and the unquiet reign of his son and successor, Edward the Second, was little likely to contribute to the prosperity of maritime concerns. One event only presents itself to notice as worthy of mention. During the unhappy disputes which took place between the king and his consort; the former, enraged at the conduct of France, who interfered in support of his adversaries, sent orders to various commanders, and in particular to the constable of Dover castle, to fit out ships, and send them on a cruise off the coast of France. These

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orders were obeyed with so much alacrity, that in a very short time no less than one hundred and twenty vessels were brought into the English ports. After the deposition of this ill-fated monarch, Edward, his son, who succeeded to him, and who lived to threaten almost the annihilation of France, as an independent kingdom, continued for three or four years, on account of his youth, entirely under the dominion of his mother; but the instant he became emancipated from the trammels of his preceptress, he began, in imitation of his grandfather, to pay the utmost attention to the marine of his kingdom, intending thereby, as is remarked by historians, to secure to himself the possession, as well as title, of lord of the seas. In 1328, in maintenance of the claim made by him to the crown of France, Edward became first involved in war. His adversary was before hand with him in preparations, having, under the pretext of sending an expedition to the Holy land, equipped a considerable force. Its course was directed to the coast of England: the town of Southampton was attacked, as has been shewn in the Preface; and though the immediate repulse of the invaders, with infinite loss, proves the spirit with which they were assailed when landed, yet the ease with which the descent itself was effected, sufficiently proves the very low state into which the British marine had then fallen. Towards the middle of July in the same year, Edward having collected a fleet consisting of five hundred vessels on the coast of Suffolk, proceeded thither attended by a numerous army, and embarking at Dunwich for Flanders, proceeded to Antwerp, where he was received with the utmost cordiality, and, by the advice of his allies, assumed the arms as well as title of king of France. The monarch, however, who retained possession, not intimidated by the empty assumption just noticed, entered into a league with the Scots, and made various very successful attacks on different parts of the coast. Hastings was demolished, Plymouth burnt, and Bristol ruined; advantages the French were enabled to gain, in consequence of the absence of the royal Edward with his fleet. Even under this disadvantage, however, England was neither dispirited, nor constantly pursued by misfortune. As a proof of the first, five English ships being met at sea by thirteen belonging to France, a very unequal contest took place, in which the former defended themselves with the utmost gallantry, and though two of them were captured, the remainder bravely effected their escape. As an instance of the latter, the seamen of the Cinque Ports, taking advantage of a thick fog, put to sea with an immense number of small vessels, in which they ran over to Boulogne, which they not only destroyed,

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stroyed, together with its dock and arsenal, but also burnt four large ships, nineteen gallies, and twenty smaller vessels, which then lay in the harbour.

The victory gained by the royal Edward, who commanded his own fleet in person, over the same enemy, has, and with great correctness, proved a matter of the highest exultation to all English historians who have considered the honour of their country as inseparably blended with its victories. The preceding events which led to it may very properly be introduced. As to the encounter itself, it is scarcely necessary to say much: a relation of it, nearly sufficient, having been already unavoidably given in the history of France. Edward had collected a fleet consisting of about forty vessels, with which he intended to pass over to Flanders, but when on the point of setting sail, he received intelligence from the archbishop of Canterbury, that Philip, his successful competitor for the crown of France, having acquired information of his intention, had assembled a far superior force in the port of Sluys to intercept him. The king was highly irritated at the news, to which, though brought to him from other quarters, he for a long time refused to give any credit, exclaiming angrily, that it was a concerted measure in order to stop his voyage, but that he was determined to proceed, even though he should be deserted by all his subjects, and that those who entertained any fear, were at liberty to stay behind. His principal officers, however, asserting, and with truth, that should they proceed, it would be to inevitable destruction, notwithstanding they at the same time declared their firm resolution to accompany their sovereign, the king's obstinacy became at length shaken. Orders were immediately issued to the different ports, and to London in particular, that the naval force they were bound to send on receiving the royal mandate, should repair, without delay, to the coast of Suffolk. These commands were obeyed with so much promptitude, that within the space of ten days, the king found himself at the head of a fleet capable of contending with that of his adversaries; while his army was at that time so considerably reinforced, that he was under the necessity of desiring many among those who had joined him last, to return back to their own homes. Cotemporary writers, who assert they derived their account from a relation published four days only after the battle, under the authority of the king himself, say, the English perceiving, on their approach to the town of Sluys, that the French vessels were linked together with chains, and that in the state they then lay, it would be impossible to break their line, the former feigned to retreat, and

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stood back to sea for a short distance. The French deceived by this manœuvre, and proudly considering their antagonists as retiring before them in dismay, put to sea in loose order, as in the expectation of a certain victory. Edward perceiving the success of his stratagem, and having the advantage of the weather-gage, which appears to have been seized, for the first time, in this encounter, as a most consequential preliminary point, immediately tacked, and assailed the enemy with such invincible fury, that they were quickly broken, and completely discomfited. Upwards of thirty thousand men are said to have lost their lives on the part of the French, among which were no inconsiderable number that, fearing to fall by the swords of their foes, preferred rather to leap into the sea, and perish. From all sides, say those who have described the conflict, flew the death-dealing weapons from the long bows of the English, the cross bows of the enemy, added to the javelins darted by the hands of the furious warriors. On their approaching still closer, the men at arms began the cruel combat hand to hand; and in order to carry their dire intention into more dreadful effect, grappling irons were thrown from ship to ship: the carnage then became horrible, for death raged on every side. At this time the Great Christopher, which had formerly belonged to the English, was retaken, the greater part of the crew who defended her being killed or wounded. The English, immediately on re-obtaining possession of this vessel, filled it with archers, and sent it, with others, to attack the Genoese squadron, which consisted entirely of large ships, and served on this occasion in the pay of France. The slightest circumstances attending so memorable and remote an encounter, become extremely interesting, and the account of the manner in which the English line was arranged, is singularly curious: The largest, and consequently the stoutest vessels, were stationed in front; those on each wing, or flank, were filled with archers, with the exception of every third vessel, which was manned with a crew more numerous than the rest, and with many of that class of soldiers stiled men at arms, for the purpose of working a variety of large and weighty engines, which were fixed on board them, employed in throwing immense javelins and stones, for the annoyance of the enemy, the use of gunpowder not being general at that time. A second line was formed as a corps de reserve. The engagement is said to have continued, without intermission, from eight o'clock in the morning till seven at night. Thirty French ships, which had lain by during the encounter, attempted, towards

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towards the close of the action, to effect their escape, but being immediately attacked by a division of the English fleet, under the orders of the earl of Huntingdon, were all of them either taken or destroyed. The superior dexterity and skill of the English in naval tactics, appear to have purchased this victory, the French being at that time very little versed in such contests. But the defeat was not effected without considerable loss to the conquerors themselves: a large ship, together with a galley fitted out from Hull, were sunk by a volley of stones, the whole of their crews perishing with them. The loss on the part of the English is said to have amounted to four thousand men. The king, as it were in triumph, kept the sea for three days, and then having repaired to the intended place of debarkation, landed his troops, and hastened to join his allies.

It is moreover remarked, as a curious circumstance attendant on this encounter, that gallies and beaked vessels were totally laid aside for the first time, since though the use of ships, as vessels of a different construction from gallies were then called, had been partially adopted for many years, yet in every preceding action which had taken place, even in the Atlantic, where the use of gallies became most exploded, they had been intermixed with the loftier vessels, built according to the newly introduced system. On board the latter, the archers and slingers, supplying the place of the modern musquetry men, or marines, were stationed near the prow and stern; the centre or midship was, as before observed, filled with the various engines then in use, contrived for the purpose of throwing large darts and stones, which were not long afterwards supplanted by the introduction of cannon. The French fleet was divided, according to the report of some authors, into three, or as others insist, four divisions, one of which consisted entirely of ships belonging to the Genoese. The whole armament, but particularly the division last mentioned, was abundantly provided with every necessary engine and weapon, intended for the annoyance of their antagonists, a point of equipment more materially conducive, perhaps, to success, in the state naval tactics were at that time, than even the condition of the ship which bore them: the event of contest not depending so much on the excellence of the vessels themselves, or the skilful management of them, as on the hardy prowess of the combatants, who, closing with each other, fought desperately hand to hand, as had been the custom many centuries earlier, when Rome was in the zenith of its power.

Father

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Father Daniel, in the account given by him of this ever memorable encounter, observes, that notwithstanding the vessels composing the armaments on both sides were built much loftier, and varied materially from gallies, yet the use of oars was not entirely abandoned. That of sails was however preferred, except in cases of necessity, such as the failure of the wind, or a wish to effect a change of situation, when, owing to particular circumstances, sails could not be so readily made use of for that purpose. France indeed had not entirely given up the use of gallies in the Atlantic, for in a battle fought off Guernsey not long after the defeat just mentioned, three gallies composed a part of the fleet. Edward having, soon after this time, determined to carry his arms into the centre of France itself, collected a fleet for the transport of his army, and the protection of the vessels specially appointed to that species of service, which are said to have amounted to no less than one thousand sail. The battle of Cressy, with its consequent victory, and the surrender of Calais, after having been blocked up for a considerable time by a fleet consisting of more than seven hundred vessels, put a temporary stop to the naval enterprises of France, and as a natural consequence, to those of England also, who thus became deprived of the only antagonist likely to contend with her.

