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THE EDUCATION OF IMPERIAL JAPANESE NAVAL OFFICERS OF THE EXECUTIVE BRANCH.

By Lieutenant-Commander K. SATO, Imperial Japanese Navy.

Thursday, 25th February, 1904.

Admiral the Hon. Sir E. R. FREMANTLE, G.C.B., C.M.G. (Rear-Admiral
of the United Kingdom), in the Chair.

I FEEL that I ought to offer some apology to my distinguished audience for asking them to listen to a lecture delivered in what, to me, is not only a foreign, but a very difficult language, and I would like your kind indulgence for any slight slip I may make in pronunciation during the course of the lecture.

For the sake of convenience I will divide the subject into the following sections:—

1. Entrance of cadets and their education in the Imperial Naval College at Yetajima.
2. Education of midshipmen.
3. Education of sub-lieutenants and lieutenants in their respective duties afloat and ashore.
4. Education of officers in the Imperial and higher Naval College at Tokio.
5. Education of officers in the Imperial Torpedo and Gunnery Schools at Yokosuka.

I.—ENTRANCE OF CADETS AND THEIR EDUCATION IN THE IMPERIAL NAVAL COLLEGE AT YETAJIMA.

1. This is open to every native male subject (with exceptions referred to in the following paragraphs) between 16 and 20, the whole

expense of training, and of food, clothing, etc., being provided out of Government funds.

2. The following are not allowed to enter:—

- a. If married.
- b. If having undergone any grave punishment, or confinement.
- c. If declared bankrupt, and not having previously to entrance paid his debts in full; or if the successor of any such bankrupt, under similar conditions as to full payment of his predecessor's debts.

3. Applicants for permission to present themselves for the entrance examinations must forward their request between certain specified dates, which are published once a year in the Official Gazette, together with the full particulars as to the precise nature of the current examination—such varying, sometimes, slightly from those of preceding years. As. for instance:—

1. The entrance examination is divided into two stages:—

- a. Physical.
- b. Educational.

2. Anyone who fails to pass the physical examination successfully is not entitled to be examined educationally.

3. The outline of the educational examination is as follows:—

Mathematics	{	Arithmetic.
		Algebra.
		Plane Geometry.
		„ Trigonometry.
Japanese	{	Explanation of Literature.
		Composition.
English	{	Grammar.
		Translation of Japanese into English.
		„ English into Japanese (such as
		Macaulay's Essays, Irving's Sketch Book,
		etc.

Physics.

Chemistry.

History.

Geography.

Physical Geography; and

Hand Sketching and Mechanical Drawing.

N.B.—a. Graduates of specially authorised schools, where education is supposed to be more thoroughly performed than in others, are exempted from examination in physics, chemistry, geography, physical geography, and sketching and mechanical drawing.

b. The French, German, and Russian languages are optional subjects, which may be taken up by students, the marks awarded for which will count towards the order in which the students pass into the college at the final examination, it being understood that a necessary standard must be reached in every subject of the obligatory course.

The foregoing formed the subjects of the entrance examination as it took place last year, and the actual results were as follows:—

Number of applicants	1,995
" " who passed the physical examination	1,400
Number of candidates who passed the qualifying examination in all respects, about	400
From whom the actual number of candidates selected to enter the college was	180

4. No Cadet, once entered, is allowed to change his mind, but must continue his studies at the college.

5. On discovery of the following disqualifications, any Cadet will not be allowed to continue his studies at the college:—

- a. Anyone who has not sufficient capacity to perform the duties of an officer.
- b. Anyone whose conduct is not good, or who is lazy, and does not improve in his conduct or assiduity after having been warned.
- c. Anyone, the result of whose examination is indifferent, and tends to show that he will be unable to pass the final examination successfully.
- d. Anyone who has received an injury, or who has suffered from sickness, and it is supposed will be unable to recover so as to serve efficiently as an officer.

6. The duration of the course in the college is three years, but should necessity arise—as in the case of war—it can be shortened.

The whole course is divided into three classes, and each course begins on 10th January and ends on 9th January in the year following.

The summer vacation begins on 21st July, and ends on 10th September, and the winter vacation begins on 21st December and ends on 9th January the next year, but if necessary the vacations can be shortened.

NOTE.—It is invariably the custom to devote a certain portion of the vacation to the practical study of sea duties on board the tenders attached to the service of the college.

