

3.3 History of the Fischereibiologische Abteilung des Naturhistorischen Museums Hamburgs 1910, later renamed to Institut für Seefischerei

Holger Dornheim

3.3.1 The locations of the Institute

At the turn of the century the catch of small herring off the German coast fluctuated considerably and even in some years came to total stop; catches of haddock in the North Sea deteriorated, and the plaice stock in the Barents-Sea collapsed within a couple of years. In order to investigate these and other phenomena in this direction and to serve continuously to the benefit of both the fishery and the various fish stocks, a department for fishery biology was founded at the Museum of natural history at 1 April 1910. This section was the parent house of today's Institute for Sea Fisheries of the Federal Research Centre for Fisheries in Hamburg. Accomodation was limited inside the museum and soon new rooms and laboratories had to be rented in the Kirchenallee 47 (Fig. 1). Inside this building a scientific collection of fish and a library was built up during the next 28 years. In 1939, the institute – meanwhile renamed into Institute for Sea- and Coastal Fishery – was moved due to lack of space to new rooms at the Allee in Altona (Fig. 2) whilst the old accomodation was taken over by the Institute for Whale Research founded in 1937. Owing to war events in July 1943, the institute was destroyed totally including the valuable equipment, the collections, and the not replacable library. Until May 1945, the remainder was put temporarily under the roof of the Institute for Whale Research (Fig. 3). Later on, until 1948, it was even located in the private flat of the director of the institute, Schnackenberg, in the Maria-Louisen-Str. 92 (Fig. 4). At the beginning of 1949 the institute moved into new rooms in Hamburg-Altona, Bei der Johanniskirche 20 (Fig. 5), and due to increasing lack of room it was shifted into the Paulsenhaus, Neuer Wall 72, in autumn 1951 (Fig. 6). Since 1961 until today the institute is located in Hamburg-Altona, Palmaille 9 (Fig. 7). Dependences exist at the Museum of Zoology of the University of Hamburg (Ichthyology), and in Bremerhaven.



Fig. 1. Until 1938, Kirchenallee



Fig. 2. 1938 to 1943, Allee 60 (Altona)