The relation of a fleet so mighty in respect to numbers, employed on a service apparently of such little consequence as the blockade of a town, would, as may perhaps be the case in other instances where the circumstances are not so indisputably established, excite wonder, if not disbelief, did not the particulars given in the Preface serve to point out the vast disproportion between the vessels then termed ships of war, and those which are at present considered entitled to that appellation. Although the armament alluded to is generally considered more consequential in respect to force, though not to numbers, (if historical reports are to be depended on) than ever quitted the shores of England, yet there are no traces whatever of those immense vessels which her sovereigns, and even Edward himself, is said to have been master of. The crew of the Great Christopher, by fair comparison with other vessels which are more circumstantially described, could not have consisted of less than three hundred men, and this vessel was not the only first rate (if the term be allowable) which was then in the English navy. From the roll of the fleet employed against Calais, it appears, that the vessels in the actual employ of the sovereign, were inferior in force, to many of those which were supplied by subjects; although

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although the difference, to confess the truth, was not very material, the crews of the former amounting to about seventeen persons on the average to each vessel, while taking the whole fleet in the aggregate, they somewhat exceeded twenty. It may be asked, how it was possible for vessels so diminutive, as they might at the first moment of consideration be deemed, to contend with such enormous floating fabrics as were indisputably employed in the service of France. The difficulty, however, though perhaps consequential, is not insurmountable, on a little cool reflection. The amount of the crews stated to have belonged to the armament employed against Calais, comprised the mariners only: in the account of the vessel taken by the earl of Huntingdon, on board which four hundred persons are said to have been found slain at the time of its surrender, the soldiers are certainly numbered as well as the seamen. It is a fact too well known to admit of controversy, that even in the present day, when the furniture and rigging of ships is much more complex than it could be in the time of Edward the Third, when the rigging of the largest vessel of war scarcely exceeded the number of ropes now used on board an ordinary hoy, that thirty seamen, with the additional aid of other men on board, will prove sufficient to navigate a vessel capable of transporting, perhaps, to the most remote quarter of the world, five hundred persons. The apparent difficulty will now materially shrink in its consequence; and those who have been unable to detach the idea of contemptibility from a vessel described as fitted for war, merely because it was navigated by twenty persons only, will discover, if they have candour and patience enough to pay a little attention to the several points, that their opinions, far as they related to dimensions, have perhaps been too hastily formed.

In respect to the shape and mode of construction practised at this time, there is little other evidence than the rather vague testimony of coins, sculpture, or uncouth painting, all so ill descriptive, at least in many points, of the object they were intended to represent, that they might be considered rather as perplexing, than elucidating investigation. There are, nevertheless, some points, and those far from immaterial, which, from the concurrent testimony of all three, appear too well established to admit of rejection. Although it is evident the whimsical representation of what is called a ship, impressed on the Noble of the victorious Edward, (and in all probability intended by him to transmit to the latest posterity the remembrance of his success) can never be considered as correct, yet it is evident from thence, that the vessels denominated ships, were in point of shape infinitely shorter than the gallies, that their

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their stems and prows were considerably more elevated above the surface of the water than the midship, or centre of the vessel, which, from the peculiar shape of the bow and after part, caused it to bear no very contemptible resemblance to an half moon; the masts were, generally speaking, single, and seldom, if ever, exceeded two in number; the sails were all square, and the yards, lowering down on the deck like those of a modern lugger, when the vessel was brought to an anchor, rendered the rigging extremely simple, for the art of sailing by the wind, that is to say, otherwise than before it, or nearly so, was an improvement of an after-time. The frame, which formed the strength of the hull, was in principle similar to that now constructed, except that those which are called the filling timbers, were omitted; to this, the outside planks were fastened with iron nails, a custom prevalent in many countries some years since, and not totally abolished even at the present moment. They were not set edge to edge, and the interstice filled with oakum, as is now most generally practised, but lapped over each other with a sufficient caulking between them to keep out the water, a practice frequently made use of even at the present moment in the construction of cutters, luggers, and vessels of that description or class intended for light service. The more mechanical art of joining the different component parts of a ship together, was borrowed at this time, in all civilised countries, from the practice of the Mediterranean powers; so that the only existing variation consisted in the exterior, and even that was so trivially distinguishable in vessels of the same class or rate, that the most critically discerning eye would scarcely have been competent to the task of appropriating, in a squadron collected from different parts of Europe, each ship to its native country. The Genoese, indeed, and the Venetians, whose example was in some degree followed by the Flemings and Spaniards, rendered their ships materially different from those of other countries; but the variation was occasioned solely by their superior dimensions and burthen, for on examining the best authorities which the ravages of time have permitted to survive to the present moment, it will be found, that sculptors, as well as painters, could either not discover any variation in the character (to use a quaint scientific term) of vessels belonging to different nations, or that they did not think it sufficiently consequential to require being marked in their works.

CHAPTER

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CHAPTER THE SEVENTEENTH.

Rapid Decline of the Eastern Empire—the Causes which immediately produced that of its Maritime Power—its Alliance alternately courted by Timour and Bajazet—rapid Progress of the Turkish Consequence—Passage up the Hellespont refused by the Turks to all Nations—the Siege of Constantinople undertaken by Mahomet the Second—Inactivity of the Christian Powers in respect to its Relief—the whole Turkish Armada defeated by five Genoese and Imperial Ships—Mahomet adopts the extraordinary Resolution of conveying his Fleet over Land—Constantinople taken by Storm—subsequent Enterprises of Mahomet the Second—his Death and Character—Wars between the Venetians and Genoese—Division of the Prizes taken at the Battle of Lepanto—Account of the Venetian Naval Arsenal, Docks, and Bucentaure, together with the Method taken to preserve Vessels from Injury by the Weather—Decline and Fall of the Venetian Naval Power—Motives which prevented the Neapolitans from attempting to acquire Maritime Consequence—fallen State of the French Marine at the Conclusion of the Fourteenth Century—Attempt to revive its Consequence—the Invasion of England projected—Description of an enormous Vessel purposely built for the Expedition—its Failure—the greatest Part of the Armament destroyed by a Storm—no subsequent Attempt made in the same line till after the Accession of Henry the Seventh to the Throne of England—Naval Expeditions and Enterprises undertaken by the Kingdoms of Castile and Arragon—their Union under the Appellation of Spain—Maritime History of Portugal—Inactivity, or rather Quietude, of Denmark, Sweden, and Russia—Attention of Holland, Flanders, and the Hanse Towns, to Commerce—Attempts made by the Scots towards the Attainment of Maritime Consequence—Causes of the quiescent State of England in respect to Naval Affairs, from the Accession of Richard the Second, to the Time of the Defeat and Death of Richard the Third.

THE maritime power of the eastern empire had, as repeatedly stated in the preceding chapters, been long sinking into decay and obscurity; though gradual in the commencement of its decline, its fate appeared, during the later years of the fourteenth, and even part of the succeeding century, rapidly hastening towards its final exit. This epoch was brought on by a variety of causes,

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among which that natural inertness of the Greeks was by no means the least consequential. The advantage taken by the Genoese and Venetians of this disposition, was extremely natural, and truly consonant to national policy. The benefits, however, which were derived by these rival states, proved by no means permanent, for it is historically remarked, that the increase of the shipping, and naval force of the Venetians, and of the states of Italy, was the mere effects of their making a right use of the indolence and folly of the Greeks. But trusting too much to that power, and not considering enough the sources from whence it flowed, they did not assist the Greeks as they ought to have done, if they had been true to their own interests. They perceived their error the less, because for a long time they were as great gainers by the Turks and Saracens, and afterwards by the Mamelukes, as they had been by the Greeks. In the end, however, they saw it sufficiently, yet then it was too late, for they had it no longer in their power to give laws, or in a short time to avoid receiving them.

The pressure of the Turks, and other foes, instead of rousing the efforts of sinking dignity, serve only to depress it still lower, and with accelerated motion. Suspicious and jealous, not perhaps without reason in some instances, of every proffered friendship and alliance, the emperor frequently found himself compelled, as it were, to trust his avowed foes, rather than those who were in the habit of professing themselves his friends, and protectors. A very singular instance of this truth occurred soon after the commencement of the fifteenth century, when Timour, more commonly known by the name of Tamerlane, appeared to threaten the Ottoman power with almost total demolition. Miserable as the state of the eastern empire in respect to naval consequence was, it was infinitely superior to that of the conqueror of Bajazet. From the Irtish and Volga to the Persian gulph, says history, from the Ganges to Damascus and the Archipelago, Asia was in the hands of Timour. His armies were invincible, his ambition boundless, and his zeal might aspire to conquer and convert the Christian kingdoms of the west, which already trembled at his name. He touched the utmost verge of the land, but an insuperable though narrow sea rolled between the two continents of Europe and Asia, and the lord of so many myriads of horse *was not master of a single galley*. The two passages of the Bosphorus and Hellespont, of Constantinople and Gallipoli, were possessed one by the christians, the other by the Turks. *On this great occasion they forgot the difference of religion, to act with union and firmness in the common cause.* The

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double streights were guarded by ships and fortifications; and they separately with-held the transport which Timour demanded of either nation, under the pretence of attacking their enemy.