7. The outlines of the course are shown in the following table.

TABLE SHOWING THE SUBJECTS AND TIME DEVOTED TO EACH DURING THE COURSES.

1st Year.

Gunnery (Infantry Arms, Field Guns,	
Naval Guns)	4 hours per week.
Seamanship	4 " "
Engineering	1 hour "
English	7 hours "
Physics and Chemistry	5.5 " "
Mathematics (geometry plane trigonometry, higher algebra)	6.5 " "
Making a total of	28 hours' study per week.

2nd Year.

Gunnery (Field Tactics, Naval Guns, Ammunition)	4 hours per week.
Seamanship	3 " "
Torpedo	1 hour "
Navigation	3 hours "
Engineering	3 " "
English	6 " "
Physics	3 " "
Mathematics (spherical trigonometry, conic sections, differential and integral calculus)	5 " "
Making a total of 28 hours per week.	

3rd Year.

Gunnery (Ammunition, Properties of Trajectory, Theory of Firing, Judging Distance)	3 hours per week.
Seamanship	4 " "
Torpedo	4 " "
Navigation	7 " "
Engineering	1 hour "
English	6 hours "
Mechanics, statics, etc.	3 " "
Making a total of 28 hours per week.	

N.B. i.—Study of (1) "The International Rule of the Road at Sea." (2) Signalling. (3) Shipbuilding. (4) Preservation of ships and their gear, provision, etc., and many kindred matters are included in the course of seamanship.

ii. Study of meteorological observation, surveying, etc., is included in the course of navigation.

iii. Besides the above-mentioned, elementary courses of international and civil laws and naval history are provided.

iv. Every afternoon, after the regular course lessons are over, one of the following exercises takes place:—

- a. General battery drill.
- b. General infantry or field gun drill.
- c. General boat drill.
- d. Single-stick practice.
- e. Judo (a special kind of wrestling).
- f. Swimming.

8. When the Cadets pass the final examination, they are promoted to Midshipmen and sent to the special training ships.

II.—EDUCATION OF MIDSHIPMEN.

1. This is divided into the two following stages:—

- a. Education in the special training ships.
- b. Education in the ships of the standing fleet.

a. Education in the Special Training Ships.

The duration of the course and the details of study are not invariable; but, briefly speaking, the object of this course is (1) to

teach the Midshipmen how to apply practically what they have been taught in the college; and (2) to give them the foundation of the necessary experience how to perform their duties as junior officers. Generally, therefore, the instructors (all of whom are naval officers) who have been in charge of them at the college continue their instruction and training at sea.

At present the "Matsushima," the "Itsukushima," and the "Hashidate," all sister ships of 4,200 tons, and having modern armaments, machinery, fittings, etc., are employed for that purpose. I do not know whether the same arrangement will prevail as last year; but as that arrangement is supposed to be very satisfactory, as I am informed, I will briefly refer to it.

These three ships formed a squadron, under a rear-admiral, and cruised in home and foreign waters for about eight months, carrying out practical training. During the cruise the Admiral transferred his flag several times to each ship, so as to teach the midshipmen respectively borne the duties in flag-ships as well as in ordinary vessels of war.

After the course is completed, the Midshipmen are distributed amongst the ships in commission—almost invariably to the ships of the standing fleet.

b. Education in the Ships of the Standing Fleet.

There is no regular course, and they perform junior officers' duty under the supervision of the superior officers; but it is invariably a custom for the Captain of the ship to choose a most competent officer to take charge of them, besides giving orders to the gunnery, torpedo, and navigating officers to instruct them in their own technical branches.

III.—EDUCATION OF SUB-LIEUTENANTS AND LIEUTENANTS IN THEIR RESPECTIVE DUTIES AFLOAT AND ASHORE.

1. This is divided into two parts:—

- a. Practical.*
- b. Theoretical.*

a. Practical Education.

2. Captains have to superintend the instruction of officers under them, to encourage them, and make every effort to educate them in the duties of their professions. The following are the outlines of the methods of the practical education:—

1. To perform all duties diligently, and gain experience therefrom.
2. To impress upon them the obligations of the superior ranks, and give them experience to qualify them to fill the same in due course.
3. To become thoroughly acquainted with all orders, regulations, etc.
4. To make reports, according to the Imperial Naval Intelligence Regulations, and thus to train their capacity for observation and judgment. To facilitate the above, every opportunity is afforded them of seeing the various types of ships, visiting the naval establishments, forts, strategical points, manufacturing centres, etc.

