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FOREIGN SECTION.

FRANCE AND HER MARINE (MERCANTILE AND WAR).¹

By Contre-Amiral RÉVEILLÈRE; translated, by permission, from the "Marine Française," by Commander H. GARBETT, R.N.

"OVER two million frozen carcasses of sheep were imported into England from New Zealand during the year 1891; 340,000 were brought from Australia; 20,000 from the Falkland Islands; so that refrigerating chambers are destined to play an important rôle in the food supply of England."

A Cape merchant observed to Captain Trivier: "The recent votes of your Parliament go far to isolate you from Europe, and the time will come when you will work but little, except for yourselves."

These two sentences, taken from the "Bulletin de la Société Géographique de Bordeaux," mark, better than a long discourse would, the difference between the political economy of France and England.

England wishes that all the world should work for her, and to work for all the world. France intends to live on her own soil and from her own soil. She only wants to work for herself, and, above all, means that no one should work for her.

England encircles the globe in the network of her commerce. France wishes to live like Robinson Crusoe on his island.

For England, the ocean is an inexhaustible source of wealth. For France, the ocean has no existence.

At the risk of passing as an Anglomaniac and bad patriot, I consider that the political economy of France is the political economy of the past.

The development of our national greatness depends upon the extension of our marine, our industries, and our commerce, into all the markets of the globe. The construction of the Suez Canal inaugurated a new era in commercial relations and in naval construction. The consequences of this order of things will accentuate themselves more and more. The age of routine is passed; we must prepare our-

¹ The introductory portion of Admiral Réveillère's paper no doubt enters into questions which, taken by themselves, are quite foreign to the scope of this Journal. As, however, it furnishes the key-note to the rest of the paper, and contains ideas which are worthy of consideration in connection with the maintenance of, and the tie which should exist between, the navy and the mercantile marine of any powerful nation, it has, with the exception of one or two paragraphs, been reproduced in its entirety. Moreover, it would not be fair to the author, who has courteously given permission for the translation of his article, were all allusion to the politico-economic views, the exposition of which forms so important a part of his paper, to be entirely suppressed.—EDITOR.

selves to take full advantage of the field opened to our activity by the greatest work of the century.

The sea is an international domain. By the creation of regular services of mail boats, the commercial fleets of different countries become more and more the systems of national routes which the different States trace for themselves over the international domain.

Blind is he who does not see that we are marching on towards the internationalization of all the sails which are spread; the internationalization of capital, the internationalization of labour. Every nation is a unit of this association of the future: the association of races for the common exploitation of our planet.

But let no one deceive himself; internationalization supposes nationalities and rests upon nationality.

As the characteristic of progress is the increase of solidarity between men, every man, none the less, preserving his own personality; so the nations are destined to draw themselves closer together by a movement bound to bring about internationalization, without, however, becoming absorbed in one large community.

It is the ocean which renders possible this universal association; it is the "marine" which is the instrument of this association.

Territory is the personal property of each nation; the ocean is the common property of all, where all have the right to freely display their energy. For the man who comprehends the modern world, the earth is a universal market, to which all send their products by the ocean, which is the common route.

Then, what line of conduct shall we pursue? Free exchange, and the development of the great maritime companies. How shall we lose all the advantages of our geographical situation, which is unique in the world? By having adopted at the end of the nineteenth century the policy of Charles V, by which we run the risk of an effacement similar to that of Spain.

A maritime company can be assimilated to a railway company, the one or the other having the charge of serving a certain route. By subsidizing the maritime companies, the State does not overstep in a greater degree the rational powers which all economists allow it, than when it creates gratuitously a national route at the expense of the community.

The *régime* of the large companies is a democratic *régime*, because it substitutes for rich merchants a number of small capitalists.

One is able, again, to invoke in its favour the amelioration of the lot of the sailors. The private traders never will treat their personnel with so much justice as the companies. The most economical board of directors will never show the readiness of private traders to cut down the remuneration, the food, and the comforts of their men. Nobody expects to see stokers and seamen spending their days in luxury; the *rôle* of a sea life will always be hard; but everything is relative, and none will deny that the life of a sailor has been made much easier since the advent of large companies.