An alliance so politically preposterous could be neither cordial nor lasting. Within the space of a very few years, the ancient spirit of animosity became renewed with tenfold vigour. The rapid strides made by the Ottoman army, served to augment instead of allay the thirst of dominion, and nothing short of the complete annihilation of the Greek empire, to be finally effected by the conquest of Constantinople itself, seemed capable of glutting the ambition of the Turk. Mahomet the Second was the mighty conqueror who perfected this great design, which had in all probability regularly held a place for many generations in the minds and intentions of the Sultans, as though magically conferred by the weight and splendour of the imperial turban. As a prelude to his design, he began to erect a fortress on the European shore of the Hellespont, or passage leading into the Propontis, which, as he already possessed one opposite to it on the Asiatic side, gave him the complete command of that narrow streight, and enabled him to prescribe laws to all nations whatever that wished to extend their commerce thither. Scarcely was the fortress finished, the completion of which the Emperor of the East had by every possible use of entreaty and persuasion that anxiety could suggest, in vain attempted to deprecate, ere he gave a signal proof of his severe intentions, and the peremptory measures he intended to adopt towards all countries whatever who presumed to act in defiance of his commands, and approach within the reach of his cannon, a tremendous and then newly invented engine for military annoyance. A Venetian merchant vessel, rashly contemning the orders of a despot, whose naval strength his countrymen affected, at that time, to hold in contempt, fell a sacrifice to its temerity, being sunk by a cannon shot, and its master, together with all his people, who in vain attempted to make their escape in the boat, were inhumanly put to death as rebels, or traitors, that presumed to offend against the imperious will of a savage master.

A very frivolous dispute, in the year 1452, furnished Mahomet with what he considered a sufficient pretext to commence his hostile operations, nor did he hesitate publicly to avow his intention of annihilating the empire of the East. The indolence of the Greeks themselves, the intestine religious feuds which subsisted between them and the Franks, and the tardy conduct of those

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Christian powers who had promised their assistance, all appeared in aid of the Ottoman cause. Without the combined assistance of such powerful auxiliaries, the expedition would in all probability have proved abortive. The reduction of Constantinople would have been rendered unpracticable, had not its investiture both by sea and land been complete. The Turkish fleet, though numerous, was too ill equipped and too weakly constructed to be capable of contending against even a single squadron, apparently contemptible in point of numbers, belonging either to the Genoese, or the Venetians. A singular proof of their inferiority occurred in a very short time after the siege had commenced. Five ships of considerable burthen, according to the estimation of those days, four of which bore the Genoese, and the fifth the Imperial flag, laden not only with provisions and stores, which were much wanted, but reinforcements for the slender garrison of the besieged capital, passed, under the assistance of a strong and favourable breeze of wind, through the Hellespont and Propontis: but the Turkish navy was anchored at the entrance of the Bosphorus in a semicircle, or crescent, extending from shore to shore, for the purpose of preventing the introduction of any supplies or assistance to the besieged. The strangers, nothing intimidated at the number of their opponents, who amounted to more than three hundred, pressed forward under a crowd of sail, resolving to effect their purpose, or perish in the attempt. Their superiority soon became fully apparent, nor was their victory in any degree wonderful, though the opposition of the defeated Turks might very fairly be considered so. Out of the whole force belonging to the latter, eighteen gallies only, could be considered as properly fitted for naval contests: the remainder, were vessels entirely open, many of them scarcely entitled to any higher, or more consequential appellation than that of boats, rudely constructed, and awkwardly managed, crowded with troops, but destitute of cannon. The strangers were indeed few in number, but they derived courage from the certain knowlege of their own superior skill. They were most skilfully steered by experienced navigators, and they were manned with the flower of the Italian seamen, to whom practice and long experience had rendered the perils of the sea, and the disasters attendant on naval contests, so familiar, as to strip them very considerably of their horrors. The actual weight, and the momentum of the shock given by the vessels themselves, when rudely coming in contact with their opponents, was in itself sufficient to destroy and sink the feeble obstacles which vainly endeavoured to oppose their passage. Their artillery skimmed

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skimmed the surface of the waters, carrying dismay and annihilation along with it, while the engines used for the purpose of vomiting forth Greek fire, poured destruction on the heads of those assailants whose rash, though brave and near approach subjected them to feel its dreadful effects. The Imperial vessel was at length overpowered by the obstinate valour of the Turks, but quickly rescued by her friends, from the wretched captivity. The Ottoman arms at length confessed the might of their antagonists. Twelve thousand of the Turks are reported to have fallen in the conflict, and the remainder fled, in the utmost dismay, to the European or Asiatic shores. The christians entered the Bosphorus in triumph, and came securely to an anchor within the chain or boom that closed the entrance of the harbour. So signal a defeat appeared to promise relief to the capital. The intrepidity of Mahomet himself began to waver; but as though fate had decreed the destruction of the Roman name, despair gave way before the arduous attempt of conveying over land the fleet of the assailants into the harbour of the capital. The difficulty was immense, but at length yielded to the obstinate resolution and perseverance of the Turks. The description of the means by which this singular enterprise was effected, is extremely curious, and furnishes a very authentic account of the state, condition, and quality of the Turkish marine.

" The reduction of the city," says Mr. Gibbon, " appeared to be hopeless, unless a double attack could be made from the harbour, as well as from the land; but the harbour was inaccessible, an impenetrable chain was now defended by eight large ships, more than twenty of a smaller size, with several gallies and sloops; and instead of forcing this barrier, the Turks might apprehend a naval sally, and a second encounter in the open sea. In this perplexity, the genius of Mahomet conceived and executed a plan of a bold and marvellous cast, of transporting by land his lighter vessels and military stores from the Bosphorus into the higher part of the harbour. The distance is about ten miles, the ground is uneven, and was overspread with thickets; and as the road must be opened behind the suburb of Galata, their free passage, or total destruction, must depend on the option of the Genoese; but these selfish merchants were ambitious of the favour of being the last devoured, and the deficiency of art was supplied by the strength of obedient myriads. A level way was covered with a broad platform of strong and solid planks, and to render them more slippery and smooth, they were anointed with the fat of sheep and oxen. Fourscore light gallies and brigantines, of fifty and thirty oars, were disembarked.

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disembarked on the Bosphorus shore, arranged successively on rollers, and drawn forwards by the power of men and pullies; two guides or pilots were stationed at the helm or prow of each vessel; the sails were unfurled to the wind, and the labour was cheered by song and acclamation. In the course of a single night, this Turkish fleet painfully climbed the hill, steered over the plain, and was launched from the declivity into the shallow waters of the harbour, far above the molestation of the deeper vessels of the Greeks. The real importance of this operation was magnified by the consternation and confidence which it inspired, but the notorious unquestionable fact was displayed before the eyes, and is recorded by the pens of the two nations. A similar stratagem had been repeatedly practised by the ancients. The Ottoman gallies, I must again repeat, should be considered as large boats; and if we compare the magnitude and the distance, the obstacles and the means, the boasted miracle has perhaps been equalled by the industry of our own times. As soon as Mahomet had occupied the upper harbour with a fleet and army, he constructed in the narrowest part a bridge, or rather mole, of fifty cubits in breadth, and one hundred in length: it was formed of casks and hogsheads, joined with rafters linked with iron, and covered with a solid floor. On this floating battery he planted one of his largest cannon, while the fourscore gallies, with troops and scaling ladders, approached the most accessible side, which had formerly been stormed by the Latin conquerors. The indolence of the christians has been accused for not destroying these unfinished works, but their fire by a superior fire was controuled and silenced; nor were they wanting in a nocturnal attempt to burn the vessels as well as the bridge of the sultan. His vigilance prevented their approach; their foremost galliots were sunk or taken; forty youths, the bravest of Italy and Greece, were inhumanly massacred at his command; nor could the emperor's grief be assuaged by the just, though cruel retaliation, of exposing from the walls the heads of two hundred and sixty Mussulman captives."

The magnitude of the undertaking certainly stands not unrivalled even in the remoter ages, and the transport of various fleets belonging to the Grecian republics across the isthmus of Corinth, as well as other similar instances of the same species of exertion which occur in ancient history, serve mutually to reconcile not merely the belief of both, but afford a confidence that all those accounts are not materially exaggerated. The land conveyance of a British flotilla in America, under the direction of an officer now living, and the same species of transport, for a considerable distance, of the immense rock,

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serving as the base to the statue of Peter the Great, prove the extent of modern mechanics, and render the reputed fame of the great Archimedes, together with the reports of his inventions, less improbable than they might otherwise be considered by critical sceptics.