Fig. 3. 1943 to 1945, Bei der Lombardsbrücke 1



Fig. 4. 1945 to 1949, Maria-Luisen-Str. 94

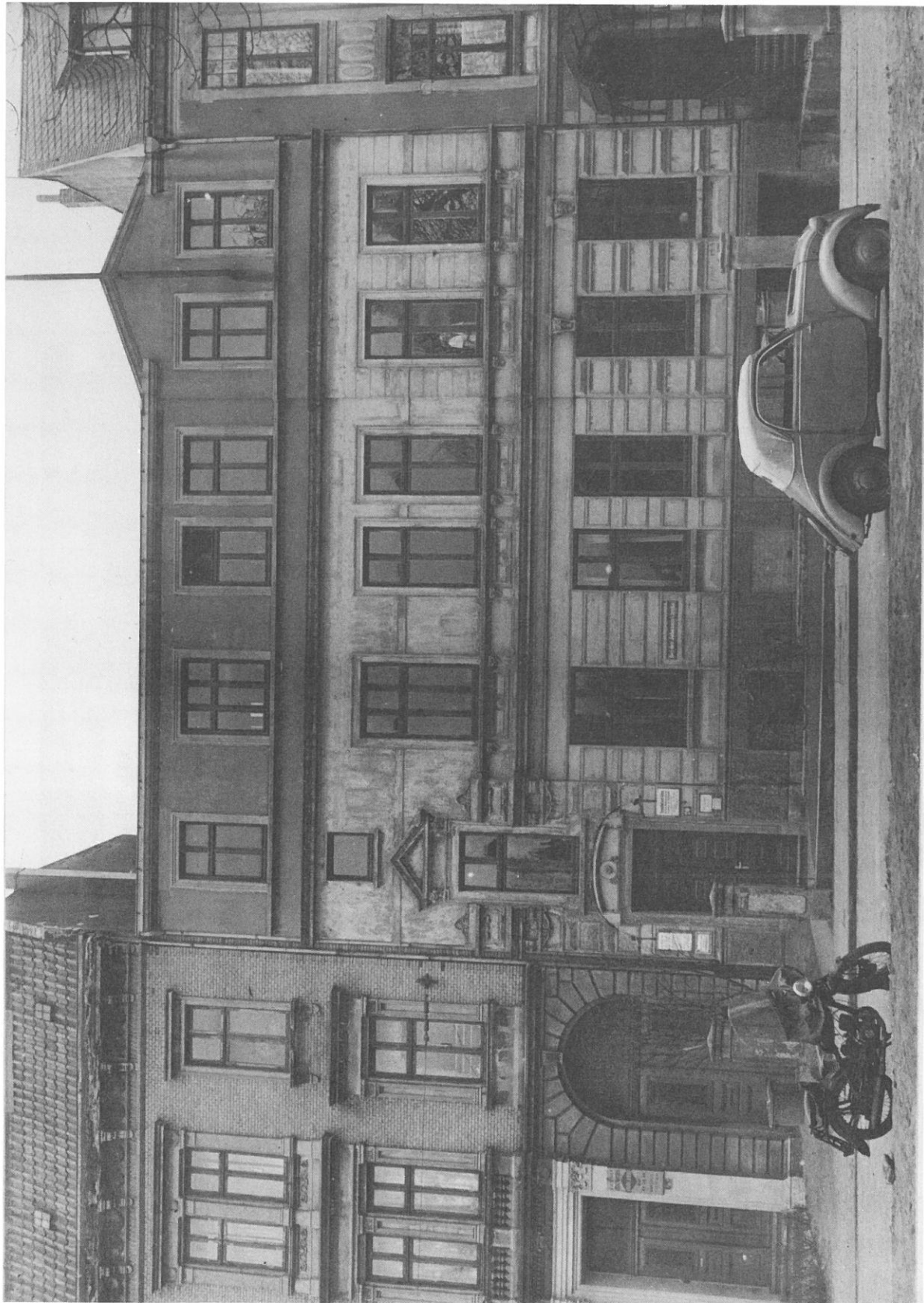


Fig. 5. 1949 to 1951, Bei der Johanniskirche, Altona

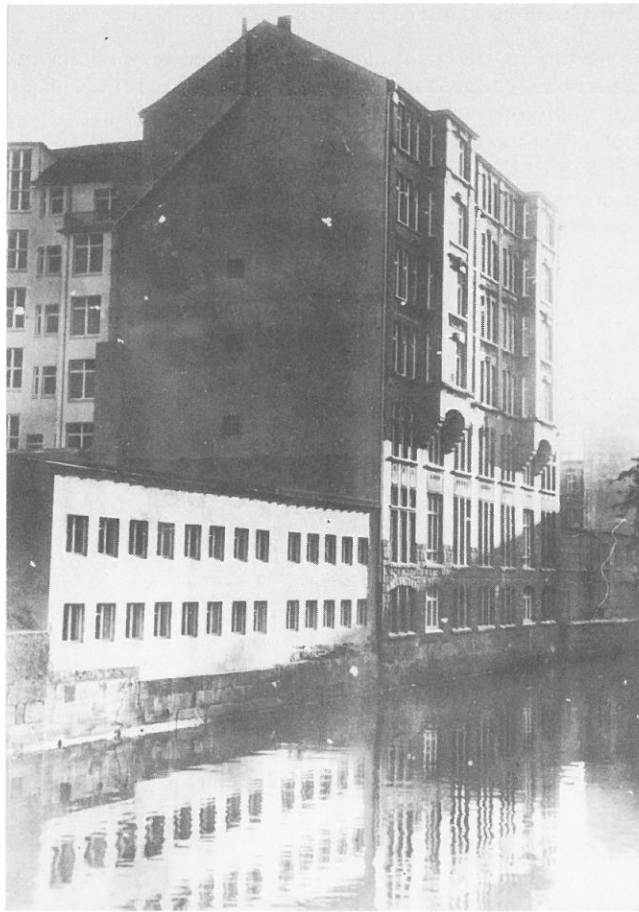


Fig. 6. 1951 to 1961, Neuer Wall 72

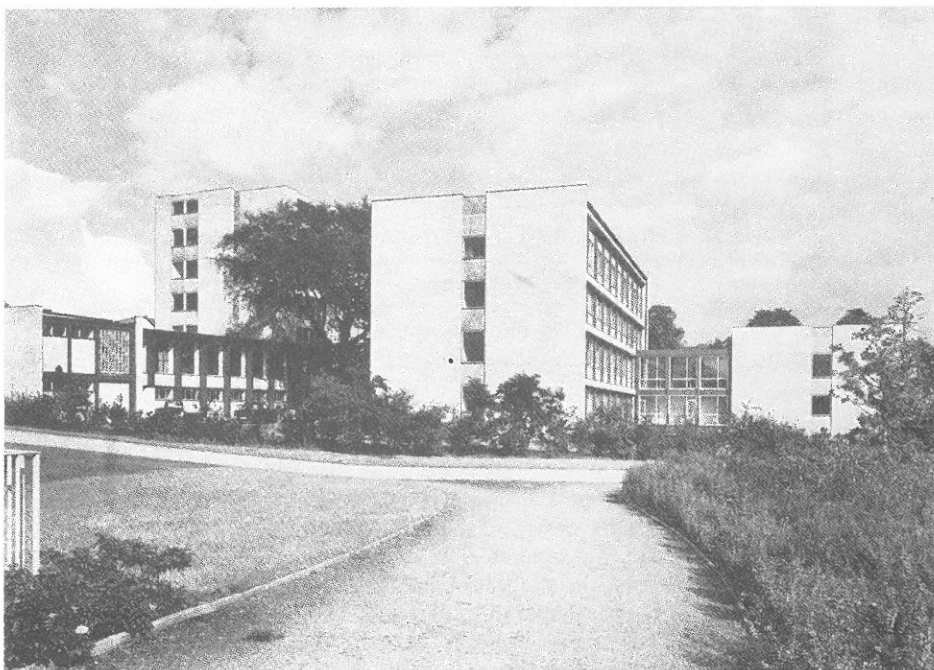


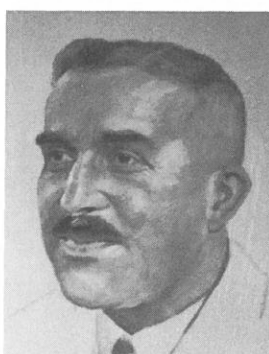
Fig. 7. 1961 onwards, main building of the Federal Research Centre for Fisheries in Hamburg, where the Institute for Sea Fisheries is accommodated

3.3.2 The directors and their main activities

Traditionally the herring, its biology and its fishery was in the centre of the institute's research. Already prior to the turn of the century Ehrenbaum who was the first director from 1910 to 1932 dedicated his work to the biology of eel, flounder and pollution before he started working on herring. Both at fishmarkets and on commercial as well as research cruises extensive material was collected. Since 1920, the department of fisheries biology became the actual centre of German herring research and it is entirely due to Ehrenbaum that this modern herring research was developed actively to the benefit of the commercial herring fisheries.