5. To encourage them to be careful in the performance of all general duties on board, especially when at manœuvres, tactical exercises, gun and torpedo firing, training of men, etc., are taking place; the Captain is to assemble them and explain whatever points he may think necessary, or depute any other responsible officer to do so for him.
 6. To encourage them to add to their knowledge and experience by directing them to study how to carry out any defined duties if emergency should arise, such as is the case when at manœuvres or exercises.
 7. To control and revise, if necessary, the opinions given in writing their service remarks books.
3. At the end of about two months, from the date of appointment of Sub-Lieutenant to his ship, the Captain has to examine him in the knowledge of the duties in respect of ships' stations, regulations, important matters, such as fire-engine pipe arrangements, ammunition supply, turret gun mechanism, etc.

b. Theoretical Education.

1. This branch of education is intended to cultivate the knowledge and intelligence of officers by impressing on them the study of military matters during such times as they are not engaged on official duties.

The means to this end is not strictly defined, being dependent on the captain; but the following is the invariable practice:—

- a.* Essay.
- b.* Lecture.

a. Essay.

2. The Captain sets each officer a subject for "Yearly Essay," either theoretical or practical questions on military matters, and on this he has to prepare an essay. This may be done either yearly or occasionally.

3. The subject set varies according to the officer's rank, special duty, and capacity; and that for a junior officer is necessarily a practical and not a theoretical one.

4. Every officer has, further, the option of writing an essay on any subject selected by himself in addition to the one above referred to, which is compulsory.

5. The Captain returns the essays to the officer concerned after minutely examining and criticising the same.

6. In such cases as, in the Captain's opinion, the essay shows great ability, he may forward it to the Commander-in-Chief, accompanied by his criticisms thereon.

The Commander-in-Chief, in his turn, examines the essays presented by the Captains under his orders, criticises them, and those which he considers merit approval he presents to the Minister of Marine, returning the remainder to the officers who wrote them, through their captains.

7. When the Commander-in-Chief thinks it necessary or desirable, he may set subjects to the whole or a part of the officers under him, and direct them to write essays thereon. These are called "Occasional Essays."

8. The method of procedure in regard to Occasional Essays is similar to that of the Yearly Essays, except that the Captains do not examine or criticise them.

9. The Minister of Marine selects certain officers and directs them to examine thoroughly the essays presented to him by the Commanders-in-Chief, and select a certain number of the best of them, and when this has been done he issues "Certificates of Merit" to the officers whose essays have been so selected.

10. The Admiral at the head of the Education Bureau has these selected essays (together with all that have been presented to the Minister of Marine) printed and collected into a book called "The Annual Report of Essays," and this book is distributed throughout the fleets, naval barracks, etc.

b. Lecture.

11. It is almost universal for the Captains to nominate the lecturer and name the subject; but when an officer wishes to lecture on some particular question in which he is interested, or has special knowledge, he may apply to the Captain for his permission to do so.

12. The Commander-in-Chief will occasionally nominate the lecturer for any special subject.

13. The lectures are mainly set on some of the following subjects:

- a.* What the lecturer has seen or has experienced when deputed to deal with any special matter.
- b.* Performance of the duty which he was directed to carry out.
- c.* Study of any subject in which he has passed, or experiments which he has seen, in the Higher Naval College, the Gunnery or the Torpedo Schools, etc.
- d.* What special subject he has investigated, or in which he has obtained special experience.

IV.—EDUCATION OF OFFICERS IN THE HIGHER NAVAL COLLEGE AT TOKIO.

1. There are four different courses in the college, which are called (A) "Koshu," (B) "Otsushu," (C) "Senka," and (D) "Koshiuka" respectively.

2. The course (A) is provided for selected Lieutenants to be educated in higher military matters, so as to enable them to serve in important positions, or to give them a solid foundation for acting as higher officers.

3. The students in course (A) are selected in the following manner:—

- a.* Commanders-in-Chief nominate such officers as are physically robust; as have excelled in the performance of their duties; of high courage; prompt and reliable in judgment; and whose capacity is deemed likely to develop further on.
- b.* The President of the College examines the above officers. The examination generally consists of writing essays and the study of foreign languages; and on the officers successfully passing the college in these respects they further undergo a *visà voce* examination by a committee of higher naval officers which is specially nominated.