Vast was the undertaking of Mahomet. It served to convince the world, that sublimity of genius is not confined to any persuasion or country, but that among people then considered in some measure unenlightened, or so far bigotted to particular persuasions that science was forbidden, as it were, to flourish; greatness of conception, and perseverance in execution, rose superior to prejudice, and proved that undertakings, apparently the most arduous, have frequently yielded to the exertions of man, when opinion and theory have too hastily considered the execution of them impracticable. The fall of Constantinople proved the almost immediate, though bloody, reward of the mighty project. The league and confederacy attempted to be entered into by the Christian powers of Europe (who, after having indolently abandoned the Emperor of the East, together with his capital, to their fate, trembled for their own existence, when they beheld the near approach of that torrent which, when it first broke forth, might have perhaps been stemmed without much diffiulty) failed in its execution. Constantinople became the irrecoverable capital of Mahommedan empire, and under the guidance of so great a chief as Mahomet the Second, it might be difficult or rash to point out what would have been the extent of his subsequent conquests, which threatened Italy itself, together with all the adjacent countries, had not fate, as it were, in compassion to the miseries then peculiarly attendant on a Turkish inroad, put a stop to his farther conquests by death, which happened nearly about the same time with the battle of Bosworth, an event which, violently closing all the intestine civil feuds which had so long disturbed the peace of England, restored her once more to the free exercise and application of her natural strength.

The reiterated dispute between those ancient and hereditary rivals, the Venetians and the Genoese, contributed mutually to weaken them, without establishing the superior ascendancy of either. Wars succeeded to wars, and victory, almost alternately, declared itself for both parties. If the arms of Genoa obtained that temporary superiority that enabled them to threaten the very capital of their antagonist with a siege, or blockade, the exertions of those apparently vanquished, soon rose superior to adversity, and drove their assailants once more to seek, in dismay, their own harbours. Nothing very remarkable

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able appeared during these reiterated contests, till after the commencement of the fifteenth century, when France having espoused the Genoese cause, not only furnished a considerable number of prime soldiers, usually denominated men at arms, to distinguish them from other classes or descriptions of military force, but provided them with an admiral to command their fleet. Victory, however, declared for the Venetians, and the means by which it was obtained, are deserving of notice. The battle seemed doubtful, till Zeno, the Venetian admiral, putting about, and crowding all the sail he could set, before the wind, run on board the enemy's ship that was opposed to him, with such violence, as to send her immediately to the bottom. Other commanders, observing the success of this measure, followed the example of their chief, who in the end obtained a complete and decisive victory. Four of the Genoese ships were sunk, and three fell into the hands of the conquerors.

The wars of Venice for the space of nearly thirty years subsequent to the event just mentioned, were principally of a military nature, and the few naval battles which took place, were in general fought by gallies. At length in the year 1452, the Venetians took the alarm on intelligence being received of Mahomet's intention as to the siege of Constantinople; the armament first equipped, on this important occasion, consisted of ten gallies and two argozais, which are said to have been of two thousand tons burthen. A second equipment of the same number of gallies quickly succeeded; and if the exertions of other Christian powers had been equally animated, the fate of the Greek empire might at least have been deferred. As the fact however proved, the siege of Constantinople was formed ere the succours were collected, and as a natural consequence, it was abandoned to its fate. It is observed, as a very remarkable event, by historians, that during *the space of five years from the time last mentioned, the republic enjoyed profound peace.* A new species and class of antagonists had at this time, however, arisen to vex and disturb its future quietude. Although the naval power of the Ottomans was confessedly inferior, yet the magnitude of their armies sufficed to overpower opposition, and the repeated defeats of Turkish squadrons served rather to augment, than damp the exertions of the conquerors of Constantinople. Without defeat, or any disastrous occurrence, the naval power of Venice appears to have been on the decline, and on the other hand, without the pomp of victory, the Turkish navy appears to have risen in a similar rate of ascension. The Ottomans maintained their consequence without experiencing or soliciting the aid of any foreign

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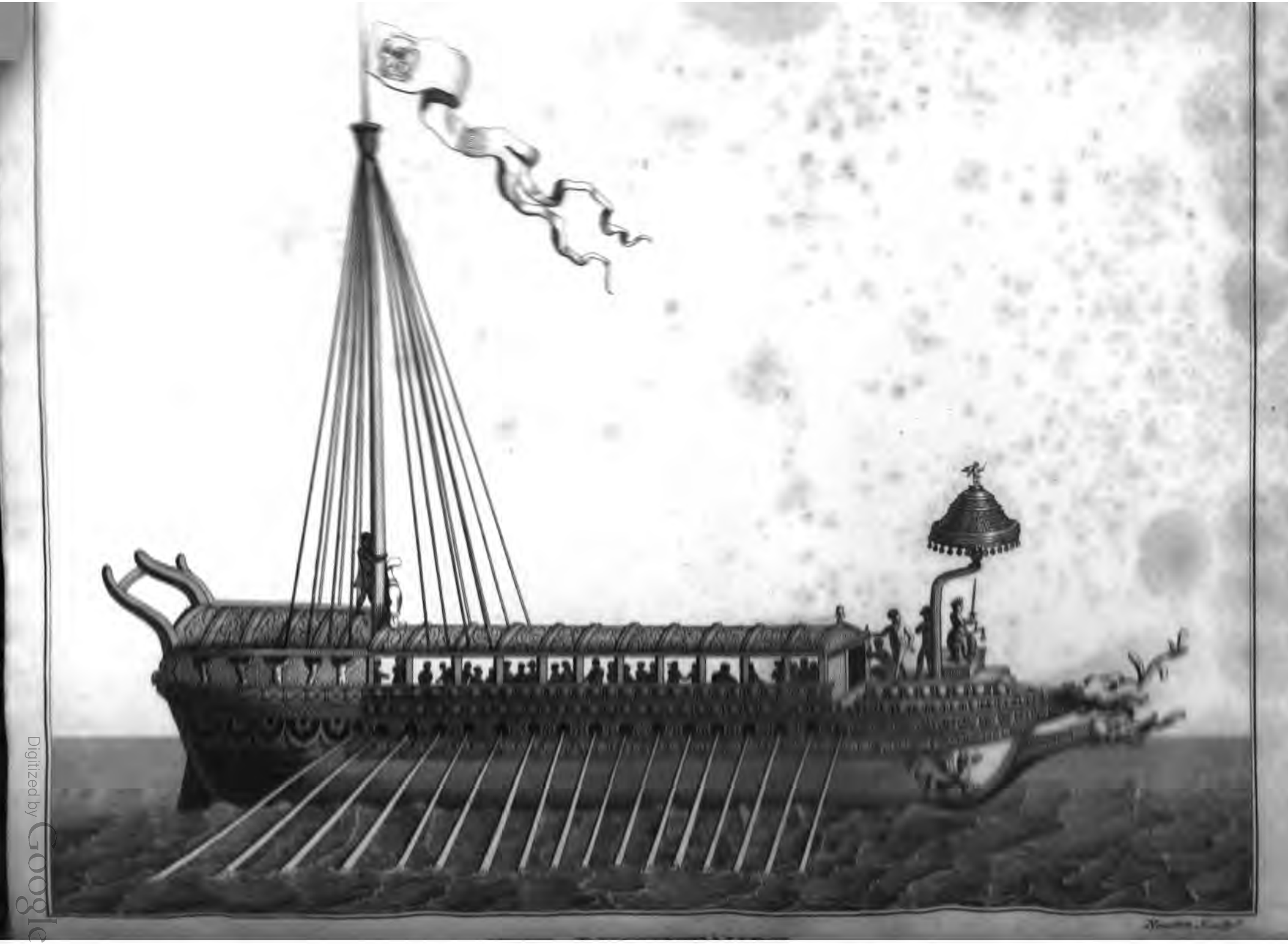

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foreign country, while Venice hesitated to venture, if not powerfully supported by alliance, into the lists of maritime combat with this new and formidable foe. This fact is fully proved by the event of the battle of Lepanto, and the division of the spoil, as well as prisoners, made in that memorable encounter, with the consequent victory, notwithstanding it occurred in the rapid decline of the Venetian marine, and many years after the time here alluded to, may perhaps not improperly be subjoined here *. Notwithstanding fortune might in some degree be considered to have baffled the exertions of Venice, candour cannot refuse affording them the highest tribute of applause, as the testimony of Bayfius will clearly prove from the annexed account given by him of the civil or internal management of the Venetian marine †.

Genoa, which might, without any extravagant stretch of the fancy, be deemed the natural foe to the state last mentioned, boasts its victories, though unproductive of any solid advantage, and glories in having once possessed such superiority

* The spoils were divided in the following manner: Philip for his share had fifty-eight gallies, six galliots, sixty-eight large cannon, eight bombs, and one hundred and twenty-eight light artillery, with one thousand seven hundred and thirteen prisoners. To the Venetians was given a portion agreeable to the number and strength of their shipping: they had for their share forty-four gallies, a number of galliots and galleasses, one hundred and thirty-one pieces of cannon of various sizes, with one thousand one hundred and sixty-two prisoners. That of his holiness was the smallest, but the most honourable, as among his prisoners he reckoned Achmet and Mahomet, the sons of Hali. The ecclesiastical share amounted to twenty-one gallies, with a proportion of smaller vessels, fifty-four pieces of artillery of different sizes, with eight hundred and eighty-one prisoners.

