FIVE members of the Andes-Amazon expedition, 1935–1936, sponsored by the Museum of the American Indian (Heye Foundation), sailed on August 10 for Ecuador, under the leadership of Captain Eric Erskine Loch. Others will meet them in Ecuador. The expedition, whose chief purpose is to study the Ssabela Indians in the Upper Amazon Valley and bring back ethnological specimens to the museum, will remain in the field a year.

To promote the study and work in the field of theoretical biology a foundation for theoretical biology of animal and man has been founded at the University of Leiden. In memory of the late professor of zoology Van der Hoeven (1801–1868), the author of the "Philosophia zoologica," it is called "Professor Dr. Jan van der Hoeven Stichting voor theoretische biologie van dier en mensch." The chief objects of the foundation are: (1) to arrange for lectures at the University of Leiden; (2) to bring the Leiden biologists who are interested in theoretical biology into contact with their colleagues in Holland and abroad; to bring about a contact for scientific purposes and organizations between theoretical biologists all over the world, for instance, by arranging international symposia on theoretical biology; (3) to publish articles on theoretical biology; (4) to found a library on this subject. Directors of this foundation are: Dr. C. J. van der Klaauw, professor of general zoology, and Dr. J. A. J. Barge, professor of medical anatomy, both at Leiden, and Dr. Adolf Meyer, professor of theoretical biology at Hamburg.

THE *Journal* of the American Medical Association states that Dr. Desfosses, editor of the *Presse médicale,* has published statistics on a subject that has caused agitation in France. In 1935 there are 10,148 French and 3,021 foreign students in the various medical schools; hence more than a fourth of the total number of 13,169 are foreigners. Ten thousand French students are far more than are necessary to fill the needs for medical men in France and its colonies. Some foreign countries, like Poland, now refuse to allow students to return to their native land to practise, and the same will soon be true of other countries that will not recognize a French diploma. The only method to decrease the plethora in the medical profession lies in the Portmann law, which aims to eliminate students during the first two years who can not attain a certain grade in their examinations and who have not had sufficient preliminary training.

A WAR DEPARTMENT request for $2,000,000 to map areas along the coasts and borders "which will become of high strategic importance in war" was announced recently by the works applications division. The army mapping project would include about 37,440 square miles of new maps and revised maps for about 38,320 square miles of territory. It would call for reproduction of defense maps and be coordinated with work by the Geological Survey and the Coast and Geodetic Survey. The services of the Air Corps and army engineers would be utilized. The proposed mapping would be done in Arizona, California, Connecticut, Delaware, District of Columbia, Florida, Mississippi, Maine, Maryland, Massachusetts, Michigan, Montana, New Jersey, New Mexico, New York, North Carolina, Oregon, Rhode Island, South Carolina, Texas, Vermont, Wyoming and Wisconsin.

DISCUSSION

THE CIRCULATION OF HUDSON BAY WATER AS INDICATED BY DRIFT BOTTLES[1]

THE Hudson Bay Fisheries Expedition of 1930[2] released five hundred drift bottles in Hudson Bay in the hope that returns from these bottles would throw some light on the general circulation of the surface layer of the waters of the bay.

The drift bottle used consisted of an ordinary catsup bottle, to which was attached a metal drag. The metal drag, suspended by about three feet of galvanized wire, was intended to serve two purposes as follows: (1) To keep the bottle upright and almost wholly submerged, and (2) to cause the bottle to follow the movement of the upper three feet of water, rather than the movement of the immediate surface water. Postcards, asking information from the finders of the bottles, were placed within the bottles. Bits of red cloth were placed in the necks of the bottles as a means of attracting attention if, and when, the bottles were seen lying on the shore. The bottles were then sealed with waxed corks.

Five years have passed since these bottles were released, and to date (July, 1935) twenty-six cards have been returned, a surprisingly good return from

TABLE 1

Lot	Date of release	Number released	Number returned	Percentage returned
1	Aug. 6/30	102	none	0.0
2	Aug. 7/30	145	17	11.3
3	Aug. 19/30	154	5	3.4
4	Sept. 5/30	99	4	4.0

[1] Published with the permission of the Biological Board of Canada.

[2] H. B. Hachey, *Contr. Canad. Biol. and Fish.*, 6, 23: 465–471, 1931.

such a sparsely settled area. Particulars of these returns are given in Table 1.

