ing of a chair of child health. A postgraduate institute of child health is to be established, associated with the British Postgraduate Medical School.

Nature states that on the recommendation of a special committee, the Council of the University of Leeds has adopted a plan for the establishment of an Ophthalmological Research Center. As soon as the necessary funds are available, the council will proceed to the appointment of research fellows to work on special problems concerned with the prevention and cure of blindness and other diseases of the eye. X-ray equipment, the recently installed electron microscope and other facilities will be made available for the work in the university. The maintenance and development of the center will be in the hands of an Ophthalmological Research Advisory Committee.

IT is reported in *Industrial Standardization* that a new national standards association—the Asociación Chilena de Normas—has held a preliminary meeting and has appointed a provisional board of directors to serve until the final organization is completed. The meeting was sponsored by the Chilean Institute of Engineers and other important Chilean organizations. The provisional board of directors, in addition to its work of setting up the Asociación Chilena de Normas and opening the registration of members, is planning to organize technical committees for work on standards. Among the first subjects to be considered, it is expected will be cartographic drawing, technical drawing, preferred numbers, tolerances, lumber and cement. The association is publishing a magazine on Chilean standards entitled *Normalizacion*.

DISCUSSION

DETERMINATIONS OF GEOGRAPHIC COORDINATES IN GREENLAND

A PAPER recently published in SCIENCE, on evidences of differential shifts in position of crustal masses, is of particular interest to geologists.[1] During the past twenty years certain comparative data on determinations of longtitude have been cited frequently in support of the concept that whole continents have "drifted" widely and perhaps are still in motion. Geologists realize, and Dr. Stetson reminds us, that verification of changing coordinates would not necessarily indicate movement of continental masses, since we have abundant evidence of translational displacement along thrust surfaces and strike-slip faults, some of which are still active. However, the observations to determine longitude at several points in Greenland have had especial interest, since stations have been occupied in both the eastern and western coastal areas, and the published results, if taken at their face value, seem to indicate progressive movement westward. Geologists in general are not competent to appraise these data critically. Therefore it is gratifying that an astronomer has examined the detailed publications from one of the earlier surveys, in an effort to determine the degree of reliability that can be accorded the results.

Dr. Stetson chose for careful study the data for latitude and longitude resulting from observations in 1870 by Börgen and Copeland at Sabine Island. An error in Stetson's identification of this island should be pointed out; he describes the location as "in the Melville Bay region, off the west coast of Greenland." No doubt this error results from a confusing duplication of names. Maps show southwest of Melville Bay, near latitude 75°26′N, longitude 60°W, a group of islets labeled "Sabine Islands." Sabine Island, visited by the explorer Sabine in 1823, lies off the *east* coast of Greenland near latitude 74°36′N longitude 19° W. This correction is not an essential item in the discussion to follow, but it seems desirable in the interest of accuracy.

Sabine, using the inaccurate methods of his day and probably with inferior equipment, made the first recorded observations to determine geographic coordinates of the island, in 1823. Börgen and Copeland failed to identify Sabine's observation point when in 1870 they arrived on the island as members of the Germania Expedition. They made determinations of latitude and longitude on a point which they believed to be within 100 meters of Sabine's location, but the admitted uncertainty makes valueless for scientific use any comparison with Sabine's results. In 1907 J. P. Koch occupied a station at Danmarkshafen, more than 200 miles farther north, and later ran a triangulation net to include the Sabine Island station of 1870. His values of longitude have been cited as evidence that Sabine Island moved westward 1,190 meters in the 37-year interval. Jelstrup, who in 1932 reoccupied the exact site used by Börgen and Copeland in 1870, was the first to employ modern radio time-signals on the island. He rejected all earlier results except those of 1870, and obtained a value for longitude which appears to indicate a westward shift amounting to 615 meters during the 62-year interval. If we should accept Koch's results as equally reliable—and some advocates of the continental-drift hypothesis do cite them as valid evidence—it would be necessary to conclude that the Sabine Island station moved westward 1,190 meters between 1870 and 1907, and retreated eastward 575 meters in the 25 years following 1907.

[1] Harlan T. Stetson, SCIENCE, 100: 87–93, 113–117, 1944.