The sophi of Persia seemed to entertain no unjust notion of the mutual losses of the Turks and Christians. When the pope's ambassador acquainted him of the total destruction of the Turkish fleet, he asked if there were no more trees in the Othman dominions. The ambassador answered there were; but still enlarged on the irreparable damage Selim had sustained, thinking thereby to induce the sophi to invade his dominions. To all which this sagacious prince answered, that by destroying Selim's fleet the Christians had cut off his beard, but they had lost an arm in losing Cyprus.

† The Venetians have a naval depot, which they call an arsenal, the most commodious and extensive of any in the whole world, in which there are sixty νεωσοικοι, or docks, in which triremes, and other long vessels, are built by the shipwrights, who are kept in constant employ. Some of the docks are capacious enough to contain a trireme, others a bireme only, leaving, however, at the same time, sufficient room for the artizans to work either whether employed in building the vessel new, or in repairing it if damaged. Within the arsenal is also a covered dock, peculiarly appropriated to the reception of a vessel capable of carrying all the senators of Venice, with their train of attendants; a vessel which in splendour, magnificence, and extensive dimensions, may vie with the most celebrated of those constructed in the earlier ages by the Egyptians. It is called the Bucentaure.

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of naval power, as to permit its laying siege, or at least blockading the capital of its rival, though the attempt ultimately terminated in disgrace. Internal civil disputes, which subsisted during a part of the fourteenth, and the greater part of the fifteenth century, prevented any display of naval power on the part of the Genoese. To so low a state had they sunk, that they were under the necessity of progressively throwing themselves under the protection of the duke of Milan, and the French; so that Venice, after having fruitlessly, though bloodily, contended for the naval dominion of the Mediterranean, might be said to have at length obtained it by resignation, without the danger of contest, or the fatigue of victory.

Naples, who followed at an humble and respectful distance in the train, felt herself under no immediate necessity, and consequently most studiously avoided the expence of keeping any maritime force on foot, superior to what was absolutely necessary to her own protection. A rigid adherence to this political doctrine, necessarily causes any descant on her maritime power, or account of its consequence and exertions, in any degree necessary. In short, the naval history of Naples affords nothing remarkable, or worthy of notice, during the space of more than one hundred years, reckoning from the siege of Calais by Edward the Third, to the battle of Bosworth, except that about a few years previous to the event last mentioned, a few gallies were fitted out in augmentation of an armament equipped by the pope, and other potentates, to repel the Turks, who had invaded Italy, and threatened all christendom.

From the shores of Calabria the course of history almost naturally feels itself directed to France, and the contiguous part of the European continent. The low ebb to which the power of that country had been reduced by the successful expeditions of Edward the Third of England, prevented, as a natural cause, any extraordinary assumption of maritime consequence, or display of power, during such time as its immediate influence was felt. At length, the remembrance of the disasters, though recent, being in some degree blunted, an expedition of no less consequence than the invasion of England itself, was projected, in the hope of recovering the fallen consequence of the country. A numerous army being assembled under the orders and direction of the duke of Burgundy, a fleet, consisting, according to report, of twelve hundred vessels, was collected for the purpose of its transport. As a part of the armament, history makes particular mention of an enormous vessel, which is denominated a vast wooden edifice,

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edifice, or floating town, which was constructed for the particular defence of the soldiers when in the immediate act of debarkation. But, continue authors, all these stupendous preparations, which cost so much time, trouble, and expence, and in consequence of which such great national expectations had been raised, fell totally to the ground through the indolence, or, as some say, the obstinacy, of the duke of Berry, who, having been hostile to the measure at the time of its being first framed, was so dilatory in providing that quota of the armament which he had agreed to furnish, that it did not reach the place of rendezvous till the end of the month of September, when the season was too far advanced to render the prosecution of the design adviseable, or perhaps practicable. A storm arising quickly afterwards, drove the greatest part of the fleet on shore, and almost totally destroyed the floating fabric already mentioned; the remains of which were afterwards employed in some repairs of the mole or pier in the port of Sluys: affording no slender proof of its magnitude, and the folly of the fabricators, who were simple enough to construct so unwieldy, and consequently so useless a species of vessel.

From this time, whether cautious on account of the disaster just mentioned, whether sensible of its own incapacity, or indolent from the actual want of necessity as to the equipment of a fleet, it were difficult to decide: the fact however is incontrovertible, that France ceased, for a very long period, to possess any armament, or number of ships, worthy to be dignified with the appellation of a naval force. Even the invasion of the kingdom by Henry the Fifth of England, about the year 1415, the intention of whose expedition had been long and clearly enough known to render opposition at least feasible, was not sufficient to awaken the nation from its state of torpidity. Not a single vessel appears to have existed, or at least to have been equipped, for the purpose of opposing the passage of the invader, who made a most successful inroad, and might be said by the victory he obtained at Agincourt, to have rendered himself in great measure master of the whole kingdom.

The abyss into which the power of this unhappy nation might be considered as precipitated by the foregoing event, was not to be surmounted but by the greatest military exertions, and for the most evident reasons. The English army was in possession of many among the strongest holds in the country; it had overspread the face of it; when driven from thence, the influence and power of a navy might prevent its return, but till it was expelled, the

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utmost that could have been expected from it, had it been possible to have established it in the fullest force, was the prevention of any succour from arriving to reinforce the invaders. This would, however, have proved a matter of extreme difficulty, if not absolutely impossible, while an enemy continued in the heart of their country A contest by land was immediately commenced on the death of Henry the Fifth, and carried on with varied success, though generally speaking, to the disadvantage of England, owing to the intestine divisions which prevailed in England, and the want of energy in the councils of Henry the Sixth. A long continuance of the same cause was productive of a continuance also of the same effect. The navy of England was an actual nonentity, and France, esteeming the latter country as the only one against whose enterprises it was incumbent on her to guard, paid no attention whatever to her marine, even when she had recovered nearly the whole of that territory which had been wrested from her by the fortune, and gallantry of the conqueror at Agincourt. Such were the motives which induced the apparent indolence of France, till the accession of Henry the Seventh created the probability of a new and dangerous rival.

The kingdoms of Arragon and Castile, which towards the close of the fifteenth century became consolidated under the appellation of Spain, in the persons of Ferdinand and Isabella, displayed very little inclination to maritime pursuits till the union just mentioned took place. No account is given of any naval force fitted out except in the year 1431, when Alonzo the Fifth, who then reigned, armed a fleet consisting of nine ships of war, twenty-six gallies, and a considerable number of transports, on an expedition against the Tunisians. In this expedition he was successful, but a second application to fortune was as disastrous as the former had been happy. Resolutely bent on attempting the conquest of Naples, he put to sea, having taken the command of his own fleet in person; but having resolved, as the first measure of the expedition, on the siege of Gaeta; the Genoese, who had a garrison in the place, equipped a fleet for its relief. It consisted of no more than twelve ships of war, and three gallies, to oppose which, the king of Arragon had a force consisting of fourteen ships of war, and eleven gallies; nine only of these, with three gallies, were brought into the line, the remainder were kept as a reserve, in readiness to act whenever opportunity should seem to render it advisable. The Genoese, however, being more expert and skilful seamen, and their vessels being better equipped and adapted to the rude purposes of contest, the Arragonians were

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received with the greatest gallantry and success. The king, however, would have been fortunate enough to effect a tolerable retreat, if three large ships had not very unexpectedly borne down upon him, and in a few minutes pressed him so forcibly, that his ship was in imminent danger of sinking: to prevent which disaster, the king ordered his flag to be struck, and surrendered to the duke of Milan. Those ships which were near him immediately followed the example, so that out of the whole fleet one vessel only was capable of effecting her escape. The encounter continued four hours, six hundred persons were killed on the part of the king of Arragon, and as many thousand were made prisoners, among the latter were the kings of Arragon and Navarre.

This defeat, contrary to the general effect of such a disaster, proved one of the happiest events in this prince's life. During his captivity he so far ingratiated himself with the duke of Milan, to whom he had surrendered, that a most cordial reconciliation was effected between them; and in spite of all possible murmur and obstruction on the part of the Genoese, Alonzo became master of the Neapolitan throne without contest, or a single blow. With this success, the monarchs of Arragon rested satisfied, while those of Castile were equally so. Neither of those princes felt any stimulus to their exertions, America remained undiscovered, and no country in Europe appeared great and prosperous enough to excite the malice or envy of those kingdoms, which on their part were fortunate enough to avoid experiencing any evils of the same nature by their insignificance, or, to speak more respectfully, rather their want of sufficient consequence to excite either.