M. Cherbuliez said, truly, that the future belongs to those nations who rightly adapt the best of the doctrines of political economy; and

Stuart Mill did not exaggerate when he said, that "for national independence it is of importance that a nation should not remain too much behind in these matters."

* * * * *

Before the Great Revolution, our foreign commerce equalled that of England; why should we not regain our lost ground? The revolution was one of those crises through which nations, like men, pass before arriving at the adult age. When growth is too rapid, it is always accompanied by a temporary weakening of one or other of our principal organs. It is impossible to deny that our foreign commerce was profoundly affected by a state of things which placed France under the ban of Europe. Encircled by a coalition, she was reduced to live upon her own resources; private interests were thus created, opposed to exchange with foreigners. In order to trade, it is necessary to produce; but all the moral and physical forces of French society were consecrated to the absorbing work of the defence of the soil and of the national independence. During that time we lost the habit of producing for the foreigner, of exchanging with him; we lost our *clientèle*.

But it is, above all, to the wars of the Empire that our commercial decadence must be attributed. Whilst the Emperor followed his chimera of a continental blockade, England monopolized the commerce of the world. At the re-establishment of peace, the protectionist policy of the Restoration gave our commerce the *coup de grâce*.

Before the use of steam, the difficulties, the dangers of even making the land round our coasts, and the unnavigability of our rivers, constituted a serious obstacle to the development of our prosperity. To-day this obstacle has disappeared; with steam, our coasts have become accessible without much danger, and our railways compensate, in a measure, for the poorness of our waterways.

The material progress of a nation involves and necessitates more and more its dependence upon the entire world for its subsistence and its means of existence. No nation depends so much upon others as England, and that is why she is the richest; she rules and commands the universal market, because, in business, one depends only on others on the condition that they also depend on one's self; she is the most powerful because she is the richest, and because in our century, the European nations being nearly equal in intelligence and courage, wealth becomes a factor of colossal importance.

With Dunkirk, which overlooks the North Sea; with our Marseilles, queen of the Mediterranean, connected by the Suez Canal with India, the extreme East, Australia, and East Africa; with Havre, having such natural relations with North America; with Bordeaux, which, in addition to its commercial relations with North and South (principally South) America, has made a speciality of trade with the West Coast of Africa; with Nantes and Bordeaux ministering directly to the Atlantic, and (in a future more or less distant, but certain) directly also to the Pacific by Panama or Nicaragua, there is no commercial situation comparable to that of France. Her contact, by

her long frontier, with the European continent, although a source of great anxiety, is, nevertheless, a great advantage.

To be bounded by the Channel, Central Europe, the Mediterranean, and the ocean, is to find one's self in the very centre of the great vortex of business.

Spain, like ourselves, is bordered both by the ocean and the Mediterranean, but she has the misfortune of being isolated from Europe, and at a distance from that enormous consumer, England. In spite of her geographical position, the debility from which she suffers is due to her deplorable system of protection, the first cause of her ruin.

If the Englishman is in a supreme degree a disagreeable neighbour, the nearness of Great Britain places under our hands a market without limit. Let us never forget that England is our best outlet.

In consequence of our geographical situation, we can, if we so will, draw to ourselves almost all the traffic of the two Americas with the Continent of Europe. But it is necessary that our basins and docks should be properly organized and fully equipped for loading and discharging, and our coasting trade must be developed, so as to feed the ports of entry for the American trade, and similarly distribute to the European ports the products brought across the Atlantic.

I wish we could impress these truths upon ourselves:—

1. That the position of France destines her to be the great *entrepôt* of Europe.
2. That by developing coasting trades we shall feed our ocean trade.

It was in recognition of her true rôle that France devoted herself to those great enterprises, the opening of the Suez Canal and the piercing of the Isthmus of Panama. Without doubt the check at Panama is lamentable, but in that unfortunate affair the country none the less obeyed the first view of her destiny.

If Panama is a scandal for some, and a great disaster, Suez, on the other hand, is a great national victory. In working for herself there, France worked for humanity. We may observe that one of the beautiful laws of political economy is, that no one under the *régime* of exchange and liberty is able to work for himself without rendering to others a great service.

The examples of Suez and Panama corroborate this consolatory social law—that the effects of evil are transient, and the consequences of good permanent.

