THOUGH a superior degree of knowledge, in naval affairs, be evidently of the utmost consequence to the inhabitants of this island, yet the subject of Naval Tactics had long remained among us in a very rude and uncultivated state. Of this I was convinced at an early period of life, and I had long applied to this study before I ventured to communicate my thoughts upon it to the Public.

* Since the appearance of the following system in print, about twenty-two years ago *, it has been a source of the greatest satisfaction to me to observe a total change in the mode of conducting engagements, with great effects, on the part of our gallant British Admirals. The spirit, perseverance, and superior skill of our seamen,

* The first impression of Part. First consisted of a few copies, not for sale, but to be given away.
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They uniformly displayed in close engagements in the case of ships, but which, from the dexterous manœuvres of the enemy, could not formerly be brought into proper effect, on account of a total neglect of the study of Naval Tactics, have at last been exhibited also in the case of great battles with numerous fleets, in a manner which has led to naval victories that must ever appear with the greatest lustre in the British annals. The letters of approbation which I have received, not only from men of learning, but from naval officers of distinguished ability and of the highest rank, and the numerous compliments that have of late been paid to me, might exempt me from the imputation of vanity, if I should now conclude, that my work, however imperfect, has essentially contributed to the service of my country.

As I never was at sea myself, it has been asked, how I should have been able to acquire any knowledge in Naval Tactics, or should have presumed to suggest my opinions and ideas upon that subject. The following detail, which I trust I shall now be excused for entering upon, will, it is hoped, obviate every prejudice of this kind.

I had acquired a strong passion for nautical information, when almost an infant. At ten years old, before I had seen a ship,

* I was, in particular, much flattered by the decided approbation of my Essay, by Lord Duncan and other naval officers at Portsmouth, conveyed by his Lordship, then Captain Duncan, in a letter to my relation, Sir John Clark, so long ago as October 4, 1785; in which is mentioned, also, the attention paid to my work by his Royal Highness the Duke of Clarence.
ship, or even the sea, but at a distance of four or five miles. I formed an acquaintance at school with some boys who had come from a distant sea-port, and who instructed me respecting the different parts of a ship from a model which they had procured. After this apprenticeship, I had frequent opportunities of seeing and examining ships at the neighbouring port of Leith, which increased my passion for the subject; and I was soon in possession of a number of other models, some of them even of my own constructing, which I often sailed on a piece of water of some size in my father's pleasure-grounds, where there was also a boat with sails, which furnished me with much employment. Besides this, I had studied Robinson Crusoe, and had read a number of voyages. A desire of going to sea could not but be the consequence of all this. Checked it was, however, at all times, by my family, who already had suffered heavy losses in both sea and land service.

During the course of two long wars, the first of which commenced about this time, I had the advantage of the conversation of many of my own near relations, who had been bred to the sea-service. Besides this, I had at all times courted connexion with other professional seamen and shipbuilders, of all ranks and capacities, wherever they were to be met with, as at London, and in almost all the other sea-ports round the island. At the same time, I was unwearied in my attention to the many valuable experiments of the ingenious and liberal-minded Mr. Patrick Miller of Naffwinton; to whom, whether in shipbuilding or in constructing artillery, both musketry and great guns,
his country is more indebted, than has hitherto been properly acknowledged.

Meanwhile, I took every opportunity which offered of making short expeditions, or trips on the water, with the sole intention of observing the effect of the sails, of the waves, and of the rudder. At some times, for hours, it was my custom to contemplate the effect of the wind upon ships of all kinds, small and great, on their departure from a mole, or pier-head, such as that of Leith, one of the best places for the purpose which I have known. Of this sort of amusement I never tired; but continued the practice, with the fore-mentioned models rigged in different ways, of making experiments in sailing, in every way that could be thought of, and on all occasions correcting and fixing my ideas, by committing them to paper, both by drawing and writing.

