

THURSDAY, SEPTEMBER 14, 1882

NAVAL EDUCATION

FROM the papers and discussions which have recently appeared in the *Journal* of the United Service Institution (Nos. cv., cxv., 1880, 1882), it would appear that a large number of our naval officers are becoming sensible of the many defects of the system under which their younger brethren are at present entered and educated. In all professions it is so much the custom of the seniors of high rank to hold by the existing state of things, that the protest now made is the more marked, coming, as it does, not from one officer, or from a clique, but from officers of all ages, ranks, and branches, who look on the subject from different points of view, and correct their judgment by different forms of experience. The fact seems to be that, whereas the naval officer of former days was not called on to be anything but a seaman, though it was no doubt better if he was also a gunner—which was but seldom—at present he ought to be not only a seaman and a gunner, but half-a-dozen other things as well—a navigator, an engineer, a mechanic, an electrician, something of a soldier, something of a naval architect, skilled in signals and in tactics, and not ignorant of international law. There are, of course, but few who can excel in all these branches of knowledge; but every naval officer is expected to know something of all, and before getting his commission he has to show, in examination, that he does know something of all, even though that something may occasionally be very little: he is then permitted to choose one or two subjects of which he may make a specialty; he may devote himself to navigation, to gunnery, or to the management of torpedoes; and on showing that he possesses special qualifications, he receives special appointments and a higher rate of pay. But whether his tastes and abilities lead him to qualify in these special subjects or not, he is supposed to have a certain respectable knowledge of all; and, as keeping up the traditions of the service, he is required, before everything, to be a first-rate seaman. The most important question then is, Does the present system of training young officers ensure their becoming first-rate seamen? The answer of almost every speaker at the United Service Institution is in the negative. Capt. Brine, to whom the Institution has this year awarded its gold medal, says, "A midshipman serving in an ironclad has but few opportunities of learning the work of a sailor; it cannot be said that the years thus passed are essentially valuable as regards seamanlike training." Capt. Grenfell says, "We are all familiar with Falconer's admirable picture of the almost child handling a ship—'And well the docile crew that skilful urchin guides.' It would be useless to look for the same thing now. Our urchins, we must confess, are not 'skilful.'" Capt. Cleveland says, "On board an ironclad, youngsters have very little opportunity of learning more than just the routine work, which they may learn from a book;" and Lord Dalhousie thinks "the ordinary life of a midshipman in a sea-going ship to be so ill-organised as to be little better than very laborious waste of time, so far as his own professional training and education are concerned." Many others might be quoted to the same

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effect, for the agreement is almost perfect; but these are sufficient. It may be assumed as admitted that a little boy sent on board an ironclad to learn seamanship, does not learn it, and has no opportunity of learning it, whether seamanship is understood in the old sense of handling a ship under sail, or in the modern sense of handling her under steam, and still less if in the strictly logical sense of "manœuvring ships under all circumstances of wind and weather." What our large ironclads have masts and yards for—except to foul and choke the screw in time of battle—is a thing often wondered over. Many have none, and even those that have them do not trust to them in performing the simplest nautical evolution. Clearly then a young gentleman on board such a ship does not learn the sailing of the old school. How he can be supposed to learn the management of the ship under steam does not appear. Capt. Cleveland—who, as having lately commanded an ironclad, speaks with a special authority—says, "No captain would ever trust an ironclad to a young gentleman to work, as the captains of old did their frigates;" and evidently the mere being on board whilst somebody else is working the ship can teach him very little. His principal duties are, in fact, said to be seeing the ashes emptied overboard, the decks swept, and the brass rails polished; niceties which he might learn equally well on shore from his mother's housemaid, or by making an occasional round in the dust cart. Mr. Laughton, one of the Instructors at Greenwich, goes so far as to doubt whether this method of training young officers was ever quite satisfactory. "No doubt," he says, "in former days the still existing system of sending little boys on board ships on active service to learn seamanship by doing what they were bid and keeping their eyes open, answered *pretty* well. I do not think it did *very* well. Of course we turned out a large number of first-rate seamen, but it was out of an enormous number of entries. No account can now be taken of the failures; but of those who through ignorance, drink, and immorality went wholly to the dogs, the number was extremely large, and of those who did not thus utterly break down, there were a very great many who dragged on in the service as ignorant of seamanship as of everything else that was reputable." Even now the same evils are at work, though in a less degree; and in a former paper on a kindred subject, Mr. Laughton showed that "more than half the entries into the service disappear within twelve years," whether from "death, ill-health, family affairs, dislike, incapacity, or bad conduct."