- c. This committee deals with the officers' mental, practical, and educational capacities, and awards them their order of merit, which guides the Minister of Marine in making subsequent appointments.

4. The length of the course (A) is two years, and the subjects of it are as follows:—

Strategy (Naval and Military).
Tactics (Naval and Military).
Naval History.
Fortification.
Laws of the Country.
International Laws and Diplomatic History.
Military Administration.
Political Economy.
Gunnery, Torpedo, Navigation, Shipbuilding, and Engineering Courses.

Higher Education of the general course.

N.B.—During their course of study, the officers undergoing instruction are frequently sent to attend or take part in various manœuvres, and to visit ships, forts, naval stations, manufacturing establishments, etc.

5. The course (B) is provided for lieutenants to give them higher education in either Gunnery, Torpedo, or Navigation duties.

6. The entrance examination generally consists of mathematics and foreign languages, and is open to competition, and a selected number of officers who satisfactorily pass this entrance examination (and who are deemed to be competent to serve as specialists in the subjects they enter for) are finally allowed to attend the course.

7. The length of course (B) is one year, and the successful candidates are educated in the following subjects, besides their own special courses (higher courses of Gunnery, Torpedo, or Navigation):—

Gunnery.

Naval Tactics
Shore Surveying.
Fortification.
Shipbuilding.
Higher Education of the General Course.

Torpedo.

Naval Tactics.
Surveying (Shore and Sea).
Shipbuilding.
Higher Education of the General Course.

Navigation.

Naval Tactics.
Surveying (Shore and Sea).
Shipbuilding.
Higher Education of the General Course.

N.B.—*a.* During the time of their study, they are invariably sent to attend or take part in various manœuvres, and to visit ships, forts, naval stations, manufacturing establishments, etc. *b.* Officers who have studied Gunnery or Torpedo matters, after finishing their

theoretical studies in the college are subsequently sent to the special Gunnery or Torpedo Schools respectively for practical experience for about three months.

8. The course (C) is provided for Captains, Commanders, and senior Lieutenants to study any subjects they may themselves select, and their entrance is permitted if they are considered competent to effectively benefit by admission, and provided their proposed subjects coincide with Service necessities.

9. The subjects taken up during the course (C) are quite at the option of the students, and the length of time requisite varies according to the subjects so selected.

10. The course (D) is not a regular one, but when time permits, and their services are available, a number of officers may be summoned from various parts to take part in certain special matters, such as naval strategy, naval tactics, etc.; the length of time devoted is generally short—from two to four weeks, for instance.

V.—EDUCATION OF OFFICERS IN THE IMPERIAL NAVAL GUNNERY AND TORPEDO SCHOOLS.

1. These courses are provided for Captains, Commanders, and Lieutenants who have just passed the theoretical Gunnery and Torpedo course in the Higher Naval College; and for Sub-Lieutenants, to afford them further practical training.

2. The entrance of Captains and Commanders is sanctioned by the Minister of Marine, provided their applications to attend are approved by him; but when their services can be spared, it is eventually intended for every Sub-Lieutenant to be directed to attend either (or both) the Gunnery and Torpedo Schools for a course of study.

3. The courses and the duration of time vary from time to time.

4. Besides the above-mentioned, in such cases as, for instance, when some new weapons have been introduced, or some new scientific discovery made, or drills have undergone changes, a number of officers are summoned from various parts to bring themselves up-to-date in such matters, and to teach their comrades or those under their command what they have themselves just acquired.

I have to thank you, Gentlemen, for giving me your kind attention. I think, from the details I have given, it will be admitted that my country has followed pretty closely in the footsteps of the "Mistress of the Seas"; whether in one or two small particulars we may perhaps have gone "one better," it will be for you to decide. In conclusion, permit me to thank the Council for the great honour they have done me, a foreigner, though a guest of England, for the opportunity they have afforded me of showing to an English audience of experts the progress in naval education reached by us.