Portugal, their neighbour, after the defeat it experienced from the Castilian fleet in 1373, meditated every possible revenge in her power, but without success, till the arrival of Edmund, earl of Cambridge, in the Tagus, at the head of an English armament, an event which took place about the year 1381, appeared to give a new turn to affairs. The king of Castile, rather intimidated, consented to an accommodation, and the misunderstanding which took place between Portugal and her new ally, promoted the cause of peace. Some and indeed frequent subsequent, though short, disputes, took place between the same kingdoms, but the decision of the quarrel was in general referred to the force of military enterprise. In 1414 the naval armament of Portugal made a very respectable figure in the maritime annals of the world. A fleet consisting of no less than thirty-three ships of war, fifty-nine gallies, with one hundred.

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hundred and twenty transports, were collected and equipped for an expedition against Barbary; besides which, no very contemptible opinion can be formed of the ships individually composing this armament, since the numbers of the crews and soldiers which it carried, are reported to have amounted to no less than fifty thousand men. Ceuta became the prize of the attempt, and Portugal, satisfied with her success, abstained from any farther expedition till the year 1436, when an expedition was undertaken against Tangier, the event of which proved extremely unfortunate, and seems to have put a final period to all hostile attempts of the same nature, on the part of Portugal, in a naval line.

The hour was now rapidly approaching when Spain and herself was on the point of disclosing to the world a new field of naval adventure: the discovery of the passage to India round the Cape of Good Hope by Vasco de Gama, and that of America by Columbus. That renowned Venetian, whose services and abilities being disregarded by his countrymen, was under the sad necessity of entering as a mercenary into the pay and service of a foreign state, rendered various improvements in the art of navigation indispensably necessary. It is not assuming too much, perhaps, to insist, that however the art of European war might have effected augmentation in the dimensions, and caused additional strength in the construction of ships of war, the knowlege of the American continent, and the passage round the southern promontory of Africa, have proved productive of a far greater proportion of improvement in the civil and scientific branches of navigating and rigging a ship. How far the ingenious perseverance of those celebrated navigators, with their successors, may be considered by philosophers as productive of general advantage to the human race, when the knowlege, the luxuries they have imported, and given birth to, added even to the riches of Mexico, Peru, and the Brazils, are weighed in the philanthropic scale of humanity, against the infinity of murders which they have occasioned, is a question which philosophers, and the friends of benevolence, would have little difficulty in deciding, however men of different persuasions might feel themselves hurt at the proposal of so unfortunate a question.

Among the northern states, Denmark, which took the lead as a naval power during the whole of the preceding section, appears to have had very little concern in naval contests except against the Vandals, who were little more than pirates, and committed great depredations at different times. A war with the cities

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cities of Rostock and Stralsund, which formed a part of their territories, was particularly unfortunate, a fleet purposely fitted out by Eric's queen having been defeated with considerable loss. Two subsequent armaments were at different times nearly annihilated by storms. On one of those dreadful occasions, only the vessel on board which the king himself was, being fortunate enough to escape.

Of Sweden no mention whatever is made during the same period, and even the Russians, whose navigators had, in ages far more distant, displayed so much spirit of enterprise, appeared to have totally forgotten the pursuits of their ancestors, and rested content with defending that spot where Providence had placed them, against the attacks of the Tartar, and other nations, who had not reached so high a state of civilisation as they themselves had. Those territories, now forming what are called the Seven United Provinces, were at the same time so much divided among each other, by separate and jarring interests, as to be incapable of making any figure at sea, seriously as they might entertain hopes of rivalling and excelling the confederated cities, then distinguished by the appellation of Hanse Towns. The Flemings embraced the same opinions, and one uniform line of conduct seemed to pervade the actions of the three bodies, as though they had been all directed by one mind. Though averse to war on their own account, their vessels were occasionally engaged in the service of any potentate whose ambition or distresses prompted the employment of them. About this time Scotland, which never had been noticed as a maritime power, appeared to display some intentions of emerging from her obscurity, far as her remote and peculiar situation would permit. No mention is indeed made in history of any armament fitted out by the Scots so powerful as to merit the appellation of a fleet, for their naval exertions were of a different nature. Disregarding the power of numbers, they chose rather to exhibit extraordinary specimens of their ability as mechanics, than a wish of maintaining a force capable of contesting the dominion of the sea. The following account given of a Scottish ship of war may stand as the summary history of their navy :—

" The king of Scotland rigged a great ship called the Great Michael, which was the largest, and of superior strength to any that had sailed from England or France: for this ship was of so great stature, and took so much timber, that except Falkland, she wasted all the woods in Fife, which were oak wood, with all timber that was gotten out of Norway, for she was so strong, and of so great

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great length and breadth, all the wrights of Scotland, yea, and many other strangers, were at her device by the king's command, who wrought very busily in her, but it was a year and a day ere she was compleated. To wit; she was twelve score foot of length, and thirty-six foot within the sides; she was ten foot thick in the wall and boards, on every side so slack and so thick, that no cannon could go through her. This great ship cumbred Scotland to get her to sea. From that time that she was afloat, and her masts and sails complete, with anchors offering thereto, she was counted to the king to be thirty thousand pounds expence by her artillery, which was very great and costly to the king by all the rest of her orders. To wit; she bare many cannon, six on every side, with three great bassils, two behind in her dock, and one before, with three hundred shot of small artillery, that is to say, myand and batterd falcon, and quarter falcon, flings, pestilent serpentens, and double dogs, with hagtor and culvering, corsbows and handbows. She had three hundred mariners to sail her, she had six score of gunners to use her artillery, and had a thousand men of war by her, captains, shippers, and quarter masters."

With very few extraordinary exceptions, like that just given, which appeared as meteors above the rest of the marine, the Scottish vessels were of very inferior consequence. Naval wars were in a manner unknown to them: when attacked, they defended themselves with a courage bordering on desperation, which in general extricated them from their difficulties, as was the case in the conflict with a division of the northern fleet of England in the harbour of Berwick. In conformity with what had been the general conduct of all northern countries some centuries earlier, and what in all probability would still have continued to be so, had not the encreasing power of the southern nations prevented it, they were rather addicted to that indiscriminate partial and prædatory warfare named piracy, than to general acts of naval hostility. In their national character as seamen they were skilful, and the tempestuous latitude under which they lived, of necessity caused them to be so. Their situation was so remote as almost to bid defiance to any attack from the southern nations of Europe; and the vessels which private individuals thought proper to equip for this species of service, were always of such force, and so well manned, according to the custom and practice of the time, as almost to treat opposition with contempt. England was too much harassed by intestine contests, to attempt the punishment of what might be considered private enormities. France was their ally.

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The northern countries possessed no naval force capable of contending with them, so that according to the trite remark, of every nation in the world, by turns, acquiring an ascendancy over its neighbours, the Scottish ships were permitted to continue their depredations, nearly without opposition, for more than a century, till the rising consequence of Henry the Seventh, with the more permanent and enlarged establishment of the English navy in the reign of his son and successor, Henry the Eighth, closed at once all the exertions of Scotland towards the creation of a marine.

England, after having apparently reached almost the summit of glory and power, as well by land as sea, when under the rule of the third Edward, became suddenly plunged into an abyss, from whence, though unoppressed by foreign foes, she was totally unable to extricate herself for the space of nearly a century. The minority of Richard the Second, son to that renowned personage known by the name of the Black Prince, and consequently grandson to the victor at Cressy, was on his first accession to royalty, too young to pursue the conquering footsteps of his predecessor, and when arrived at manhood, proved possessed of so weak an understanding, as forbad his then attempting it. France, taking advantage of this circumstance, attempted to wipe off the disgraces of Cressy and Poictiers, by a severe retaliation on England. Providence, and Providence only, rendered the attempt abortive; for though Richard possessed no marine capable of protecting his kingdom from an armament amounting to only one tenth part the strength of that which was equipped for its invasion; yet a furious tempest rushing in at the critical moment, to his protection, not only freed him from the impending attempt by the magnitude of the occasioned disaster, but delivered him from any future repetition of it. During the whole of this ill-fated prince's reign, no mention whatever is made of his possessing, or even employing a fleet, except in the invasion of Ireland, which he most unluckily, though it proved successful, undertook in the year 1399, and which in all probability cost him his crown, as well as his life. The fleet appears to have been a mere collection of transports for the conveyance of his troops, without a single vessel of warlike appointment to accompany them, an aid that, indeed, was rendered unnecessary, as the Irish possessed no fleet that could oppose his passage. So destitute was England left at this time in respect to her marine, that the duke of Lancaster, who afterwards ascended the throne by the title of Henry the Fourth, made good his passage along the British coast and channel,

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having embarked at Nantz, and landed at Ravenser in Yorkshire, with no greater attendance than a retinue of sixty followers, not having met with the most trivial interruption; a second instance of the deplorable state into which the English marine was sunk, occurred ere the conclusion of the year. The unfortunate Richard, deserted by his army, and abandoned by all his friends, finding his situation desperate, repaired to Conway castle as a fugitive, in the hope of finding some vessel in which he might be able to escape to Ireland, or France. In this he was disappointed; and though his adversary Bolingbroke was at that time fifty miles distant, a space which required some days for the passage of intelligence and messengers, the earl of Northumberland reached the royal retreat early enough to prevent the escape of the unhappy king, though every exertion had been, in the interim, made that was likely to contribute to it.