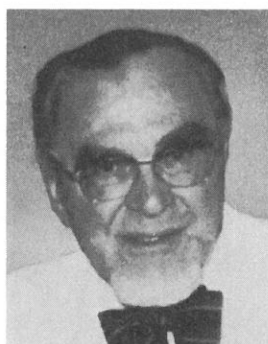
E. Ehrenbaum
1910–1931



W. Schnakenbeck
1932–1952



J. Lundbeck
1953–1962



U. Schmidt
1963–1974



D. Sahrhage
1974–1988

Fig. 8. The directors of the Institute

After the retirement of Ehrenbaum in 1931 – Fig. 9 shows Ehrenbaum during this event surrounded by friends and colleagues – Schnakenbeck took charge of the department which he already belonged to since 1923. In the field of high sea research work concentrated more than ever before on the herring. Investigations in order to determine herring races and to study otoliths and their evolution determined the activities during those years. Statistics of lugger catches (Table 1) – kept up until 1976 – were analysed and members of the institute participated in cruises of fishery protection vessels, trawlers, and luggers. As a result of decades of research work the actual status of the herring stocks could be described more and more precisely. Only at the beginning of World War II herring research largely ceased but the research effort increased again at the beginning of the '50s, accompanied by intensified investigations on other species. After the retirement of Schnakenbeck at the end of 1952 work continued intensively under the leadership of Lundbeck. The permanent scientific observation of the

most important fish stocks in the Northeast Atlantic were improved by the commissioning of research vessel *Anton Dohrn* in 1955. In view of extremely widened responsibilities the staff was enlarged; even a dependance was founded in Bremerhaven to obtain permanently recent information and samples from the local fishmarket and from the one at Cuxhaven as well. Those were the years during which a programme for experimental cruises with commercial trawlers in the North Atlantic was carried out in order to enlarge the operational basis for the growing German trawler fleet. Lundbeck retired at the beginning of 1963, his successor was Schmidt who was in charge of the institute until 1974. During these years all herring stocks in the North Sea and adjacent waters, between Iceland and Norway (from 1965 onwards) and off the American East Coast (from 1967 onwards) were investigated. The heavy increase of herring fishery caused by the development both of pelagic trawling and purse-seining resulted in overexploitation symptoms in all areas; conservation measures were urgently needed and later on enforced. Corresponding to the decline of herring catches research on this species was reduced. When Sahrhage became director of the institute in 1974 the herring was just one of the several species under permanent investigation.

The activities of the institute in the field of herring research are reflected in numerous publications throughout the centuries. The biology was investigated by means of numerous biological criteria: The age was determined on otoliths – a calcareous concretion in the internal ear – and/or scales, sex and maturity was ascertained besides the individual length, weight, and fat content. In order to distinguish between races the number of vertebrae, of gillrakers, kealed scales, and pectoral finrays was counted and evaluated (Fig. 10). Since 1958, the International Council for the Exploration of the Sea (ICES) conducted several international tagging experiments to study the migration pattern of the herring in the North Sea. Some documents from this time are shown in Fig. 11 to 14.

Table 1
Landings of the German Great Herring Fishery 1900 to 1976
 In Kantjes (1 Kantje = 74 kg salted herring = 100 kg fresh herring)

	Total Catch	Average Catch	
		Per Lugger	Per Cruise
1900	120,877	1,024	—
1910	501,771	1,852	—
1920	180,288	1,335	—
1930	321,779	2,595	—
1938	691,263	4,066	—
1946	250,000	—	614.5
1948	400,602	—	736.4
1950	473,025	—	707.1
1955	646,321	—	920.7
1960	474,960	—	874.7
1965	158,470	—	834.1
1970	24,100	—	831.0
1975	370	—	?
1976	40	—	?