Without doubt the blow at Panama has embarrassed many, and plunged many more into misery and despair. A sufficient number of French people suffer then from the breaking up of that noble enterprise; in six years no one will speak of it; while, as long as the world exists, humanity will reap benefit from Suez.

In order to resolutely tackle them, we must grasp the consequences of the economic revolution inaugurated by the advent of the oceanic epoch, an inauguration to which France so brilliantly contributed by the opening of Suez.

A new order of things is at hand ; our narrow economical prejudices now, as of old, constitute a national peril.

The opening of Suez and the partial cutting through of the Isthmus of Panama, by inaugurating the oceanic epoch, compel us, under penalty of seeing ourselves erased from among the great maritime powers :—

1. To a frank entry into the road of free exchange.
2. To the development of our coasting trade by the transformation of the Canal du Midi into the Canal des Deux Mers for the benefit of our coasters.
3. To the creation of a large roadstead at the entrance of the Seine, and the deepening of the river.
4. To the development of the great ocean routes converging on our ports, for the term "ocean routes" is admirably suitable to our great lines of mail-boats.

The country where the largest number of these routes converge will be the most prosperous by its industry and its commerce. The flag which the most rapidly and the most economically performs its transport duties will have the advantage over all the others.

It is necessary to excite in ourselves the love of great enterprises, or, to put it better, not to shackle ourselves by the education of another age. The substitution of the study of living languages for that of languages so justly termed the "dead," is the first step to take.

Our ignorance of living languages is one of the greatest obstacles to the development of our commerce. The heads of our industries ought to visit the countries with which they wish to enter into relations ; they should dispatch travellers, and have employés who can correspond in the language of the countries with which they are transacting business.

It is of importance to have very good men to command the ships of our great lines. It is right that it should be so.

In order to maintain this level, or even to raise it, it will be necessary to give these Commanders a higher position. Captains commanding our large mail-boats, that is to say, some of the finest vessels in the world, are only on the same footing as "Enseignes de Vaisseaux" or Lieutenants in the Army. There is no sense in this assimilation. The Commanders of the ships of our great lines ought to have rank which accords with their responsibilities ; whether they come from the navy or the mercantile marine, they ought to rank with "Chef de Bataillon."

Premiums on speed will advantageously replace the present premiums. In the distribution of the present premiums the qualities of a ship are not taken into account ; whether she is well or badly constructed, whether she is behind the times or in advance, whether she is an old dummy or an ingenious application of a new idea, we blindly subsidize for tonnage.

We encourage the building of wooden sailing ships—that is to subsidize the "diligences;" it is hostile to progress. The protective system is the protector of routine.

Of all the qualities of a ship, the most easy to fix—and that mathematically—is speed. The subsidizing of tonnage is the consecration of routine; the subsidizing of speed is progress.

Let us insist on this economical truth—one of the highest importance: the speed of ships has the precious faculty of multiplying the productiveness of floating capital; it is, consequently, one of the most powerful elements which make for wealth.

In order to profit by her marvellous commercial situation, France must create a magnificent set of tools for the work. We believe in this necessity from the point of view of her prosperity; we believe in it still more from the point of view of her security.

If we enter on this path, the maritime companies, at the moment of the declaration of war, will hold at our disposal the most valuable means of action, both as regards personnel and matériel, which will permit us, in the shortest possible time, to equip a fleet of cruisers carrying a supply of coal so ample that they will be able to keep the sea for an indefinite time.

Any one can understand the importance of constituting a commercial navy composed of swift ships in order to have under our hand in time of war ships capable of cruising and forming blockades.

Without doubt, we have first to turn our attention to the East and devote all our care to the organization and mobilization of our land forces. But it is time also to turn our thoughts to the organization, mobilization, and development of our naval forces; the Italian navy is menacing; the German navy growing with rapid strides.

The transport by sea at short notice of an imposing army ought to be considered as one of our chief aims. This transport is only possible with the assistance of the powerful maritime companies. Consequently, in the interest of the army, putting aside economic grounds, we ought to encourage, as much as possible, the great maritime companies.

It is in premiums on speed that we ought to expend our subsidies to the merchant marine; it is speed that we ought to encourage before all, and at any price. Money thus expended will assure to our mercantile fleet a superiority in the region of trade, and place at our disposal, in case of war, the means for acting in the most energetic manner, both by land, by the transport of troops, and also at sea.