The distracted state of England, and the intestine commotions which prevailed during the whole of the usurping Bolingbroke's reign, prevented any improvement or augmentation in the British marine. That drawn together by his son and successor, the renowned Henry the Fifth, for the purpose of invading France, was entirely of the same description with that employed by William the Norman, nearly four centuries before, in the invasion of England. It was in all probability a mere collection of vessels sufficing to transport his army, which consisted of thirty thousand men, without perhaps a single ship of complete warlike appointment to attend, or protect them. Stronger reasons, indeed, operated on the part of Henry to cause this apparent neglect, than had prevailed in the former instance *. France possessed no naval power whatever capable

* Mr. Willet, in his Memoir read before the Society of Antiquaries in the month of February 1793, and afterwards published in the Archæologia, proves, from the most authentic testimony, that those persons who have supposed no royal navy whatever, (meaning by that term ships specially destined to the service of the state) existed previous to the reign of Henry the Seventh, have been in an error. In the fourteenth century, the English navy became considerably augmented, and improved in its consequence. It was then, perhaps for the very first time, put on a *permanent* and *unfluctuating* foundation, but various monarchs, even previous to the reign of Edward the Third, possessed ships which appear to have been built, and employed solely in the public service. Mr. Willet shews also, that though the fleet of England might, during the continuance of the long raging disputes between the rival houses of York and Lancaster, was in no state to make any figure at sea, it was by no means annihilated. In Rymer's Fœdera, vol. viii. p. 447, is an order to Henry Somer, keeper of the private wardrobe in the Tower, to deliver to Mr. Loveney, treasurer of queen Philippa, queen of Sweden, Denmark, and Norway,

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capable of preventing the expedition of Henry from taking place: Harold was actually master of a fleet, and nothing could have rescued the undertaking of William from the imputation of rashness, but a conviction that the navy of his antagonist was not in any condition, or situation to offer immediate opposition. The transport of a second and third army on the same errand, and to the same

Norway, who was sent by her uncle Henry the Fourth to her husband in a ship called the Queen's Hall, the following military stores:—11 guns, 40 libras pulveris pro gunnes, 40 petras pro gunnes, 40 tampons, 4 touches, 1 mallet, 2 firepans, 40 pavys, 24 bows, 40 sheayes of arrows, pro stuffura ejusdem navis, ordinata pro aulâ ejusdem reginæ. This circumstance may be considered by many persons as an incontrovertible proof, that cannon were at that time used on board the English ships of war. The fact may really be so, but the evidence just given can scarcely be considered as irresistible in itself, for it is plain, if any reliance is to be placed in terms, that the articles of equipment might be considered (being then of new and rare invention) as put on board the ship, being part of its cargo, and intended to be landed in Denmark, as well for the decoration and parade of shewing a warlike equipment in the queen's *Danish hall*, or guard chamber, as for the actual defence of the vessel to which the name just mentioned has been assigned.

Mr. Willet proceeds next to state, that king Henry the Fifth, on his first invasion of France, possessed two beautiful ships of his own, with purple sails: the one called the King's Chamber, the other his Hall; but from the very tenor of the description, it is most fair to conclude, the vessels just mentioned were not fitted solely for the purposes of war, but as yachts, for convenience, and magnificence.

"Edward the Fourth," adds the same gentleman, "had several ships of his own, which he employed sometimes in war, and often in trade, in which he dealt largely. It appears from Cunning's monument in Red Clift church at Bristol, that he at one time furnished this prince with 2470 tons of shipping to purchase his peace, among which were the Mary and John, of 900 tons, and the Mary Radcliffe, of 500 tons, being two of the largest ships belonging to any Englishman at that early period, though many of that size, and larger, are to be found among the Venetians and Genoese of that time.

"In 1481 he issued the following order:—Rex dilecto sibi Richardo Symondes magistro navis nostræ vocatæ Le Grace de Dieu salutem. Cum nos quandam armatam potentiam ad proficisendum supra mare in resistentiam illius infidelis et antiqui inimici nostri regis *Scotorum* ordinavimus; assignavimus te ad tot marinarios quos pro gubernatione et conductione navis prædictæ necessarii fuerint et opportuni, *ubicunque* inveniri *poterunt*, *tam infra libertates*, *quam extra* arestandum et capiendum, et eos in nave prædicta, nobis ad vadia nostra deservituros, ponendum et poni faciendum. Consimiles literæ regis patentes diriguntur personis subscriptis sub eadem data, viz. Roberto Nicholson magistro navis *regis* vocatæ le Henry, Richardo Hubbard magistro navis *regis* vocatæ le Anthony; Johanni Stevens magistro navis *regis* vocatæ le great Portingale; Joanni Hamond magistro navis *regis* le Spagnard; Waltero Cokkee magistro navis *regis* vocatæ le Henry Ashe, and to five other commanders, who had not ships belonging to the king, but seem to have been hired."

The foregoing certainly stands as an uncontradictable proof of the existence of an English state navy previous to the accession of king Henry the Seventh.

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country, was conducted with similar success, under the influence of circumstances parallel to the former. The pressure under which France unceasingly laboured, not only during the whole remainder of Henry the Fifth's reign, but for a very considerable time after the accession of his unfortunate son, prevented even the smallest convulsive struggle, or attempt towards creating any naval force. England, consequently, lay under no temptation of the same kind during the like period. The civil feuds and dreadful contests which subsequently took place between the Yorkists and Lancastrians, afterwards operated with greater force, if possible, in causing the same species of dereliction. The contest between the desperate rivals, was carried on entirely by military operations, and the reason of that procedure is almost too natural and obvious, to render any particular explanation of it necessary. Although many circumstances tend to prove, that some semblance of a navy, specially attached to the service of the sovereign, and his government, had made its appearance on different occasions, yet the warmest advocates for the antiquity of the establishment have never pretended to deny, that it was extremely inconsiderable, and that the principal dependance the monarch had in the formation and collection of a fleet, was from the loyalty and enthusiasm, not of his nobles, but that of subjects who were far inferior in rank to the personages just mentioned, and comprised, as being principally the inhabitants of London, the Cinque Ports, and other sea port towns, what was considered as, the commercial interest of the country. The civil war which raged for so many years, and might be said to have deluged England with the blood of the noblest families she contained, was not the contest of one moiety of the subjects, or inhabitants of the country, supporting a prince named Henry, against the remaining moiety, who were no less strongly attached to a personage named Edward, but was maintained in all its furious and dreadful horrors by one body of nobles, whose power was very extensive, but whose numbers were extremely contracted, against an opposing corps, precisely of the same description. None but themselves, and their followers, took any material active part in the dispute, and that class of inhabitants, whose aid and exertions would have been materially necessary to the maintenance of a naval war, were perhaps as little interested in the event of the pending dispute, except when the flames of war unhappily approached them from the land side, as though they had been the subjects of a foreign potentate.

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The dispute itself strongly contributed to destroy all possible means of resorting to maritime contest, as an additional method of deciding the quarrel. Even supposing the quiet and unoffending inhabitants of the maritime parts of the kingdom had been swayed, through inclination, or motives of affection, to join in the dispute, the paralised state of commerce, occasioned by that very dispute itself, deprived them of almost every means of becoming parties to the quarrel, except in the capacity of mere soldiers. The destruction of trade caused, for a short period, as a very natural consequence, with very few exceptions, the almost total annihilation of British shipping.

The celebrated earl of Warwick, who had been entrusted with the government of Calais, and had fled thither in order to avoid the vengeance of queen Margaret, collected, in exception to the remark just made, a small squadron, with which he paraded the seas unopposed, and made prizes of all the vessels belonging to the Lancastrian party which fell in his way: a proof, than which a stronger one need not be adduced, of the deplorable condition into which the navy, actually under the power of the crown, or that auxiliary aid which it was capable of drawing together from its subjects, had fallen. In 1470, after Edward had assumed the crown, and success appeared in some measure to have put a stop to any attempts on the part of the Lancastrians, by which peace might be considered as in some degree restored to the kingdom: the navy of England was in so low a state, that the guard of the seas, (for the purpose of preventing the passage of the earl of Warwick, who had lately deserted the cause of the house of York) was committed to the duke of Burgundy, who, in consequence of a treaty entered into with Edward, caused a strong squadron to be equipped for that purpose, but it failed to perform the service that was required of it.