Stetson accepts Jelstrup's results as correct within a limit of error not greater than 20 meters, and scrutinizes the original data of Börgen and Copeland, whose longitude values had to be based on lunar culminations and star occultations. He concludes that the probable error in the determinations, expressed in linear measure, can be no more than 80 meters. Since there is a discrepancy of 615 meters between Jelstrup's longitude position and the earlier value, it appears that the longitude of Sabine Island must have changed during 62 years by at least some 500 meters. When we add to this a discrepancy of about 100 meters in latitude between the two determinations, the net linear change in position amounts to nearly a third of a mile, in a direction somewhat south of west. Stetson discounts this figure by a large fraction, and accepts "seven hundred to eight hundred feet" as the minimum shift indicated by comparison of the two sets of data. This analysis by a competent astronomer must receive serious consideration. However, the layman in such matters is left with an uncomfortable feeling that the mean probable error may be given undue weight in treating a single set of data into which may enter inaccuracies from some unsuspected source. I confess to a strong skepticism based on comparison with developments at Kornok, another Greenland station that has figured prominently in the problem of shifting coordinates.

Kornok (Oornoq) lies on the Godthaabfiord in western Greenland, near latitude 64°32′N, longitude 51°02′W. Observations to determine coordinates at this location were made by Falbe and Blume in 1863. Twenty years later von Ryder reoccupied the station, and obtained a value for longitude more than 400 meters *east* of that reported by the earlier expedition. Both parties of course employed lunar observations for comparisons of time. In 1922 Jensen, using modern radio time-signals, reported a longitude value about 1,200 meters *west* of that obtained by von Ryder. In 1927 the Danish Geodetic Institute again occupied the station, and announced a value about 180 meters west of Jensen's. Wegener[2] and du Toit[3] lay especial emphasis on comparative results of the two modern determinations, which they interpret as an indication that Greenland moved westward in the 5-year interval at an average annual rate of 36 meters. However, the Danish Institute repeated the observations in 1936, and obtained a longitude value essentially identical with that of 1927.[4] In his published statement the director of the institute does not specifically mention Jensen's value of 1922, but presumably he includes it in his general opinion that "the deviations of the old observations from the new ones are the result of observation errors."

If we should accept the results of all observations at Kornok, the behavior indicated for that part of Greenland would seem erratic in the extreme. The story would be as follows: Between 1863 and 1883 the station moved eastward more than 400 meters, an average of more than 20 meters annually. From 1883 to 1922 movement was in the reverse direction, at an average rate of nearly 31 meters per year. During the next five years the westward drift continued at the faster pace of 36 meters yearly. What may have happened after 1927 is a matter for some speculation. Either the movement stopped abruptly, and had not been resumed nine years later; or sometime after 1927 the direction of drift again reversed to eastward, and in 1936 there had been a return to the exact longitude of 1927. Such a succession of events may be conceivable. It seems significant, however, that all evidence of shifting position vanished in the nine-year interval between modern observations that are vouched for as accurate by a highly reputable geodetic organization.

It would be interesting to have a competent analysis of the data from the early observations at Kornok, similar to the analysis of the Sabine data by Stetson. The methods used at the two positions were essentially the same, but of course the results in one case may prove to be less reliable than in the other. However, criticisms of conclusions based on the nineteenth-century determinations at the two stations have been answered repeatedly with the statement that the amount of apparent change in longitude is many times the probable error inherent in the observational methods employed. Similarly J. P. Koch claimed that any error involved in the triangulation by which he related the Sabine station to Danmarkshafen must have been less than the probable error of the longitude determinations. Whatever the theoretical merits of such claims, we shall look forward to eventual check of the coordinates at Sabine Island by the same precise methods that have been used at Kornok.

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[2] Alfred Wegener, "Die Entstehung der Kontinente und Ozeane," 4th Edition, Braunschweig, 1929, pp. 27–29.

[3] A. L. du Toit, "Our Wandering Continents," London, 1937, p. 300.

[4] N. E. Nörland, "Astronomical Longitude and Azimuth Determinations," *Roy. Astr. Soc. Monthly Notices*, Vol. 97, 1937, pp. 505–6.

THE GENERIC AND SPECIFIC TRIVIAL NAMES OF THE TERTIAN AND QUARTAN MALARIA PARASITES

THE Official List of Generic Names in Zoology was established by the International Congress of Zoology in order to promote stability in zoological nomencla-