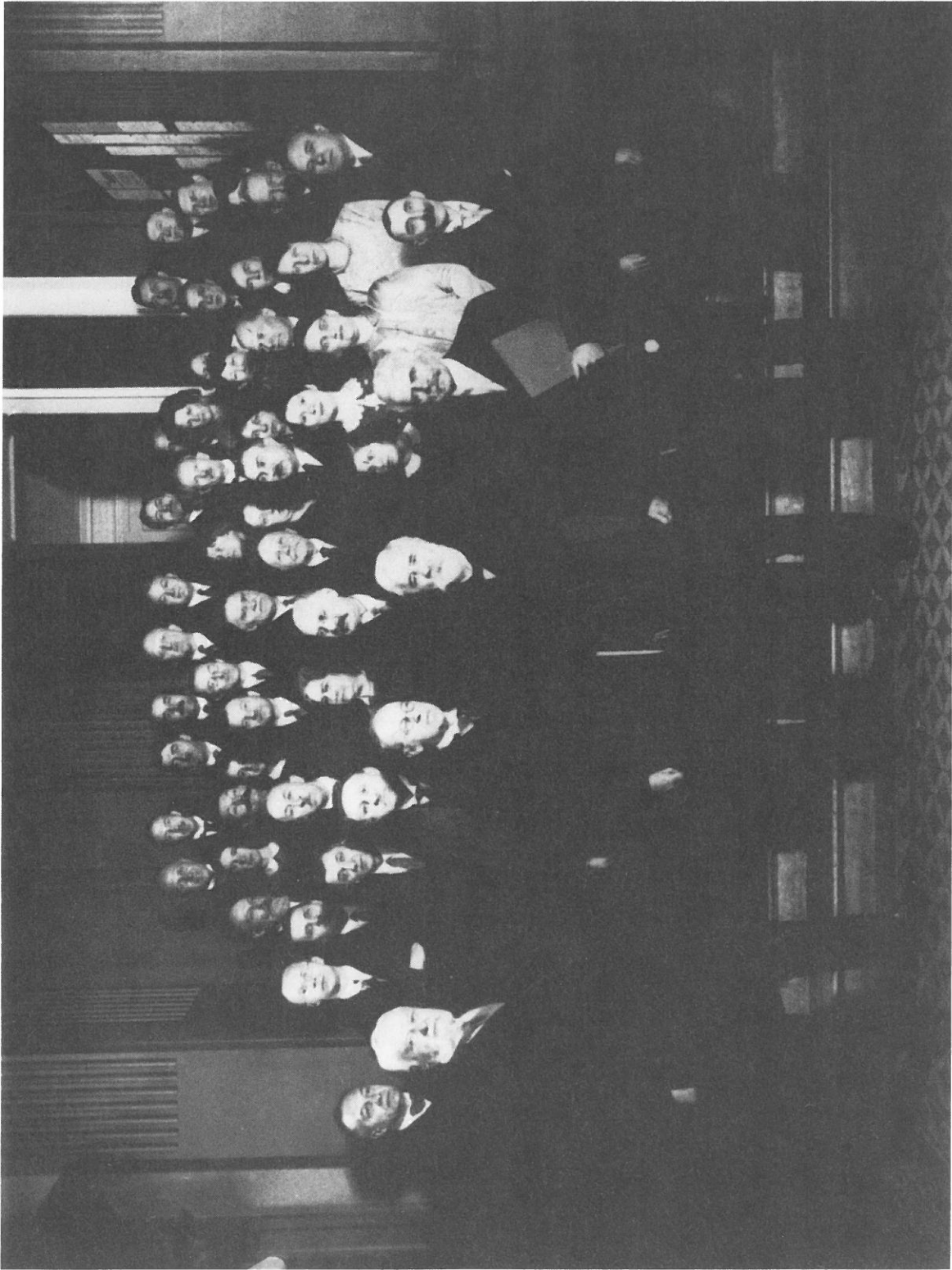


Fig. 9. Retirement of Ehrenbaum (First row, second from the left) on November 30, 1931

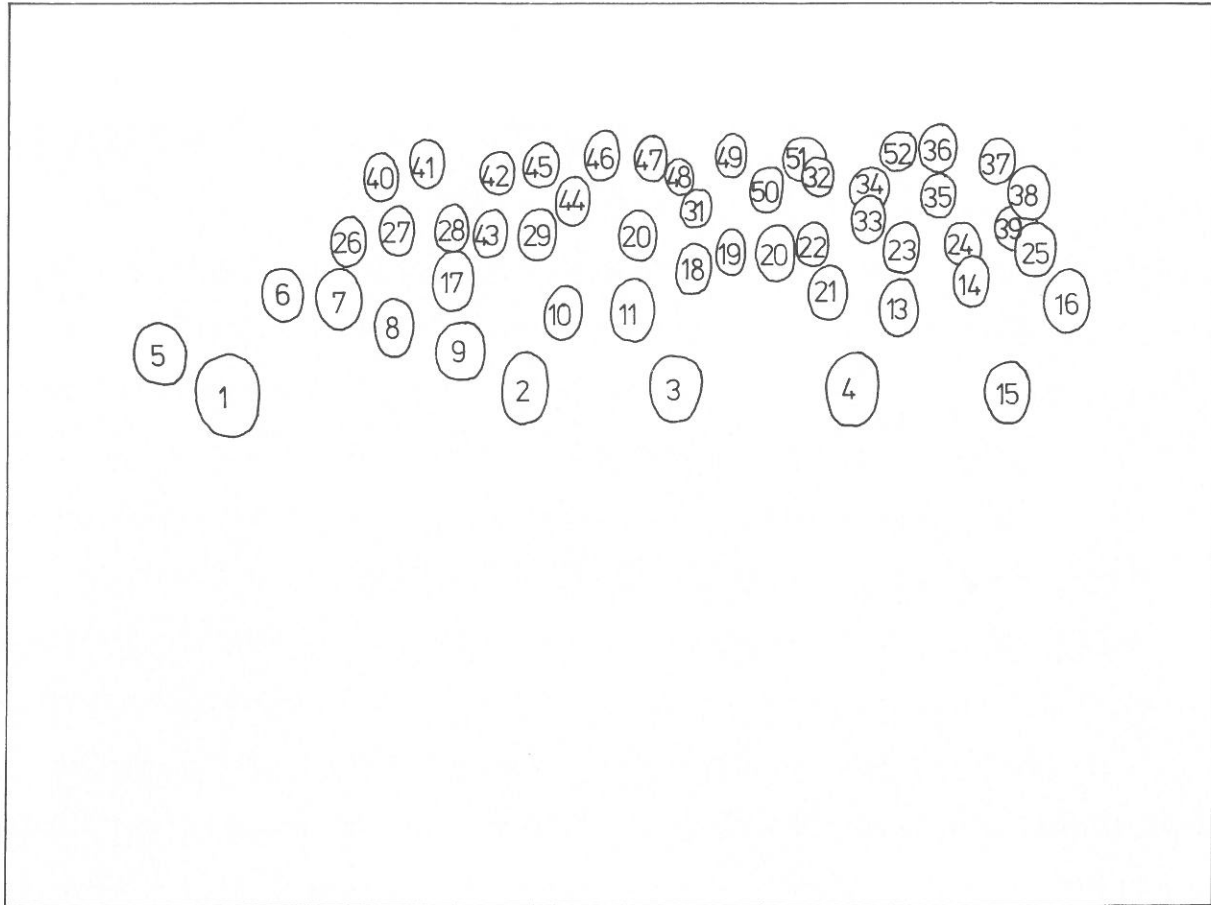


Fig. 9a. List of participants of the retirement party of Prof. Ehrenbaum as shown in Fig. 9.