I say both by land and sea, because, save against Germany, the rapid carrying at sea of a large force will be one of the most certain elements of success. Against Germany, a prompt transport of troops by sea might be decisive, if, as will not be impossible, we have Denmark as an ally. It would cause Germany some trouble if a *corps d'armée* were suddenly disembarked in Denmark.

Suppose, for an instant, Denmark reinforced by us, the German coasts disquieted by the confederated squadrons of France, Denmark, and Russia, blockaded by our cruisers supported by these squadrons, continuously menaced at all points where a disembarkation could be effected.

All this is pure hypothesis, more or less chimerical, but none the

less it points out the *rôle* which our maritime companies will certainly be called upon to play in war.

The Transatlantic Company possesses ships worth eight millions, some of them 400 feet long, steaming 20 knots. Some ships of this company have made the passage between New York and St. Nazaire at a mean speed of 18 knots.

These are facts of capital importance: we are in face of a true revolution.

A new "marine" has been formed to respond to the new needs of our great industries. Ancient customs, old habits, antique rules, all must be remoulded and placed in harmony with a very different order of things.

Has not the moment come for the reformers to study the concerns of the mercantile marine as well as those of the fighting navy?

The services rendered by the maritime companies in the war with China and Tonquin were inestimable. In order to appreciate their work, it is necessary to have seen it, as I did. Without the assistance of the great companies for the transport of personnel and matériel, our war in the East would have had a deplorable issue. However little important the war in Dahomey may be, we nevertheless see there the important *rôle* the companies are playing in that expedition.

France beyond the seas has extended herself of late in a singular manner. With the considerable interests which we have, rightly or wrongly, created in the India and China Seas, in Madagascar, and on the West Coast of Africa, with the development which we are struggling to give to our foreign relations, the national importance of the maritime companies grows day by day. We establish commercial routes by means of lines of mail-boats, which cost a good deal; but, in placing them gratuitously at the service of the public, we believe that the country does good business. We subsidize the railways for the same reason. The mail-boat is the railway of the ocean. The lines of mail-steamers are at this time one of the most important elements of the national property in time of peace, and of military power in time of war.

I will now turn to another branch of this subject.

The distribution and organization of our fleet ought evidently to be arranged in view of the probabilities of war.

What are the wars we have to prepare for? What is the most probable war? What should be the *rôle* of the navy and of our commercial marine in particular under different circumstances?

Beginning with the least probable, the wars to be prepared for are (1) against England; (2) against Italy; (3) against Germany; and (4) against the Triple Alliance.

I do not hesitate to regard a war between France and England as one of the most terrible evils which could be inflicted on humanity. An equal duel would be interminable. The two nations could work each other a prodigious amount of ill; neither could sufficiently gain the upper hand to be in a position to make the other sue for peace. While impotent to destroy each other, there is every facility for

injuring. Both, moreover, will have much to lose in such a struggle, and neither has anything to gain. Thus, in spite of continual disagreement, in spite of a secular antipathy, they support each other, feeling bound by common interests.

In order to beat England, it is necessary to become undisputed master of the sea; this is beyond our power. England, on her side, to conquer us, must possess an army of invasion, of which as yet she has not the first soldier.

No one of any sense will dream of seeing us sufficiently masters of the Channel to be able to effect an invasion or of being able to re-victual an army if disembarked. To suppose that we can sufficiently blockade the English coasts to reduce the country by famine by preventing the importation of food supplies, either by her own or neutral ships, is an idea which would never enter into the head of a sane man.

We, on our part, cannot be blockaded. If it is a guarantee of safety to be an island, it is also a weakness.

Supposing our coasts ravaged, our ports blockaded, we shall none the less continue connected with all Europe by our railways, and with the whole world by means of Belgium and Spain. Our European commerce is in no way hampered; our commerce with other parts of the world is carried on by neutrals. It is a considerable inconvenience, an incontestable source of impoverishment; but this *régime*, all debilitating as it may be, enables us to remain indefinitely without our national existence being imperilled.