The resultant drifts of these bottles, with the assumed general movements, are indicated in Figs. 1

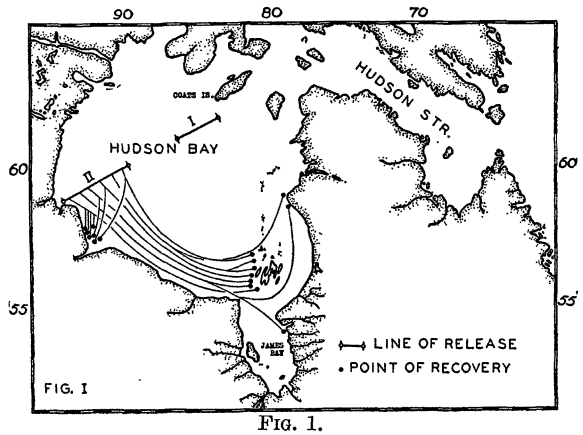

FIG. 1.

and 2. The returns from Lot 2 (Fig. 1) indicate a southeasterly movement along the southwest coast of Hudson Bay. From James Bay, the tendency is seemingly for a northerly movement holding close to the eastern coast of Hudson Bay. In plotting the meager returns from Lots 3 and 4 (Fig. 2), the in-

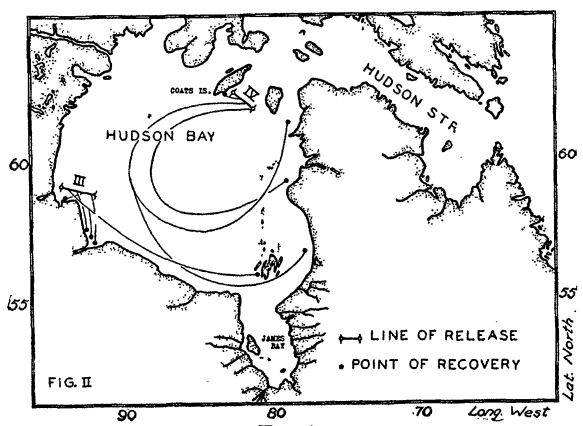

FIG. 2.

formation obtained from the returns of Lot 2 (Fig. 1) is taken into consideration. A northwesterly drift of the bottles is indicated by the one return from Coats Island. Consequently, the bottles of Lot 4 found along the east coast of Hudson Bay have probably made an almost complete circuit of the bay.

On the basis of this analysis of the returns, the general circulation of the surface waters of Hudson Bay would seem to be an anticlockwise one, with the outward movement of the waters from the James Bay area holding close to the eastern coast of Hudson Bay.

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THE ANTIGENIC PROPERTIES OF PLANT VIRUSES

THE application of serological methods to plant viruses has aroused considerable interest among pathologists, and recently several workers have presented the results of experiments which were planned to demonstrate that the active antigens are the viruses and not some other constituent of the plant. One of the most recent papers is that of Chester,[1] who has approached the problem from several angles. While Chester's general conclusion appears to be justified, the method used for presenting some of his data and likewise some of his reasoning can not be followed.

In Fig. 1 of his paper are presented line graphs showing the effect of temperature on four different viruses obtained from Turkish tobacco. The effect of temperature on the viruses was determined: (1) by the number of necrotic lesions or by the number of infected plants produced by the heated viruses and (2) by the precipitin reactions.

The writer was struck with the fact that the datum points for the infectivity of the unheated virus controls and for the seric reactions of these same controls coincide in the case of two viruses and are very close together in the case of the other two viruses used. This seemed to be phenomenal, since the actual number of lesions and the number of systemically infected plants produced by a given virus with a given species of plant is dependent on several factors other than the virus. If more or fewer leaves or larger or smaller leaves had been wiped the actual number of lesions would have been greater or less than indicated in the graphs. Likewise, the number of systemically infected plants would be reduced or increased in accordance with the number of plants inoculated and the technique used. Furthermore, the actual number of lesions is influenced by slight differences in technique and environmental conditions. Owing to the variations in all the quantitative virus infectivity methods now in use, it would be extremely difficult to plan quantitative tests in a manner to insure obtaining a prearranged number of local lesions or of systemically infected plants. It appeared, therefore, that suitable factors had been employed for the purpose of bringing the infectivity curves in close proximity to their respective seric-activity curves, though this point is not made clear in the paper.

Examination of the graphs in question shows that each of the vertical scales presumably is plotted on a logarithmic basis. However, on closer examination it is found that the infectivity scale is not truly logarithmic throughout, the upper end being abnormally compressed in relation to the lower portion. On

[1] K. Starr Chester, *Phytopathology*, 25: 702–714. 1935.