

investigations of the herring fisheries, I must candidly state that they have not been large enough to cover my expenses, but that I have been obliged every year to put my hand in my own pocket and make considerable sacrifices. Why does not Professor Smitt, who is backed by the Government and its powerful aid, count my expenses among the sums appropriated? Why does he hint, in utter disregard of actual facts, that I had every year enjoyed "a very considerable subsidy" whilst he takes good care not to mention the fact that since the summer of 1880 he has, annually, enjoyed a much larger Government subsidy for his work in connection with the fisheries? Professor Smitt's disregard of facts certainly does not tend to further his cause.

STOCKHOLM, *March 24, 1883.*

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**30.—THE INSTRUCTION OF NAVAL MIDSHIPMEN IN TAXIDERMY, ICHTHYOLOGY, ETC., AT THE UNITED STATES NATIONAL MUSEUM AND ON BOARD THE STEAMERS OF THE UNITED STATES FISH COMMISSION.**

**By Prof. SPENCER F. BAIRD.**

In the American naval service the cadets start with four years' study in the Naval Academy at Annapolis. They are then sent to sea for two years, and do not obtain the rank of midshipman until they have passed an examination at the end of this period, or of six years after their entrance. They are then sent to sea again, or placed on waiting orders.

About a year ago the Navy Department made inquiry of the Smithsonian Institution as to its willingness to receive six recently appointed midshipmen, and assign them to some duty in the Institution or National Museum that would enable them to take advantage of any opportunities they might have for natural history research during their future cruises, with the understanding that they were to be treated in every way as regular employés of the Institution and required to do regular work.

The proposition was responded to favorably, and the six persons were assigned respectively to curators of ichthyology, marine invertebrates, ethnology, paleontology, geology, and mineralogy. The experiment somewhat unexpectedly proved to be a very great success. The young gentlemen devoted themselves earnestly to their work and became proficient in it.

A course of special instruction was given in regard to the taxidermy of mammals and birds, which all the midshipmen attended with great diligence, becoming quite expert in the preparation of skeletons and in mounting excellent skins of mammals and birds.

The two assigned to ichthyology and marine invertebrates were detailed for service on board the Fish Commission steamer *Fish Hawk*, where they had ample opportunity of becoming familiar with collecting at sea, as also with the methods and appliances of deep-sea dredging,●

temperature observations, &c., all, of course, directly in the line of their future vocation.

The other four accompanied one or the other of Professor Powell's parties into the far West, and have had every opportunity for field work.

The results of this experiment have been so satisfactory that it is proposed to detail six more midshipmen during the present month, the first six to continue another year, making the entire course one of two years.

The selections for this detail are made by the Navy Department, after conference with the Superintendent of the Naval Academy, from among those who, while pursuing their educational course, have shown most interest in scientific matters.

The measure is extremely popular among the younger officers, although of course it is derided by others, who consider it an innovation in the established routine.

One special object of the experiment is to have as a part of the regular force of the Navy, officers competent to do the scientific work for which it has generally been necessary to employ civilians, as also on any cruise to be able to utilize to some extent at least the opportunities of research which constantly present themselves to the inquirer.

WASHINGTON, D. C., *October 7, 1882.*

### 31.—EXPORT OF FISH OIL FROM NORWAY, 1878-'82.

By **FREDRIK M. WÄLLEM.**

[Extract from letter to Prof. S. F. Baird.]

Official returns regarding the export from Norway of fish oil are just issued. They show the export for December, 1882, to have been 4,400 hectoliters fish oil, and for the past five years as follows:

Years.	Hectoliters.	Gallons.
1882.....	100,600	2,657,550
1881.....	128,000	3,381,376
1880.....	169,000	4,464,473
1879.....	143,000	3,777,631
1878.....	137,000	3,610,129
Average.....	135,520	3,580,032

The Lofoten cod fishing has commenced, but the fish are not fat, and the liver will not give so much oil as an average year, still it is too early to tell how much the oil product shall be.

BERGEN, NORWAY, *February 16, 1883.*