If our enemy should take possession of our Colonies, it would be a very hard blow for our *amour-propre* and our prestige, but a great relief for our finances. Our neighbour across the Channel can then do us a good deal of harm, but he cannot compel us to sue for grace. On our side we have cruiser warfare, the importance of which it is not necessary to exaggerate, although, on the other hand, it is not to be disparaged. The "*Jeune École*" certainly deceive themselves as to the importance of this kind of struggle, when they imagine that they will condemn England to perish of inanition by the use of torpedo-boats in the Channel and some fast cruisers; although for us this is the true method of fighting her.

We know, moreover, that the "*Jeune École*" profess a profound disdain for International Law, and care little for neutrals. However, if we have war with England, the moment will be a bad one for picking quarrels with other people. Supposing that we could completely paralyze the commercial navy of Great Britain (and that can scarcely be hoped for), we could never pretend to hinder her by an effective blockade from provisioning herself and exporting her goods by means of neutrals.

The idea of the "*Jeune École*," although exaggerated—we repeat it—is none the less the right one.

If we cannot starve out England, we can nevertheless make her suffer the pangs of scarcity.

In the first place, our north and north-west coasts play a rôle of a certain importance in the feeding of our neighbour. The interrup-

tion of commercial relations with us will be for her a first cause of annoyance; it will not be a matter of indifference to her to be deprived of our agricultural produce. Without doubt, this deprivation of exchange will be prejudicial to our own coast population; they will suffer heavy losses, but it is one thing to be deprived of the accessories and conveniences of life, and another to be deprived of the necessities of life.

The "Jeune École" base their theory upon one certain fact, the impossibility of England supporting herself from her own soil. Consequently a serious attack on her commerce would be for her a matter of more importance than the ruin of our navy would be for us. They are therefore right in asserting that war against England ought to be carried on by means of rapid cruisers.

Our arm against England ought to be speed.

With fast ships, carrying guns throwing shells of great capacity, we could keep her coasts under a perpetual menace of bombardment. Her heavy ironclads could not protect them. The greater the speed of our ships, the greater will be our chances of success. Every fast merchant steamer ought to be promptly transformed into a cruiser.

The "Jeune École" are right, a hundred times over, when they maintain that against England speed is everything.

In such a struggle, the relative paucity of our maritime commerce becomes an advantage. A French cruiser has ten times more chances of meeting an English merchant ship than an English cruiser has of meeting one of ours. The paralyzing of our sea-trade would have no such baneful consequences for us as it would have for England.

All our fast merchant ships should be utilized, the small ones cruising in the Channel or off the Irish Sea, the large ones on the equator. Of course, a large number will be captured. We must have no illusions on that point; it does not matter, we shall none the less make life singularly disagreeable on the other side of the Channel.

But why should we enter into a conflict with our neighbour? She is far too practical to seek one. After a calculation of profits and losses, she will conclude for peace. As for us, if, while the foreigner remains camped on our soil, we should seek a quarrel with our rival, it would be an infamy.

I love to disabuse people of the idea of a sterile struggle between the two most liberal nations of Europe, a struggle of which despotism alone would reap the advantage. I prefer to repeat the words attributed, rightly or wrongly, to Admiral Lord Clanwilliam, in an interview with a reporter: "Remember that, in face of a close union between the English and French Fleets, no one will dare to stir in Europe."

We can damage England—

1. By preventing her merchant ships fetching their ports by means of small ships of high speed; by stationing torpilleurs and aviso-mortar-vessels at Brest and in the Channel, and by launching them from our ports, making them, when pursued, take refuge in the numerous bays of our coast.

2. By keeping the English ports and coasts under a continual menace of bombardment by means of aviso-mortar-vessels.
3. By cutting the commercial communications of Great Britain with Suez, by means of cruisers and torpilleurs stationed on the coasts of Provence and Algeria, specially at Villefranche, Corsica, and Biserta.

The English battle-ships could not thwart us very much in this work; they would have enough to do at night time in guarding themselves against the attacks of our torpedo-boats.

We may not be able to dominate the Mediterranean, but we can render the domination of our rivals sterile; we can close to commerce the gate of the eastern basin of the Mediterranean, and render the possession of Suez useless by guarding the Villefranche-Corsica and Biserta line.

4. By means of our submarine torpedo-boats carrying pancastite, we can play our enemy some very bad turns in our roadsteads and off the entrance to our harbours.
5. By converting all our fast merchant steamers into cruisers.

