

miles to the south-west in the course of twenty-four hours in lat.  $40^{\circ}$  N. and long.  $55^{\circ}$  W. It would be interesting to know whether these conditions are constant in this region, as it might then be of importance for navigation, or whether there may be certain irregularities, perhaps one or more progressing vortices.

As a matter of fact, the general current was here split into two branches. Whether it proceeds as two separate currents or not is difficult to judge from our investigations, as we had too few stations in the neighbourhood, and there are no previous observations. Our section from Newfoundland to the Bay of Biscay (Fig. 99, p. 115) has a suggestion of a similar division at Station 85, but it is too slight to base any conclusions upon. It is, however, known that farther south there occur "bands" of water with comparatively low temperatures in the surface-layers of the Gulf Stream. But we are on many points deficient in our knowledge of this most important ocean current, among other things also with regard to the yearly variations to which it is subject.

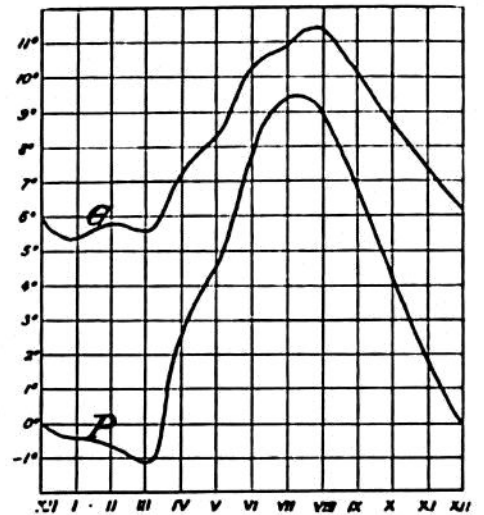


FIG. 205.—AIR-TEMPERATURE AT THE FAROE ISLANDS

G, when the wind blew from the "Gulf Stream" region; and P, when the wind blew from the East Iceland Arctic-current region.

Influence of the Gulf Stream on the climate of Europe.

It is a well-known fact that the climatic conditions of northern Europe are influenced by that branch of the Gulf Stream which flows northwards along the shores of the British Isles into the Norwegian Sea. In places with such a maritime climate as that of the Faroe Islands this influence is especially felt. Martin Knudsen has examined some meteorological observations from the Faroe Islands, and has found (see Fig. 205) a conspicuous difference between the temperature of the air when the wind blew from the Gulf Stream region in the south and west, and when it blew from the north, over the Arctic East Iceland current. The difference was greatest in winter (as much as  $6\frac{1}{2}^{\circ}$  C.) and least in summer (smallest difference  $1\frac{1}{2}^{\circ}$  C.). Pettersson at an early period entered on the study of questions regarding oceanic influence on the climate of Scandinavia, and his work on this subject has been more conducive than anything else to the establishment of the international investigations of North European waters.