1. Lohmann, 2. Ehrenbaum, 3. Reh, 4. Stender, 5. Movers, 6. Titschak, 7. Janetzky, 8. Schirrmann, 9. Zimmermann, 10. Erhardt, 11. Michaelsen, 12. Thieß, 13. unknown, 14. Neugebohrn, 15. Peters, 16. Borchmann, 17. Holle, 18. Pfeffer, 19. Krause, 20. Pertz, 21. Stopp, 22. Kastens, 23. v. Fuchs, 24. Bauer, 25. Duncker, 26. Gast, 27. Bolm, 28. Hofmann, 29. Lüdemann, 30. Kuske, 31. Dallmeier, 32. Latendorf, 33. Stollberg, 34. unidentified, 35. Schröder, 36. Thiel, 37. Plappert, 38. Stopp, 39. Schmidt, 40. Peters, 41. Panning, 42. v. Haffner, 43. Dencker, 44. Degner, 45. Schnakenbeck, 46. Hentschel, 47. Blöß, 48. Meyer (not present in this picture), 49. Kunst, 50. Stopp, 51. Buhk, 52. Schubert (not present in this picture).



Fig. 10. Herring investigations in the home laboratory in the Institute for Sea Fisheries, Hamburg

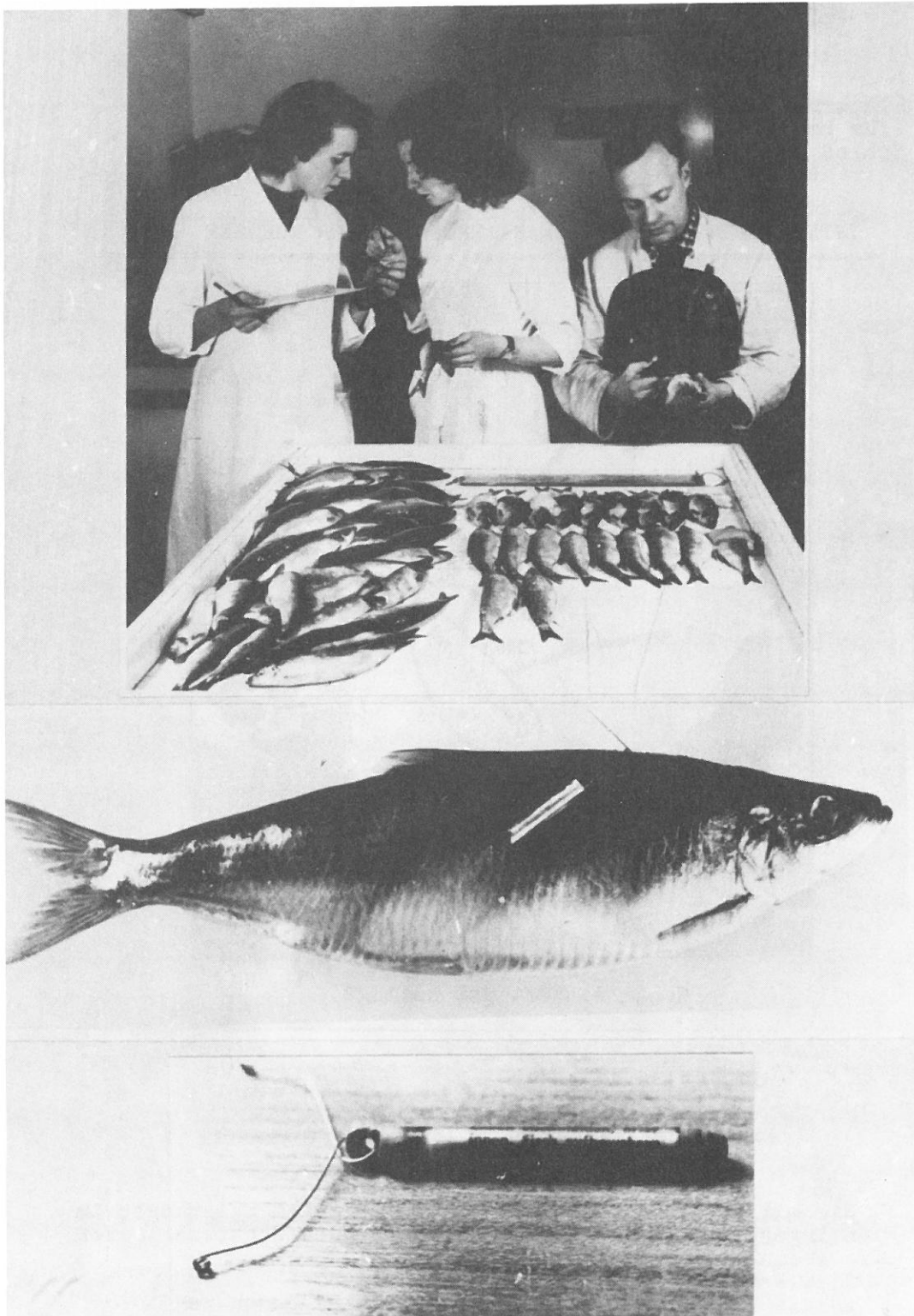
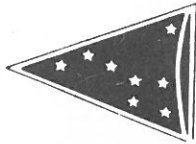
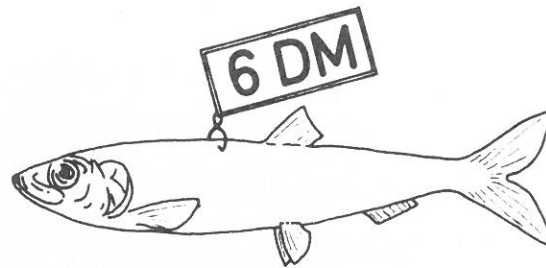