A singular occurrence took place very soon after this, which still more fully confirms the fallen state of the English marine. Edward, on being attacked by his revolted friend Warwick, fled, with a very small retinue, to Lynn in Norfolk, where being fortunate enough to meet with some Dutch vessels, he immediately embarked, and effected his passage to Alkmaar in Holland, though with the greatest difficulty, being very closely pursued by a squadron belonging to the Hanse Towns, which were then at war with England as well as France, and captured the vessels of both without the smallest fear of retaliation, or punishment. When in the ensuing year, the duke of Burgundy, in aid of his friend

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and ally, wished to promote the restoration of Edward, four large vessels were equipped in the name of private merchants, and fourteen ships hired from the Hanse Towns, which served to convey the royal emigrant, with his retinue, and two thousand men at arms, to the same port where Bolingbroke, grandfather to Henry the Sixth, had formerly landed, when meditating the deposition of Richard the Second. He had scarcely seated himself, in opinion, securely on the throne, ere he resolved to renew the same species of attempt which had been made by his predecessors, towards the complete conquest of the kingdom of France. A fleet was accordingly collected sufficient for the transport of thirty thousand men, at the head of which, he landed at Calais; but the mighty attempt ended in a treaty, which neither party took any pains to observe the articles of. The marine of England continued in the same state not only during the remainder of his reign, but till after the defeat, and death of Richard the Third at the battle of Bosworth.

It is not a little singular, that so able a prince as Richard is universally admitted, even by his most virulent enemies, to have been, who was at the same time conscious of the quarter from whence danger was to be apprehended, and was aware of his internal enemies, so that he must have been sensible that the security of his crown, in all probability, depended on his preventing the invasion of his realm, should have neglected the most obvious means of defence. Navy he had none, from which circumstance the earl of Richmond, his adversary, was encouraged to put to sea from St. Maloes with forty small unarmed vessels, having on board about three thousand men. Providence appeared in the first instance to have befriended the cause of the usurper, and to have afforded him at least a chance to amend his mistake, for Richmond's fleet was materially damaged by a tempest, and compelled to put back. Still, however, as though the same Providence, seeing the caution neglected, had determined his fall, no measures whatever were taken to prevent a repetition, and the earl, having refitted his shattered flotilla, effected his landing at Milford, without opposition, at the head of two thousand men. The event is known to all, and appeared as an almost immediate prelude to a series of extraordinary events, which were on the eve of taking place in the maritime history of Europe.

Historians, and those who have peculiarly endeavoured to trace the progress of maritime pursuits, seem uniformly of opinion, that notwithstanding the navy of England, owing to those causes which have been already sufficiently explained, might

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might be considered as materially in the wane from those times when, aided by the loyalty of the people rising almost to enthusiasm, it had been wont to spread terror and dismay not only along the coasts of France, but of every other country that was hardy enough to encounter its fury, yet it appears to be the general opinion of all, that the science of Marine Architecture had wonderfully advanced within the space of the last hundred years *. Even in that immense and formidable fleet, if numbers alone could be said to constitute strength, belonging to King Edward the Third, the general construction of the hull was extremely void of art: the sails and rigging were precisely of the same description, and the single mast reared in the center, served to sustain a square sail, on which depended the only means then used of conveying the vessel across the ocean, at times when it was considered inconvenient to make use of the oars. The vessels rose considerably both at the head and stern, which varied very immaterially in form and shape from each other; and in short, the whole contour was so simple, and so easily described, that although the arts of painting and sculpture were in a very rude state at that time, there is but little reason to doubt, from the according concurrent testimony of history, that the ship built in the reign of the last Richard, very strongly resembled the representation given in page 114, of the commercial ship belonging to the ancients, and there is a very obvious reason why it should be so. Naval contests had, with very few exceptions, been laid aside in the northern parts of Europe for many centuries: indeed, they had never been much cherished as the proper mode of carrying on war between nation and nation. When fleets met each other, which very seldom proved the case, and conflicts arose, such collision of fiery particles was either owing to accident, or to some peculiarity of circumstance, which it was supposed might not ever again take place; so that it would have been considered an act of extravagant, and extreme folly in a nation, to have built and equipped any armament for the special and sole

* This fact appears to be incontrovertibly proved by the account already given of the Great Michael, belonging to the king of Scotland, (see page 359) and of many of those existing during the reign of Edward the Third; from whence it appears, if it is admitted the accounts alluded to are not altogether romantic, and fictitious, that notwithstanding subsequent refinement and improvement may have wonderfully advanced the qualities of vessels, and the convenience of the mariners who navigate them, the mind of the marine architect had become sufficiently enlarged, even in that remote age, to permit his aspiring to be the constructor of a ship, which, in point merely of size, would, even at the present day, make a very respectable figure.

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purpose of encountering a foe by sea. Owing to this cause, and the boisterous temper of the seas which washed the shores of Britain, gallies had, for the space of centuries, been totally laid aside: their place was supplied, even in war, by vessels that could be rendered equally useful to the merchant and to the prince, that would serve, without the smallest alteration in equipment, to carry the commodities of the former, or transport the soldiers of the latter. The sail became adoptable in both instances. In conformity with what had been in former ages the object of the Romans, the number of mariners was reduced, even when such vessels were employed in the service of their prince, and the wars of their country of necessity required they should be so. There is also little reason to suppose, that the soldiers were sufficiently inured to the sea, and enough skilled in the art of navigation, (rude as its state then was) to enable them to render any material assistance during those short voyages, beyond which the expeditions of the time rarely extended, and which (as it was never the custom to sail except with a fair wind) must have been completed ere those paroxysms of indisposition had subsided, with which the generality of persons, unused to the sea, are most commonly afflicted on first encountering its motion. To the foregoing causes may be ascribed that simplicity of form in respect to the hull, and the artless manner of rigging and managing the sails of a ship *employed in the purposes of war:* circumstances which might be doubted, if not disbelieved, were not such explanation ready at hand to account for them.

END OF VOL.

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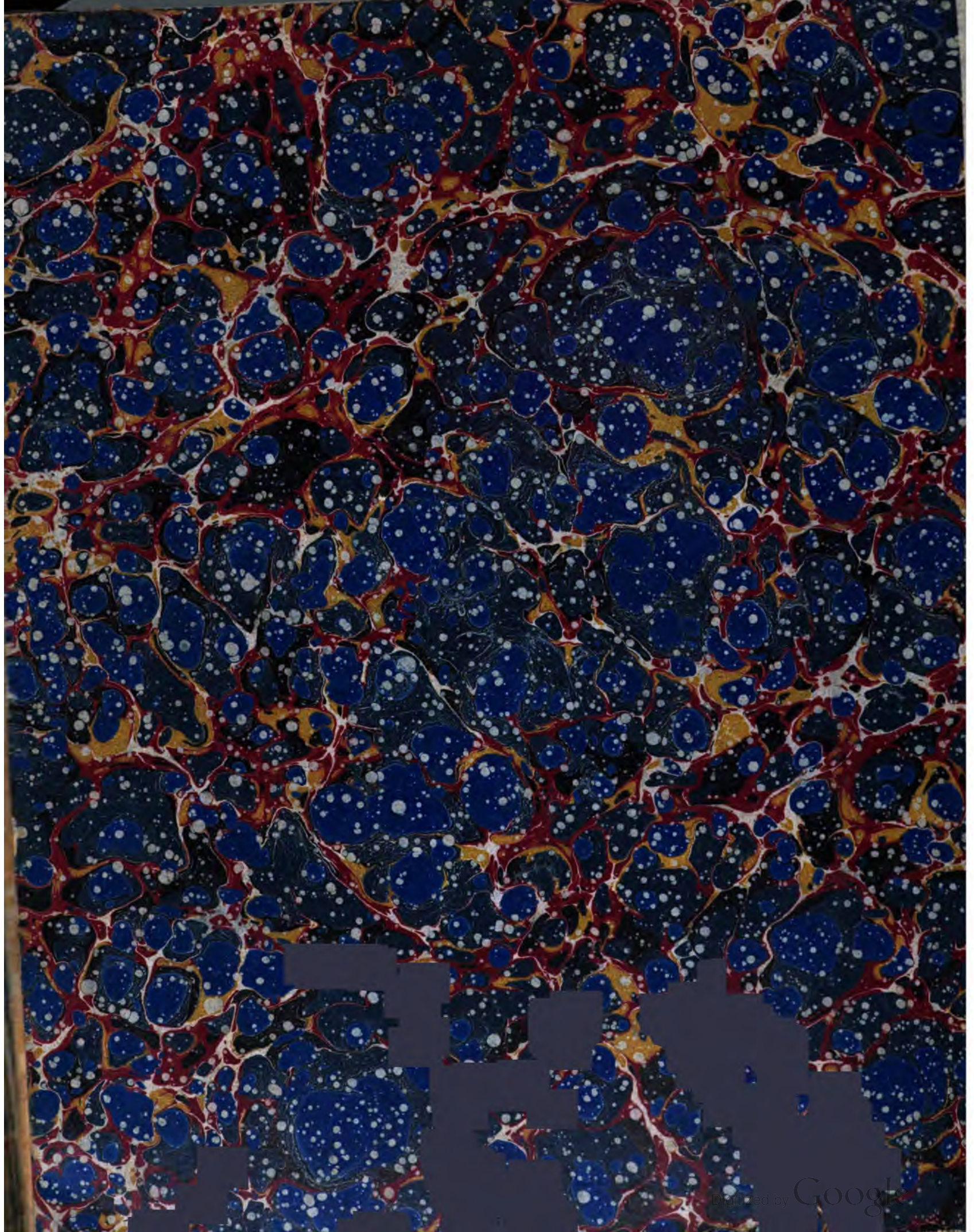
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