By these means, I had begun to have some conception of that most difficult problem, hitherto not sufficiently elucidated,—the way of a ship to windward: But having it in view to bring forward something on that subject at some future period, and for which already I have collected a number of materials, let this rest for the present, and let it be supposed that my attention to Naval Tactics, more particularly, commenced about the year 1770, when a most ingenious gentleman, the late Commissioner Edgar, came to reside in my neighbourhood. He had been in the army, and, with his company of foot, detached from Gibraltar, had been put on board Admiral Byng's own ship, to supply the want of marines; and was present in the action
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Eion off the island of Minorca, which soon followed, on May 20th 1756. Mr Edgar afterwards, as the friend of Admiral Boscawen, had the great good fortune to accompany that accomplished commander on the more fortunate occasion of Lagos Bay. In the course of much conversation and animadversion, which naturally might be supposed to arise from these two subjects, we happily had for our assistance a copy of the trial of Admiral Byng, in which Mr Edgar himself had been examined as a witness. I have been informed, that among other remarkable circumstances which often attend trials of this kind, the use of every species of plan, drawing, or delineation, was most unaccountably denied the unfortunate Admiral.

The attack in this battle was from the windward; and as it appeared to me, extremely ill conducted, the subject occupied my mind for years. In this discussion, I had recourse not only to every species of demonstration, by plans and drawings, but also to the use of a number of small models of ships, which, when disposed in proper arrangement, gave most correct representations of hostile fleets, extended each in line of battle; and being easily moved and put into any relative position required, and thus permanently seen and well considered, every possible idea of naval system could be discussed without confusion, and without the possibility of any dispute.

The war in 1775, meanwhile, commenced; during the continuation of which, my studies advanced; so that by the time it was surmised that the two fleets, British and French, might
have put to sea, an anxiety inexpressible laid hold of my mind; and the desire of being present at the meeting of the hostile fleets was so great, that, could my private concerns in any way have admitted of it, or rather had I not been at such a distance from Portsmouth, from whence the armament on the part of Britain was fitted out, I certainly should have been on board some one ship of Lord Keppel's fleet.

The encounter, which followed on the 27th of July 1778, became the subject of two other long trials; the first that of Lord Keppel the Admiral; the second that of Sir Hugh Palliser, the second in command, which, far from giving satisfaction, proved only fresh cause of disquiet among the officers of the Navy. The subject was new—an attack from the leeward: it had never occurred before, at least in these later times; and therefore it was the less wonderful that it might be subject to animadversions, or that the most able officers might differ in opinion with respect to the manner of conduct. But it is remarkable, that not only in the course of these two long trials, but also in the course of the two trials formerly mentioned, of Admiral Matthews in 1744, or that of Admiral Byng in 1756, not one single hint has escaped, from any one concerned, that it was possible anything defective could be attributed to the system of the attack itself, or that any kind of improvement should be attempted.

The

* Alluding to what has since been put in practice—the cutting the enemy's line asunder—the directing the greater part of the force of a fleet against a few ships, either in the van or the rear, or even making prize of the flower-falling, or crippled ships of the enemy.
The investigation, however, of many things in this engagement, which to me seemed to be palpable blunders, and most important, roused a desire I could not be resisted, and hurried me on to put in writing a number of strictures, accompanied with drawings and plans, containing sketches of what might have been attempted in this new kind of encounter of fleets upon contrary tacks, more particularly applicable to this attack, as it was from the leeward, which, after communicating to friends, naval officers, and others in my neighbourhood, copies were sent to London.

The next example of a sea-engagement which followed, was that of Admiral Byron off the island of Grenada, July 6th 1779. The attack was from the windward, and similar both to that of Matthews and that of Admiral Byng. These attacks, together with this of Lord Keppel, made four cases, in which it appeared to me, that neither the difficulty of bringing on an engagement, nor that of pursuing the enemy, arose from any abatement in the spirit of the seamen, nor of any defect in the shipping, on the one side, nor even from any superiority ofailing on the other; but must be attributed alone to the unskilful manner in which the several attacks were conducted.

In January 1780, when I was in London, being fully impressed with the importance of the naval ideas which long had been working in my imagination, and in consequence of the strictures on Lord Keppel's engagement sent the year before some appointements, for the purpose of farther communication on this subject,
Subject, were made by my friends. Among the first of these, was an appointment with Mr. Richard Atkinson, the particular friend of Sir George Rodney, who was then in London, and was immediately set out to take the command of the fleet in the West Indies. At this meeting, the whole of my acquisitions on the subject of Naval Tactics, for many years back, was discussed. I communicated to Mr. Atkinson the theories of attack from both the windward and the leeward; the first as contained in the first part of this Essay; the last as contained in the second part, now published a second time. I particularly explained my doctrine of cutting the enemy's line, &c. as set forth in both first and second parts. I also produced the paper of finiture on Lord Keppe's rencontre of the 27th of July, which contained all my general ideas on the subject of Naval Tactics. All this Mr. Atkinson undertook to communicate to Sir George Rodney, which he could have no difficulty in doing, as I left in his custody sketches made according to my usual method of demonstration, together with the necessary explanations.