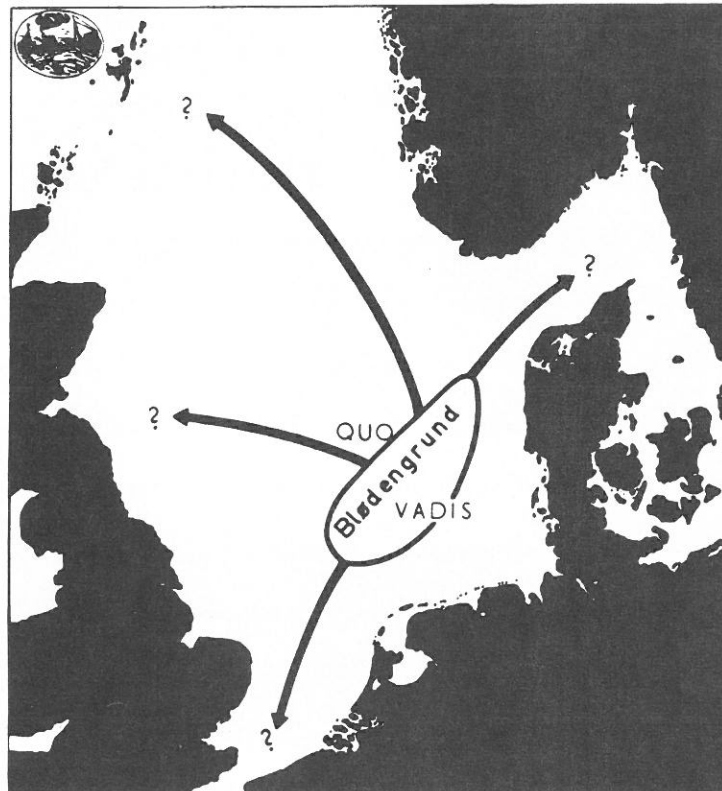
Fig. 11. Research work during the International Herring Tagging Experiment in the frame of ICES



Internationaler Rat
für Meeresforschung
Schloß Charlottenlund
Dänemark



INTERNATIONALE HERINGSMARKIERUNG IN DER NORDSEE 1958



Wohin wandert der Hering?

Cut ends letter inside

C 12 437

Äußere Heringsmarke

Innere Heringsmarke

Die mit Hilfe der internationalen Heringsmarkierungen im Ölheringsgebiet ("Blødengrund") zu lösenden Probleme lauten kurz formuliert:

- 1) Wie groß ist der Jungheringsbestand?
- 2) Wieviel fängt die Ölheringsfischerei davon weg?
- 3) Wohin wandern die überlebenden herangewachsenen Heringe?
- 4) Wie wirkt sich die Jungherings-Industriefischerei auf den Fang erwachsener Heringe aus?

Fig. 12. Information on International Herring Tagging Experiment in the North Sea in 1958