Shells of large capacity can reduce to nothing all the protections hitherto devised; every merchant ship therefore should make a good cruiser.

On our side we should have to maintain the communications between the coasts of France and Algeria, and as it is to be feared that England would make herself very troublesome in the French sea (comprised between Provence and Algeria), we may be obliged in a measure to effect this by means of blockade-runners.

In order to utilize then all the resources which offer in a war against England, our mercantile marine must be composed of very fast ships. No ship of low speed could be used in time of war; she would belong in advance to the enemy.

The war against Italy will be an entirely maritime one. Whichever of the two nations remains mistress of the sea will assuredly conquer the other. This opinion ought to be as widely held in France as it is in Italy. If we lose the maritime supremacy, Italy will raise against us the Mussulmans of Africa. She will feed the revolt with arms and munitions; she will even give troops to assist, and these, however few they are, supported by the Arabs, will place us in a cruel situation. Masters of the sea, we shall have a good chance of putting Sardinia as in a vice between Corsica and Tunis.

If our navy can take possession of the sea comprised between Italy and Tunis, after having cleared the coast judged most favourable, it would be able to make preparations for a landing.

Such an operation would have to be carried out with great speed. Directly the shore is swept by the guns of the ships, an important body of troops must be in readiness to be thrown on shore. This can only be done with the aid of a numerous mercantile marine, on which will also devolve, in addition, the work of provisioning the army and conveying men, munitions, and matériel.

Italy is a kingdom composed of islands and a large peninsula; will not therefore a war against such a country be essentially a maritime one?

In order to bring it to a satisfactory conclusion, the struggle at sea ought to be crowned by a disembarkation; and without a numerous mercantile marine no disembarkation is possible.

If France and Germany find themselves single-handed face to face, the navy will only play, relatively speaking, a secondary part. In 1871 this eventuality seemed most probable, so at that time, with some appearance of reason, the navy was neglected. In a certain measure this negligence is not much to be regretted; activity in the building yards at the time would only have served to increase the old hulks with which our arsenals are encumbered.

The absorbing question was then rightly the defence of the frontier. But everything has been changed in consequence of the extraordinary development of the German navy.

At the frontier, the struggle might last some time between two adversaries of equal force, both staking their existence in a duel to the death.

It will then be of some importance to paralyze the German trade, which is now considerable. Here, again, to attack their merchant ships we must use our armed mail steamers, and the large quantity of coal they can carry places them in a very advantageous position.

In a cruiser war against Germany, we have the very valuable advantage of possessing almost everywhere a few places where our auxiliary cruisers can renew their supplies of coals, munitions, &c.

Between Dakar, for instance, and the Salut Islands, off Guiana, it will be easy for us to échelon a line of cruisers intercepting the German commercial routes, the access from the South Atlantic, from the Pacific and East Indies.

It is easy to understand then how important, perhaps decisive, will be the rôle of our "marine" in a war against the Triple Alliance, whether it be keeping Italy on the *qui vive* about her coasts, or, in the Baltic, compelling Germany to keep an army corps in readiness to resist an invasion from the sea, and cutting her off from all foreign communications by a rigorous blockade; a double object by no means chimerical, if we have the assistance of Russia and Denmark.

Vanquished on the sea, our situation will be deplorable. In what position shall we be to treat, even if conquerors on the Rhine, with our coasts bombarded from Dunkirk to Havre and from Cettë to Mentone, with Algeria in revolt, and Corsica in the hands of Italy?

Since the advent of the Triple Alliance and the Franco-Russian *entente*, the naval forces have assumed an importance which was not the case previously, and this for two principal reasons:—

1. War with Italy ought to be, and will be, essentially a maritime one.
2. With the aid of Russia, and especially if Denmark joins our alliance, the Franco-Russian Fleet will play a preponderating rôle in the Baltic.

Then, the stronger we shall be on the sea, the more reason we shall have for hoping for the neutrality of England.

The defence of our coasts and of the honour of our flag is a work sufficiently grave to completely employ one Minister. The Ministries of the Navy and the Colonies must be separated, and the creation of a Minister for the Colonies alone has become a necessity. We believe firmly in the urgency of creating a Minister for the Colonies, who will dispose of a colonial army and navy. We shall have to accept the opinion of Gambetta, and copy the colonial methods of Holland, a small country, which has possessed for a long time a vast colonial territory, and where, as the result of long experience, the colonial army is quite distinct from the home. The Netherlands colonial Ministry has a river fleet entirely at the disposal of the colonial Government. The Military School is similarly divided into two, and the officers of the two armies undergo quite different training, the one preparing themselves for a European war, the others studying the history, manners, geography of Java, Sumatra, &c.