Admiral Sir NATHANIEL BOWDEN-SMITH, K.C.B. :—I think we must all agree that we have listened to a paper of great interest. There are one or two questions I should like to put to the lecturer, if he will allow me to do so. He says, with regard to the entrance of the naval cadets, that "no cadet, once entered, is allowed to change his mind, but must continue his studies at the college"; and three sentences further on he says that if any cadet is lazy or wanting in assiduity, after having been warned, he will not be allowed to remain. Considering the number of

cadets has been whittled down from 1,995 to 180, is it found necessary to discharge many of those lads after they have once joined the college? I am somewhat surprised to see that in the list of subjects taught during their three years' course, the study of English occupies a greater number of hours than any other subject. They give nineteen hours a week to the study of English during the three years, which is a higher number of hours than is given to any other subject. We can hardly flatter ourselves that it is because of any great regard for the British nation that so many hours are devoted to the study of our language; I presume it is because nearly all the charts and sailing directions, etc., are printed in English, and therefore it is necessary that officers should have a good command of that language. There is one other matter in connection with the curriculum that I should like to refer to. I notice that a very short time is given to what is called engineering—one hour a week in the first year, three hours a week in the second year, and one hour a week in the third year. I should be much obliged if the lecturer would tell us what instruction in engineering means. Does it mean that these lads are taught the use of ordinary tools, or in any way to be mechanics, or to work a lathe, or does it mean that they are simply instructed in the theory and knowledge of the steam engine by an engineer? I look upon that as rather an important point, and think that the English Navy has, in that respect, gone one better than the Japanese, if the training they give is merely theoretical. There is one passage of the paper which we in England might copy with advantage. The lecturer tells us that when any new weapon comes out, or any scientific discovery is made, or when there is any great change in any of the drills, a certain number of officers are summoned from various parts, and are brought together to witness the performance of this new weapon or projectile, so that when they have learned all about it they may go back and impart the information they have gained to the rest of their comrades. That appears a good idea. I remember visiting Nagasaki in 1857 as a midshipman, and at that time, so far as I can remember, one never saw a Japanese outside his own country. There were a certain number of small Japanese vessels which used to navigate round their own coasts; but I never remember seeing the Japanese flag outside their own country. Now this extraordinary nation has a well-developed Army and Navy; and a mercantile marine consisting of some three hundred steamers sailing under their own flag. It is the most extraordinary progress any nation has made in the same time during the history of the world, and I venture to congratulate the lecturer on the great advance his country has made.

Rear-Admiral J. INGLIS :—I would like to pay my tribute of congratulation to the lecturer on his very interesting speech. I rather think he must have been one of my boys in the Imperial Naval Academy at Tokio; but I can see that he does not remember me. In regard to this very delightful paper on the naval education of Japanese officers, I have no doubt many people here may think that it is more like board school education than the education of a naval officer. We hear of arithmetic, algebra, and so on, *ad infinitum*. When I went to Japan, one of my principal duties there was to attend to the higher education of naval officers. I was warned by one man in England, who was deficient in naval education, that the Eastern nations were too bookish, and that I must be very careful to take them away from their books and teach them practice. He pursued the subject so much that I imagined the Japanese nation must be like those philosophers of Laputa, who are described in "Gulliver's Travels," who were so absorbed in mathematical problems that they had to have a man on

each side of them with a bladder full of peas to hit them on the ear to wake them up. But I did not at once proceed to take the Japanese away from their books. I waited patiently for three or four months, and I found that although they knew as much, or more, than our young naval officers knew about books, especially Euclid and algebra and applied sciences, they were good at the practical aspect which these things had to the handling of ships, and they never seemed to lose the spirit of the naval officer. I very distinctly remember seeing a row of cadets on the college ground at Tokio; they were very obedient, standing up like soldiers. They were being instructed in drill by an English instructor. A poisonous snake appeared on the ground in front of one of these youngsters. I shall never forget how he ran out to the front, evidently tired of the dullness of "drilling," got hold of this poisonous snake by the neck, held it up to his next companion, and between them they killed it. One of the cadets then pitched it over his shoulder; they both ran back to the ranks, and stood up again at attention. With regard to the Japanese nation, I do not wish to enter into generalities. The Japanese nation is, as far as I know, unique. Nothing that I have ever come across in any part of the world is the least like it. They combine every good qualification of the Eastern with every good qualification of the Western; they have the patience, the cleverness, and the cunning, used in its best sense, of the Eastern; combined with that they have the "shove" and "go" of the American who comes from San Francisco, or the Southern Frenchman or Italian. Nothing has been seen like it, as far as I know, in the modern world's history. I had occasion to speak a good deal on this subject when the Japanese began their war with China, and as that war went on all my prophecies were entirely verified. "Oh," said one of my friends to me, "but they are only fighting China. China is nothing; of course it will be a walk over. But wait till they meet a European nation." We have received some results of the latest war, and in every respect the Japanese have verified the old spirit of the Samurai. They are a fighting nation. If they have had to give up fighting in the old two-handed sword manner, they have adapted themselves in a most wonderful way to fighting with the modern rifle, the modern gun, and the modern ship. The Japanese naval officer not only knows how to learn; he knows how to obey. The social distinctions in Japan are very much in advance of those in England. Japan was a feudal nation down to 1869. The different classes of society are marked out in a very distinct manner, and every Japanese knows, as you may have seen from the little Japanese play which is going on at His Majesty's Theatre, how to bow to his superior officer. The old spirit of the Japanese Samurai still obtains; there is an entire deference to the superior rank without any pressure. There is no severe discipline in the Japanese Navy; the discipline is easy. They are also a law-abiding people. But I must not detain you on this fascinating subject. I love the Japanese, and I love to speak of them. When I begin to speak of the Japanese, I almost feel carried away. Our lecturer did not say much on the subject of how naval tactics were taught in the Imperial Naval Academy at Tokio; but I found them quite alive to the importance of that subject. They were all imbued with the old sailing history of England. Most of the boys had read a great many of our naval histories, and I can assure you that we patiently thought out many questions connected with old sailing-ship battles. After that we threw aside any of those formations which were of no use, and tried what we could make with the remainder, and how they could be adapted to the tactics of the steam vessels in modern times. I can assure you that the tactics in the