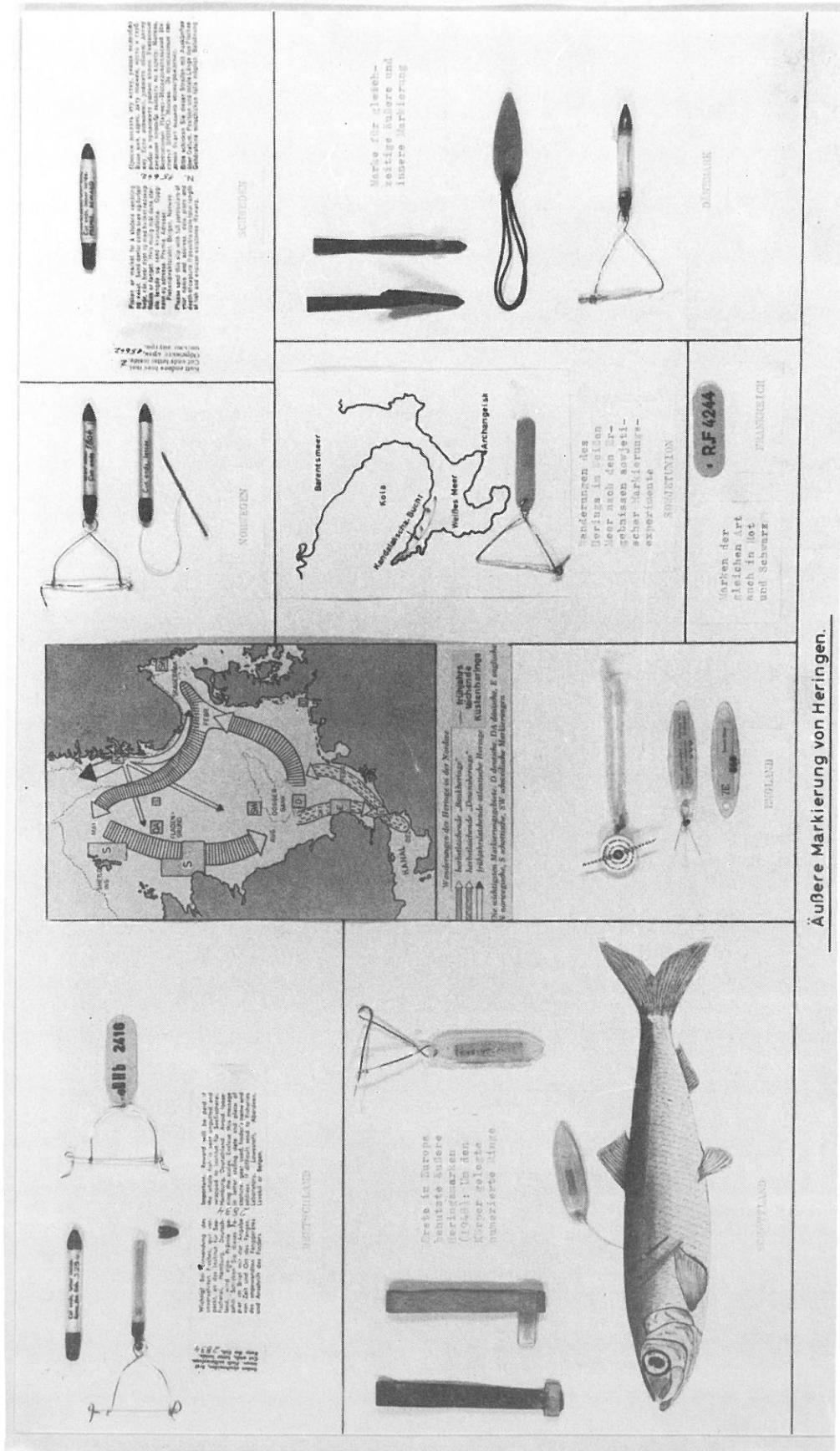


Fig. 13. Different types of external marks used for tagging herring by various countries in the 1950's



Fig. 14. Members of the North Sea Herring Working Group, May 1962, Institute for Sea Fisheries, Hamburg

The herring: Catch and processing

Already during the middle ages herring was caught not only off the northerneuropean coasts but on high seas as well. Driftnets and seines were mostly used as gear. Fig. 15 shows a fishing boat from 1553, only operated by hand and sail. A more modern ship from 1932/1933 is shown in Fig. 16; besides sail equipment this type of boat used to have an 150-HP-engine. A typical lugger from the early '50s is shown in Fig. 17. Fig. 18 shows part of the German drifter fleet in the harbor of Bremen-Vegesack which at that time was the main centre of the salted herring industry and fishery besides Emden, Hamburg-Altona, Glückstadt, and Leer. Usually a lugger carried a crew of twenty fishermen, had a 180-HP-engine, and stayed at sea for seven weeks utmost; the maximum load brought to homeport after this period was about 1200 to 1400 "kantjes" – wooden barrels – each containing 100 kg of salted herring. On the left side of the picture one can see thousands of kantjes piled up to enormous stacks. Pulling the herring bottom trawl aboard a so-called "combination-lugger" – which is a type of a boat enabled to fish with both a drift net and a trawl – is shown in Fig. 19. After sorting the catch the herring was gutted, salted, and barrelled for curing and transport (Fig. 20). Ashore the herring was sorted again by size and quality characteristics; this job was mostly done by women (Fig. 21). They differentiated f. e. between the normal salted herring, the winterherring, the full herring, the "matjes" (a slightly salted herring), the spent herring, and the fat herring. Already during the middle ages the quality of salted herring could be recognized by distinguishing marks visible on each single kantje (Fig. 22). During last decades both catching methods and herring processing have altered considerably. By help of modern echosounding and high-powered engines herring catch by the Federal Republic of Germany is nowadays almost exclusively carried out with pelagic trawls towed by modern trawlers (Fig. 23). Salting is replaced by deep freezing the herring after it has been cut, splitted, and washed mechanically.



Fig. 15. Typical boat for the herring fishery in the 16th century. This ship served as a freighter as well (maximum load 50 to 60 tonnes) out of the herring fishing season

