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CRUISE REPORT

F.R.S. "SCOTIA"

19th-27th February 1957

The scheduled period for the cruise was reduced to eight days due to delay in the completion of the annual refit at Leith. On arrival at Aberdeen fishing and scientific gear was stowed or installed as required. After leaving Aberdeen at 0200 hours on the 19th a number of grab stations were worked at routine stations north of Scotland before proceeding to the Butt of Lewis. The weather was very good with bright sunshine and moderate breezes and the hydrographic section from 58°10'N 6°10'W to 60°54'N 8°16'W was completed without a break.

After two nights spent at Trangisvaag, work was continued at 62°00'N 6°12'W. The weather had become colder with strong winds from the north but these gradually died down and the section to 60°56'N 1°00'W was completed without interruption. A passage was then made to Aberdeen which was reached at 0030 hours on Wednesday 27th.

Hydrography

Between Butt of Lewis and Faroe Bank the surface temperature was 7.8° and 7.2°C, respectively for the first two stations and close to 9°C, thereafter until over Faroe Bank where it was 8.3°C. The water was isothermal within 0.1°C. from the surface to considerable depths, the greatest extent being 600m at 59°44'N 7°15'W. Only one negative temperature was recorded, viz. near the bottom (850 m) at 60°35'N 8°00'W.

The surface sea temperature east of the Faroe Islands was about 6.6°C and temperatures remained just below 7°C until the eighth station on the line (61°14'N 2°40'W), at which the temperature was 8.3°C. The greatest extent of upper water of homogeneous temperature was 230 metres (61°42'N 4°51'W); about 100-150 metres was the general rule.

These temperatures are about average for the time of year but their distribution varies markedly from year to year (cf. F.R.S. "Scotia", Cruise Reports, March 1950, March 1952, February 1953 and March 1955).

Other water sampling

Water samples for vitamin B<sub>12</sub> assay were taken at 59°31'N 7°05'W (10 and 100 m) and off Aberdeen (57°10'N 2°00'W (10 m)). At the latter station additional samples were taken for bacterial analysis.

Plankton

1) Butt of Lewis-Faroe Bank

A few phytoplankton hauls were made yielding collections which were extremely poor.

Zooplankton hauls were also small in keeping with the time of year. Calanus finmarchicus was generally sparse with only a slight increase in numbers at the shallower stations.

Siphonophores were somewhat more common than usual at this season, the dominant species being Lensia conoidea, Sulculeolaria biloba and Vogtia spinosa. Three collections taken in mid-channel contained very large eggs, some of which have been provisionally identified as halibut eggs.

## 2) Svinø-Flugga

Phytoplankton was again virtually absent.

In the zooplankton collections many fish eggs (saithe) and a few larvae were found to the east and south-east of the Faroe Islands. The composition of the remainder of the zooplankton in the samples was fairly constant, consisting of small numbers of *Calanus* together with *Lensia conoidea* and *Eukrohnia hamata*.

### Bottom Sampling

Despite weather conditions that were favourable there was difficulty in obtaining grab samples at the routine stations north of Scotland. Sea swell was only moderate but the ship drifted rapidly with the tide, covering distances of up to 1.3 nautical miles during the time required for five grabs. Ignoring hauls when the grab failed to close, five grabs were made at each of three stations. On many occasions no sample was obtained although the Van Veen grab was judged to be closing on the bottom.

Successful hauls varied between several litres of small shell fragments and smaller volumes of rough sand with small pebbles.

### Trawling

Hauls with the 30 foot otter trawl at Butt of Lewis and at Flugga yielded good catches principally of haddock and cod. Two specimens of *Solea variegata* (the "Thickback sole") were taken at the Butt of Lewis station.

R. JOHNSTON

12th March 1957