Now it has long been maintained that the early lessons in seamanship, in the management of the ship and the men, were a sufficient and imperative reason for dragging little children off to sea. But since it appears proved by the concurrent testimony of many Admirals, Captains, and Commanders now serving, that our children so sent to sea do not learn seamanship, and that our young officers are thus, as a rule, curiously ignorant of real seamanship when they go up for their examination, this alleged sufficient reason falls to the ground; and many other reasons, which do not fall to the ground, prove that the system is a bad one. Let it be borne in mind what this system is. Little boys between the ages of 12 and 13½ years are selected by limited competition in an examination which Admiral Boys—himself for some time the Superintendent

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of the College at Portsmouth—describes as “simply an examination of their mothers or governesses, or the preliminary schools they may have been at.” Their general education is then stopped; they are sent to the *Britannia*, and there, in the space of two years, they have to learn and pass an examination in a number of subjects, the list of which is utterly appalling. On this Prof. Soley, of the United States Naval College, says, “The course, as indicated by the examination papers, is far in advance of the mental powers of average boys of the prescribed age. The reason that more do not fail is to be found in the low standard of passing, and in the system of cramming carried out by clever tutors who are masters in the art of coaching pupils for examinations. No one seems to pretend that the students come anywhere near the ostensible standard, or carry away anything like real knowledge of the subjects embraced in the programme.” And what little is learnt is extremely evanescent: within six months the majority have forgotten all about it. It appears from a report by Dr. Hirst, the Director of Studies, that in a recent examination, and in papers specially prepared, the young gentlemen six months out of the *Britannia* obtained an average of 32 per cent. in Arithmetic, 28 in Algebra, and 17 in Trigonometry. Now the *Britannia* is essentially a mathematical school, and the Instructors are—it is fully proved by their immediate results—able, hard-working men; but they are crushed by a radically bad system, which necessitates the “teaching mathematics and navigation from the wrong end.” In this, the Instructors have no option; they are bound by an official schedule which requires the newly-caught children, knowing next to nothing of Algebra or Geometry, and very little of Arithmetic, to proceed at once to the solution of Plane and Spherical Triangles. Of course the little fellows learn to do these questions, because there is no passing for them unless they do do them; but “the knowledge is stuffed into them by a ‘damnable iteration’ sickening alike to the teacher and the taught.” What is the result? We have shown that they pass out of the *Britannia* and straightway forget it all. A Naval Instructor of many years’ experience assures us that his guiding rule has been to assume that a youngster joining his ship fresh from the *Britannia* knows nothing, and to begin him with the very elements of Algebra and Geometry. When this can be done, when the Naval Instructor is zealous and is supported by the Captain, when a suitable place can be found for study, and when the youngsters are industrious and clever, then, no doubt, very satisfactory results are sometimes obtained: but the difficulties in the way are exceedingly great. “Order it as you will,” Mr. Laughton says, “on board ship the routine will always interfere with the school, and interruptions are frequent. Nor does keeping the middle or morning watch quicken a boy’s faculties for study: with his eyes involuntarily closing, his head nodding over his book, the thermometer at 80° or 90°, and the perspiration dropping from the end of his nose—the difficulties in his way are very real. What a make-believe school, under such circumstances, often is, every Naval Instructor knows very well. The wonder is not that, with such a considerable expenditure of labour, so little is done, but that anything is done at all.” The present day affords an example of another difficulty. What amount of school,

we would ask, have the young gentlemen of the Mediterranean fleet done during the last three months? or, admitting that in some instances they have been present in the body, what amount of real study have they done? Our experience of boy-nature would lead us to answer—None. And after all these difficulties, the end is as might be expected: for a young officer in his final examination to show any real knowledge of his theoretical subjects is said to be quite exceptional.

The result then of the present system is that—speaking generally—the young officer, whilst a midshipman, learns neither the practical nor the theoretical parts of his profession: his time is muddled away: he gets a certain amount of crude knowledge crammed into him for his examination; and having passed that, if all desire of learning has not been crushed out of him, he has too often to begin again at the very beginning. In the majority of cases, Mr. Laughton tells us, an officer coming to the College for a voluntary course of study “does not know any mathematics at all”; and, he adds, “when men have got to the age of 25 or 30 without mastering the elementary principles of geometry and algebra, the task of then doing so is extremely irksome, and in many cases, utterly impossible.” Now it is admitted, and—as we have said—by officers of long and special experience, that this state of things does exist, and ought not to exist; and there seems a very general idea that the remedy must be a radical one, and be applied at the beginning; that the foundation of mathematical knowledge ought to be laid before a boy goes to sea at all; and that the early part of his time at sea should be spent in a specially appointed training ship, and not in a ship on active service, where the instruction of the young officers is a point of very secondary consideration, if indeed it has any real place. Mr. Laughton proposes that the cadets should not be entered till they have learned their mathematics, and suggests that this should be tested, in a competitive examination, at an age ranging from 16 to 17. Capt. Grenfell would prefer entering them by nomination at 12, and keeping them in a college under the Admiralty for 4 or 5 years. Each proposal has its own advantages; but we prefer a free competition, at a reasonable age, to the nomination of children; and we see no reason why these elementary subjects should be taught, at the expense of the public, to lads who are in no way bound to the public service. But either one, or the other, or any similar scheme would be an enormous improvement on the present system, which stands condemned by its acknowledged failure, and by the verdict of a very large number of experienced officers.

UNITED STATES FISHERIES

Report of T. B. Ferguson, a Commissioner of Fisheries of Maryland, January 1881. (Hagerstown, Maryland: Bell and Co.)

THE figures of fish culture as we find them in the various reports of the American fishery commissioners are perfectly startling in their magnitude. In this report of Major Ferguson we are favoured with an account of the piscicultural work carried on in connection with the “Shad” (*Alosa sapidissima*), an excellent food fish, which is now being bred in millions at several places