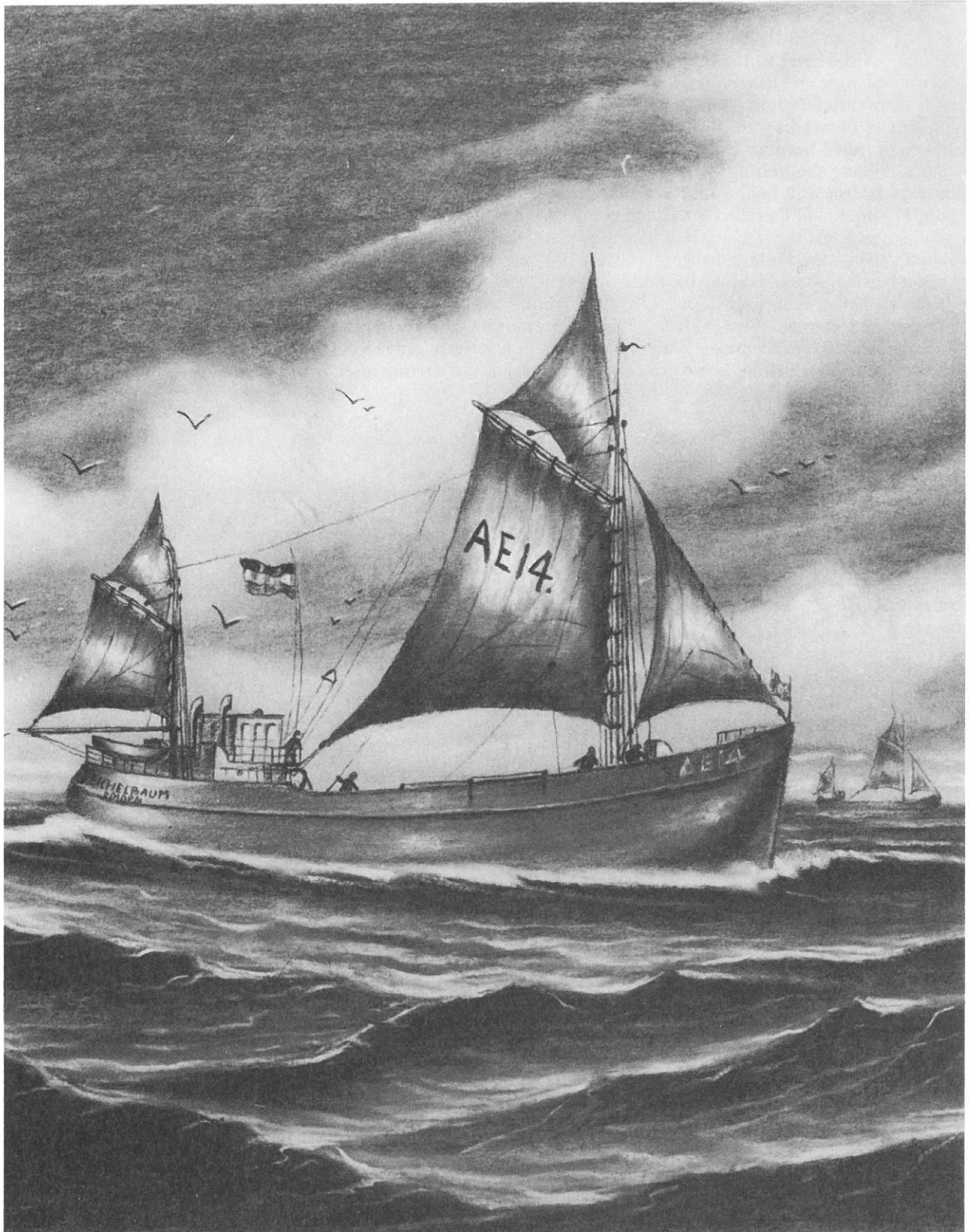


Fig. 16. Motorlugger from the Emden Herring Fishery in 1932/33 powered by a 150-HP-engine



Fig. 17. Typical German herring lugger from the beginning of the early '50s



Fig. 18. Part of the German lugger fleet in the port of Bremen-Vegesack. Left side of picture hundreds of "kantjes"



Fig. 19. Hauling the herring trawl aboard a lugger



Fig. 20. Crew aboard a lugger working up a herring catch



Fig. 21. Sorting salted herring into different quality classes ashore

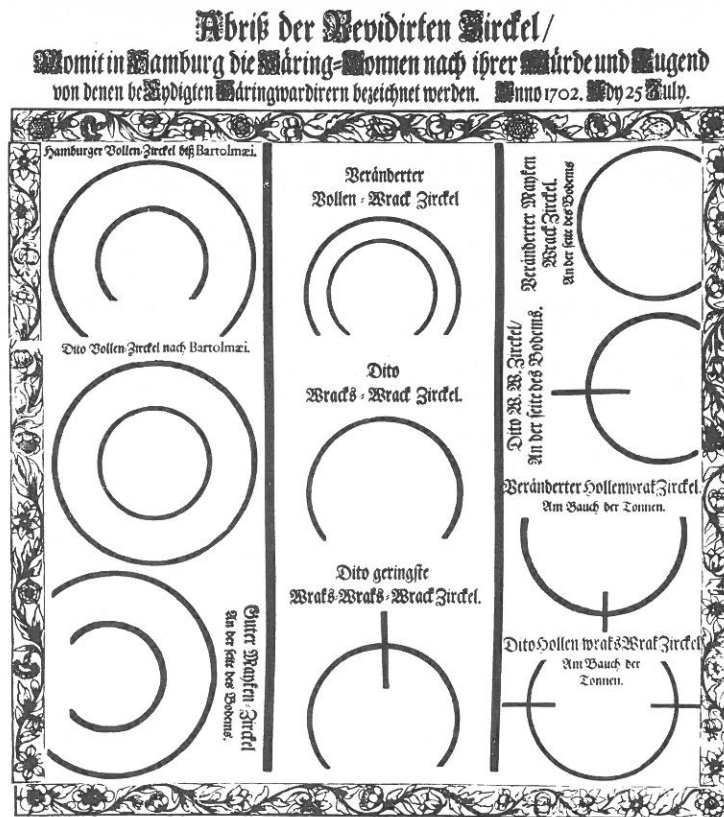


Fig. 22. Signs on "kantjes" indicating the quality of salted herring



Fig. 23. Modern stern trawler of the Federal Republic of Germany fishing fleet

References

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- Lundbeck, H., Schubert, K., Kreft, G., 1962: IV. Die Geschichte der Institute: Institut für Seefischerei. In: Meyer-Waarden, P.F. (Hrsg.): Festschrift zur Einweihung der Bundesforschungsanstalt für Fischerei am 1. Juni 1962. *Arch. Fisch Wiss.* **13** (Beih. 1): 42–71.

Postal Address:
Dr. Holger Dornheim
Bundesforschungsanstalt für Fischerei
Institut für Seefischeier
Palmaille 9
2000 Hamburg 50