battle of the Yalu, as it was called, between the Japanese and the Chinese, which occurred two years after the lecture of which I have a remembrance, that the exact tactics of that battle were followed in every respect, although I have heard it said that the battle of the Yalu was a mere mass of confused ships, which went in pell-mell, and that the whole success was due to the entire demoralisation of the Chinese. We described how a fleet in line ahead could sail triumphantly along the front of a line abreast, and give them all the fire of the side guns, and especially destroy the signalling power of the enemy's admiral. I will not go into the details of the question; but in discussing it we thought that in a long line of ships passing along the front there might be two or three cut off in the rear—slow ships. And we discussed how those vessels were to move. The battle of the Yalu was an exact representation of that. There were two ships cut off in the Yalu, and they moved as they had been directed—that was right away into the fire and smoke. After having considered tactics so carefully as the Japanese did eleven years ago, if they have gone on since in the same direction, I feel convinced, as I did last night when I heard of the reported destruction of the Japanese Fleet at Port Arthur, that the Japanese would go right. Although, as my friend the lecturer said, they have learned many lessons from what he kindly called the “Mistress of the Seas,” I feel that in the future we, in our Navy, will have a great deal to learn from the Japanese Navy; and as far as I know in this war they have, in the lecturer's own words, gone one better.

Fleet-Engineer W. J. HARDING, R.N. (Retired).—The final paragraph in this paper reminds me that in the year 1874, at the opening of the session of the Naval College at Tokio, His Majesty the Mikado attended, when an officer named Captain Sawa read a very able essay. His essay was on the battle of Trafalgar, and his closing words were to the effect that he had described this battle, which was the most momentous event in the history of England, and that from that time England might be said to have been the mistress of the seas; and his fervent hope was that the opening of the Naval College and the training of the naval officers in Japan would result in Japan becoming the England of the East. I think that late events have gone somewhat towards earning Japan that name. The Naval Mission in those days—in 1873—was under Commander (the present Vice-Admiral) Douglas. The training of the Japanese, which was apparently without routine, had hitherto been in the hands of several of their most talented officers, some of whom had been under training by Admiral Tracey's mission. One of our countrymen, long since dead, Lieutenant Hawes, R.M.L.I., worked well for the development of the Navy, in an advisory capacity, and Rear-Admiral Ingles also did very much towards later development. But in our days the Navy was composed of sailing-ships, so that the course was nothing like the course which has now been developed. In those days we took the youngsters, and I know that, at least, Admiral Douglas was very much afraid that they would not become pitch and tarry men; that they would not like to handle tar and such like things. In a very short time the youths were deep in the “Britannia” training; eventually they went on to the small-arm and cutlass drill; and later on a battery was built by the seaside, which soon showed that shooting straight was one of their fortes. Of course, we English people always respect those who can shoot straight; our own earlier naval history shows that. We found in the college a very excellent library. The majority of books in those days were in Dutch, and the foreign language most spoken was Dutch, and they learned