The Minister of Marine will then have for his duties—

1. The organization and maintenance of the Fleet.
2. The defence of the coasts.
3. The organization and mobilization of a mixed naval force, that is to say, of that portion of the commercial marine which is capable of being utilized in time of war.

France can only devote to her navy a fraction of her resources—the problem to be solved is how best to use a given budget. If money is devoted to ships of only a secondary value, there will remain nothing for building first-class vessels; and it is for this reason we formulate our demand for the creation of a mixed marine.

We should prefer to see the merchant navy in the hands of the Minister of Commerce, who should be given a completely free hand in his administration. We consider that the Minister of Marine should only have the sufficiently onerous duty of seeing that our flag floats honourably on the ocean, and of defending our coasts.

Without insisting on the commercial marine being placed under the Minister of Commerce, we would have three navies recognized:—

1. The commercial marine, properly so called, attached either to the Ministry of Commerce or the Ministry of Marine.
2. The war navy.
3. The mixed marine.

The merchant ships admitted into the "mixed marine" will have to comply with certain conditions laid down in the contract. They will receive a subsidy proportioned to the exigencies of the State. In time of war, they will be requisitioned, both personnel and matériel, by a simple Decree.

The "mixed marine" will be divided naturally into two branches: 1st, cruisers; 2nd, transports.

The transports themselves will be divided into two categories: 1st, transports of "personnel"; 2nd, transports of "matériel." All

the ships will receive a premium in respect of their speed. No ships below a certain speed will be admitted into the "marine mixte."

The General Staff of the Navy will classify the ships into three categories, according to their speed:—1st, cruisers; 2nd, transports of personnel; 3rd, transports of matériel.

Ships qualified as cruisers will be fitted to carry guns. In addition to the premium for speed, they will receive a subsidy in proportion to the number of guns they can carry. Thus, on declaration of war, both auxiliary cruisers and transport will be there ready to hand, with nothing to be done except putting the guns on board with a certain proportion of gunners of the Naval Reserve.

The fighting navy at the moment of the declaration of war will be divided into two categories:—1st, the regular fighting navy of battleships, cruisers, torpilleurs, &c.; 2nd, the auxiliary cruisers.

The auxiliary cruisers will be commanded by their Captains of the mercantile marine, and manned by officers and crews sent on board on the declaration of war. They will receive a reinforcement of gunners from the Reserve, commanded, according to the importance of the detachment, by a Sub-Lieutenant or Lieutenant, or by both, who will be exclusively charged with the military direction under the authority of the Commander of the ship.

To sum up:

From the point of view of the national defence, even more than from an economic point of view, the great maritime companies cannot receive too much encouragement.

From the point of view of the same interests, it is necessary to stop the present system of subsidizing according to tonnage. The coefficient of subsidy ought to be for tonnage and speed.

Subsidizing tonnage alone is the consecration of routine.

Subsidizing speed is the encouragement of progress.

FIG. 8.
WATER GAUGE WITH AUTOMATIC
SHUT OFF COCKS.
Morison Type.

FIG. 9.
WATER GAUGE WITH GLANDS
FOR DISMOUNTING.
Chantangle Type.

FIG. 11.

SUCTION CHAMBER FOR FEED PUMPS, WITH FLOAT REGULATOR.

FIG. 12.
POLY-ANNULAR VALVE, MAUDSLAY TYPE,
IN FEED PUMPS OF THE "RE-UMBERTO."

- a. Feed Supply Pipe.
- b. Suction Strainer.
- c. Float Regulator.
- d. Steam Regulating Valve to Pumping Engine.

FIG. 10.
GUARD PLATES FOR INTERNAL STEAM PIPES.

- a. Internal Steam Pipes.
- d.e. Thin Plate Guards.
- f. Tubes for returning the deposited water.

FIG. 13.
MONO-ANNULAR VALVE FOR FEED PUMPS,
RISBEC TYPE.