From the best authority, I have been informed that Lord Rodney himself at all times acknowledged the communication; and having, from the first, approved of my system, declared, even before he left London, that he would strictly adhere to it in fighting the enemy.

Soon after this, Admiral Rodney sailed with a strong fleet for the West Indies. Off Cape Finisterre, he fell in with and captured a number of Spanish transports; and off Cape St. Vincent, meeting with a Spanish squadron, he took several ships, and made prisoner Don Languara the commander. Proceeding to the West
West Indies, on the 16th April 1780, he came in sight of the French fleet to the leeward of the Pearl Rock, west end of the island of Martinico. On the 17th, the French were still to leeward; and Admiral Rodney brought on an action by an attack from the windward. In his official despatches describing the battle, there is the following remarkable passage: "At forty-five minutes after six in the morning, I gave notice, by public signal, that my intention was to attack the enemy's rear with my whole force."

This was a language altogether new, either from Admiral Rodney, or any of his predecessors; and as it was the first instance in which a British Admiral had ventured to deviate from the old practice, I could not help immediately ascribing it to the communications I had made to Mr Atkinson, as mentioned before. Elated as I was by the above passage, I was disappointed by another in the same letter. "At fifty minutes after eleven A. M. I made the signal for every ship to bear down, and steer for her opposite in the enemy's line, agreeable to the 21st Article of the Additional Fighting Instructions."

Afterwards on the 15th May, and again on the 19th, Admiral Rodney came to actions with Count de Grasse; but I was extremely mortified, that although, on both occasions, he met the enemy on contrary tacks, and from the leeward, he shewed no intention whatever of attempting to cut afunder the enemy's line, or even of separating, or cutting off a single ship from the rest of the line, although this could have been accomplished with the most perfect ease.
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In four other engagements which followed, 1. That of Admiral Arbuthnot, on the 16th March 1781, off the mouth of the Chesapeake; 2. That of Admiral Hood on the 29th April, off Port Royal, Martinico; 3. That of Admiral Parker, on the 5th August, on the Dogger Bank; 4. That of Admiral Greville, on the 5th September, off the mouth of the Chesapeake, the former practice was still continued; and accordingly, our fleets did not take a single ship from the enemy, and completely failed to accomplish the purpose of their destination. And though I must take notice, that on the 16th of March 1781, Admiral Arbuthnot had much merit, in disappointed the intentions of the French upon the Chesapeake, that officer knew nothing beyond the old erroneous system of Tactics; and, very soon after, the French entirely succeeded in their purposes in that quarter, to the great mortification of the British.

Having convinced myself of the effects that would follow a change of system, every fresh despatch from our fleets gave me new pain. The fatal errors, to which our want of success was to be attributed, still prevailed.

In the mean time, so often as despatches with descriptions of these battles were brought home, it was my practice to make animadversions, and criticise them, by fighting them over and over again, by means of the forenamed small models of ships, which I constantly carried in my pocket; every table furnishing sea-room sufficient on which to extend and manœuvre the opponent fleets at pleasure; and where every naval question, both with respect to situation and movement, even of every individual ship, as well
as the fleets themselves, could be animadverted on;—in this way
not only fixing and establishing my own ideas, but also en-
abling many landsmen to form a judgment with respect to the
subject of Tactics as well as myself.

Often, on these occasions, I had been pressed to publish my
ideas, and had certainly done so long before, had it not been for
two objections, both of which were of great weight with me. 1. Not being a professional man, and having even to learn many of
the sea terms, I thought such a work from me would come very
ill recommended. 2. Having always employed my mind in me-
chanical studies, and in drawing only, I found myself extremely
deficient, too, in the art of writing. I had therefore wished to
find some professional seaman, who, approving of my ideas, would
either communicate them to the public, or fall upon means of get-
ting them attended to in the Navy.

At last, however, I found myself irresistibly impelled, by the
melancholy accounts of the transactions which followed the 5th
September, 1781; when Admiral Graves, instead of entering
the Chesapeake, and relieving Lord Cornwallis, which he could
have done with perfect ease, unadvisedly followed Count de
Grasse to sea, and, after making an attack not less feeble and un-
decisive, than any which had preceded it, found himself obliged to
return, leaving Lord Cornwallis and his fine army to their fate;
which was followed with consequences not less important, but far
more dreadful, than those that happened on the loss of the island
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Of Minorca, when abandoned by the unfortunate Admiral Byng in 1756.