Dutch tactics; but there were many English books, and I found that many of the students were very great students of the English language. I shall not attempt to deal with the very long course of study which the naval officers have; the items are certainly widespread, and I daresay that each and every one of them is well studied. The youngsters that I taught were certainly good students; a few of them, perhaps, were backward in the pronunciation of English, which was a great task to them. But once they got over the letter "l" they went ahead. One of the best cadets I ever had could never overcome the letter "l," but he became a good officer all the same. When the youngsters had any difficulty with their books, they used to come to me and show me any passage which they thought hard, and those passages were always covered over with little pieces of red blotting-paper. I endeavoured to explain what the passage meant, and when the piece of blotting-paper was flicked away by the finger it showed me that they fully understood what I had attempted to explain. Like Rear-Admiral Ingles, I have a very strong admiration and love for the Japanese. When they are understood, I think they are good people. A nation which has been able to put a million of men under arms for ages past, and at ten minutes' notice to mobilise them with their swords by their sides, is a people to be respected and to be admired. I think recent events show that the strength which they previously had in the old Samurai spirit, which still remains, combined with the instruction that has been given them, has produced good results. I wish to express to Commander Sato the very great pleasure with which I regard the product of his brain, which I am sure will be of very great interest to many people; and to naval officers especially.

Mr. R. J. B. HOWARD (late Canadian Militia):—As a civilian I have no right to take part in a discussion of this kind, except to join in paying my compliments to the author of this paper. But as one who has taken an interest for some years in the question of naval education, there were one or two questions I desired to ask, but nearly all of them have been anticipated by the previous speakers. There is one, however, which remains, which was referred to, I think, by Rear-Admiral Ingles, namely, whether or not it is the case that during manœuvres, as part of the higher training, it is the habit in the Japanese Service—I prefer that word to Services—to place army officers on board ships, and to send naval officers to work in the batteries on shore, and so to combine, as far as possible, the two branches of the Service. All the other questions I intended to ask have been anticipated by previous speakers. In conclusion, I wish to say that I have had a good many fellow-students Japanese in the past (and I hope I shall have more in the future), and they were always good fellows.

The CHAIRMAN (Admiral the Hon. Sir E. R. Fremantle, G.C.B., C.M.G., Rear-Admiral of the United Kingdom):—I am sure we all feel very grateful to Commander Sato for having given us all this information, which is of the greatest value to those who are interested in the question of naval education, about which we have heard so much during the last year or two. One thing has struck me very much with regard to the entrance examination, namely, that it is divided into two stages: (a) physical, (b) educational. I do not know what the physical examination exactly consists in, and I feel inclined to ask what the physical examination means. I asked what it consisted in in China, because the examination for the Army, at all events,

is entirely of a physical nature; and I was told that it consisted in firing from a bow and arrow on horseback and lifting heavy weights; but I do not know that that is precisely the examination as it is conducted in Japan. I presume the physical examination means that the candidates are strong and healthy.

Commander SATO:—Bodily fit.

The CHAIRMAN:—As we see from the paper, education is carried out very completely; in fact, I may say that the system in the Japanese Navy is a continuous system of education, and, to some extent, of examination. The same thing takes place more or less in the United States Navy. I do not know exactly how they carry it out, but I know they have an examination for an admiral in the United States Navy. One of their admirals came out to China while I was there, and he said to me: "I passed my examination for an admiral." I said: "In what does it consist?" and he replied: "Well, sir, it is mostly physical." I felt rather inclined to ask, as he was rather stout, whether he had to jump over a chair, or what; at all events, they do have a physical examination, which is, perhaps, a good thing; but it is a little difficult to know in what the physical examination consists. Then I should like to say a word about another subject. We have lately taken to entering boys very young. We know very well that they talk about the nursery at Osborne, where the boys are very young. I do not know that it is a good system; I hope it is. If they are to go in strongly for mechanics, it is a good thing to have them when they are young; but my own opinion is that it is a little too young. I would call your attention to the fact that in that particular respect the Japanese Navy has taken a leaf rather out of the American book than out of ours. I believe that in the American system the age of entry is any time between fifteen and twenty-one, and in the Japanese I notice it is from sixteen to twenty. That is a very different system to ours in that respect. I believe they can get a certain amount of education out of the private colleges and so on, whereas I think that one reason that influenced Lord Selborne to begin our education so young was that he said the public schools did not play up to us, and that we did not get the correct preliminary education out of the public schools that we wished to have. Then it seems to me that the training of young fellows in special training-ships is an exceedingly good system. I have always been in favour of special training-ships; I know they were discredited principally because trouble was not taken in former days to appoint the men really suited to command, and perhaps because it was nobody's child, to some extent. At all events, I think the system was not sufficiently encouraged. They have carried that out very thoroughly in Japan, where they seem to be very thorough in doing everything. It is certainly a very good plan to have three ships under an admiral, and for the admiral to change his flag, so that the men can really find out what the work on board a flag-ship is; whereas, as we know perfectly well in our own Service, young fellows very often serve for a great number of years who have not an opportunity of serving on a flag-ship, and somehow or other they are a little adrift when they do happen to join the flag. Another thing is, that I think we sometimes make a mistake in making our admirals a sort of great Bashaw. No doubt an admiral is a very great man; I ought to know that. Sometimes we cannot employ a great many admirals, because they must have such a great staff, and because they must receive so much consideration, and because the admiral is not to show himself too often,