In prosecution of my tactical ideas at the time, put in motion by the circumstances upon Lord Keppel's engagement, on the 27th of July 1778, now twenty-six years ago, I had made considerable progress in forming diagrams for illustrating the attack from the leeward, as appearing to me to be both new, and a manoeuvre of greater ingenuity than the attack from the windward; when it occurred that, in compiling an Essay on Naval Tactics in general, it would be necessary to begin by saying something, 1. On the method of attack in the case of single ships; 2. On the mode of bringing a number of ships, or that of great fleets, to action: and I had, by way of illustration, made a collection of engagements which had formerly taken place, such as that of Admiral Matthews in 1744, that of Admiral Byng in 1756, and of Lord Keppel's in 1778, &c.; to which, were added, plans, with observations, founded upon despatches from the several Admirals. And laying hold of an opportunity to read this Essay to a number of gentlemen assembled on purpose, it was so much approved of, that I was encouraged to finish it immediately, that, being published, it might be of some use in the very critical situation we were brought into by this last misfortune and disgrace of our fleets in the mouth of the Chesapeake.

The attack from the leeward, it is true, was the first begun to be wrote. But as the materials of the attack from the windward were
were in greater forwardness, it was determined that this part of the subject, the attack from the windward, should be first executed; and accordingly, after getting it finished with as great speed as possible, it was published by the 1st of January 1782. A few copies, only 50 in number, were printed, and handed about among friends: some copies I took the liberty to present to professional men. Very soon, however, I found that my system, as far as it then went, had excited a good deal of attention; and I was much gratified by the many flattering letters of approbation which I received, not only from men of letters, but from naval officers of distinguished merit, and of the highest rank. Thus encouraged, I was advised to send copies to His Majesty's Ministers at the time, which was in Spring 1782, and my opinions, it must, no doubt, have deserved the immediate attention of Government.

Our affairs at sea soon after took a different turn; and I have since had the greatest satisfaction to see, by the adoption of my system, a decided and permanent supremacy given to our fleets. I shall say nothing, in this place, of the brilliant enterprise of Lord Hood for the relief of St. Christophers, the account of which arrived about this time. The public joy on this glorious occasion had not subsided, when intelligence came of the memorable and glorious victory gained by Lord Rodney, upon the 12th April 1782; a victory far more decisive and important than any which had been gained by our fleets during the last century. The general exultation was excessive; and I flattered myself I could distinctly perceive, even from the first accounts of the engagement,
ment, that the victory was owing to the adoption of my system; and especially to the manœuvre of cutting the enemy's line in attacking from the leeward.

Sir George Rodney himself, when he arrived in Britain, made no (upple to acknowledge, that I had suggested the manœuvres by which he had gained the victory of the 12th of April 1782. I may here also be permitted to observe, that although Sir George should be supposed to have had the merit of adopting the manœuvre by which he gained the victory of the 12th April 1782, without any previous suggestion or knowledge of my ideas upon the subject, still it is impossible to deny the efficacy of the method; and the system on which it proceeded might have remained unknown and unexplained: And perhaps it would not have been followed in other instances, had not my Essay attracted the notice of the Navy; for the manœuvre was so new and uncommon, and so little agreeable to the former practice, that its adoption by Sir George Rodney, as well as its consequences in that instance, must naturally have been ascribed to accident or good fortune, more especially as Sir George had not, on former occasions, departed from the old rules; and, in his despatches giving an account of this victory, made no allusion to the manœuvre as a new one, from which he had antecedently expected such effects; for which reason, though I will not presume to estimate the merit, or put a value on the invention, as of signal use to my country, I will not disguise the satisfaction, and even the consolation I have, in thinking (in which I have
been joined by many) that I have been the means of introducing a system of Tactics, which has given to the British Fleets that evident superiority over their enemies, to which the gallantry and skill of the officers and men, and the construction and force of the ships, always entitled them.

Eldin, May 19, 1804.

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To the BOOKBINDER.

The Bookbinder is requested to Notice, that the Signature immediately following this is wrong marked.

Instead of $b$, it should be considered as $d$. 

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