and all that sort of thing. They do not do that. They use an admiral as if he was a man who was accustomed to do work, and to see that other people do their work, and I venture to think that, after all, that is the right principle. There is another question on which I think they go one better than we do. I do not know exactly how it is at this particular moment—it certainly was so when I was out in China a few years ago—but I know that, generally speaking, the naval officer is treated in this way: Supposing he wants to go over a fort; the general or officer in command makes a lot of trouble, and almost makes a personal favour of it. I cannot say I have ever been refused permission to go over any fort; but I do recollect that when I was at Mauritius they made a great favour of it. I do not know what they didn't do. They said they did not know whether they could grant permission without telegraphing home; but as there was no telegraph, I pointed out they could not do it, and eventually I was allowed to go over. But with the Japanese Navy it is part of the curriculum. The naval officers visit the forts, and go over them; and I venture to think it is quite right too that naval officers should not be kept in the dark as to what the armaments of particular forts consist in. It is sometimes considered by the military that we should know nothing about the forts, because, forsooth, we might tell somebody else! That is a subject on which I think some improvement should be brought about if possible. With regard to the system of instruction and examination, I think that it is exceedingly good, if it is not carried too far to the detriment of executive work. The same remark also applies to the essays, of which the lecturer has spoken. There is one other thing I wanted to make a remark on. There are many things we learn from the Japanese Navy. They have some advantages over us. Every new Navy has this advantage: that is has no traditions. All traditions are exceedingly good, if they are taken in the right way. There is some little modicum of truth even in what Mr. Jane said when he stated that there was too much Nelson nowadays. His idea was that some people look back and only think of what has taken place in years gone by, and do not keep up-to-date. In the Japanese Navy they are very anxious to keep up-to-date, and we have seen lately that they practically do keep up-to-date. We have seen, from their recent actions in "the real thing," that they know what the duties of naval officers are, and that they are prepared to carry them out. There is no half-pay in Japan. I think they have been wise in that respect in not copying us; I think they are wise in keeping their officers constantly employed, and that the old idea that a man ought to be put on half-pay for a considerable portion of his life is quite impossible at the present day. I do not wish to detain you any longer; but at the conclusion of his lecture the lecturer said that he considered it a great honour to come here and be allowed to give us this lecture. I can assure him that the honour is all on our side. We know that great attention has been paid by the Japanese to their system of education; we know they have had instruction from some of our best officers, and I am proud to think that Rear-Admiral Ingles, who was the last of them, and who gave them such very good instruction, is here. But while I have no doubt they have learned a great deal from us, is it not right that we shall endeavour also to learn a great deal from them? They had the advantage of starting without prejudice, as it were. They have adopted our system to a very great extent, mainly our system, I think; and that an officer of their Navy, one who is held in very high esteem in the Japanese Navy, should come here and give us the full information he has in regard to the system which they

adopt in their education is, I consider, a great honour to this Institution, and we are all very much obliged to him. I am sure I shall be carrying out the wishes of all those present when I tell him that we are sincerely pleased with his lecture, and that we shall appreciate it still more when we see it in the JOURNAL. Lieut.-Commander Sato tells me that he starts for Japan in two or three days. Such a first-class officer is not likely to be allowed to remain in this country when he is so much required in the other part of the world, and I am sure we all desire to wish him a very pleasant voyage.