chemical conceptions that, in all the range of characters with which we, breeders, have dealt, no phenomenon suggestive of valency between characters has been observed. Everywhere we meet the fact that on an average the number of germ cells in which our allelomorphs are present is the same as the number in which these allelomorphs are absent. Whatever the kind of characters concerned, equality of number is the rule. While, therefore, we see very readily that the operations of the allelomorphs are due to chemical action, allelomorphism itself can not be expected to prove a chemical phenomenon in any simple sense. Allelomorphism is rather to be compared to the separation of substances which will not mix, and it is not impossible then in some of our more complex cases we are concerned with various phenomena of imperfect mixture. The elucidation of this part of the subject must be left to the physicist.

I can not conclude without expressing something of the delight which I feel that biologists are at length devoting themselves in good earnest to genetic problems.

To those whose memories go back even to the International Congress of 1898 in Cambridge the change is indeed amazing. Then we spoke little of genetics—little, that is to say aloud, or in official programs, though under our breath some of us were murmuring of these things. In this congress the voices that we dared not raise in 1898 are rather in danger of hoarseness from too much speaking. But, seriously, we students of genetics may look forward to the future with great confidence and hope. Those who next week will see Professor Davenport's magnificent institution at Cold Spring Harbor will appreciate that a wonderful and most hopeful beginning has been made. The work of Professor Davenport and his staff, of Professor Castle, at Harvard, of Professor Tower, at Chicago, and of others I might name, are all evidences that a great and combined advance has begun. We in Europe will bear our part also, and if we have not any very fine equipment we must console ourselves with the thought that light-armed troops may move the faster for a while. With their base on Cold Spring Harbor, or Woods Hole and the Biologische Versuchsanstalt in Vienna, the allied armies of genetics, cytology and experimental zoology they start for the grand attack; and I think when we meet at the end of another period of ten years, there will be victories to record.

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SCIENTIFIC BOOKS

Résultats du Voyage du S. Y. Belgica en 1897–9, sous the commandement de A. de Gerlache de Gomery. Rapports Scientifiques. Zoologie. *Insects* par G. Sévérin (and twenty others), 92 pp., 4°, V. pl., 1906; *Ostracoden* von G. W. Müller, 8 pp., I. pl., 1906; *Holothuries* par E. Hérouard, 17 pp., II. pl., 1906; *Medusen* von Otto Maas, 32 pp., III. pl., 1906.

A fresh batch of the valuable reports of the Belgian Antarctic Expedition have come to hand, the printing and illustrations of the elegance which has characterized the series.

The number of insects which have been brought back from the Antarctic remains pitiably small, and in marked contrast with the richness of the Arctic regions. Besides the Collembola taken in the Gerlache channel, a *Podurella* and pedicularian obtained by the *Southern Cross,* no insect is known except a Chironomid fly of the new genus *Belgica,* and the larva of perhaps another species of the same family. These minute creatures, whose wings are so reduced that they are incapable of flight, are found in the vicinity of small pools of water where the seabirds roost on the rare bits of bare ground or rock which are exposed along Gerlache Channel.

A number of interesting insects were obtained in the Magellanic region and at the Falkland Islands. These are also treated of in the present publication.

A few ostracods, mostly belonging to the genus *Conchœcia* or *Paradoxostoma,* were obtained from the plankton between 69° 48′ and 71° 15′ S. Lat.

The Holothurians comprise nine species, of which five are new, including the new genus *Rhipidothuria;* and which were procured chiefly between S. Lat. 69° and 71° 18′ in deep water, or in the plankton collections.

The Medusæ are also rare, only two of strictly Antarctic habitat having been taken, *Homœonema racovitzæ* and *Isonema amplum.* The second generic name, it may be noted, is preoccupied for a Mollusk since 1866 by Meek and Worthen, and might be replaced by *Arctapodema.* The other forms discussed are mostly from the subantarctic plankton, none of them identical with Arctic species, though one of them is supposed to be Mediterranean in distribution. WM. H. DALL

National Antarctic Expedition, 1901–1904, S. S. Discovery, commanded by Capt. Scott R. N. Natural History. Vol. I., Geology. London, the British Museum (Natural History). 1907. 160 pp., 4°, pl. X. Field Geology, by H. T. FERRAR, Geologist to the expedition (100 pp.). Rock Specimens, by G. T. PRIOR, Asst. Brit. Mus. (40 pp.).

We have already reviewed the second and third volumes of this excellent report, and now are able to notice volume I., which has recently appeared.

The part of South Victoria Land studied by the members of the expedition consists of a great range, or series of mountain ranges, stretching in a line almost direct from latitude 71° to latitude 82° south, a distance of some 800 miles. Some of the peaks rise to a height of 13,000 feet, and it is remarkable that there is no extensive area of land lower than 4,000 feet. Off this bold coast line is the shallow Ross Sea, with occasional islands close in and in a series roughly parallel to the coast.

In the vicinity of the winter quarters the Ross Archipelago, including the large Ross Island which bears Mts. Erebus and Terror, is composed of recent volcanic rocks. Mt. Erebus emits steam, but during the stay of the expedition no ejection of dust, lava or other solid matter was observed.

On the opposite side of the gulf, westward from Ross Island the rocks are quite different, having for a basal platform a gneissic series with which a pure white coarsely crystalline limestone in places is associated. Above this lie granites with interstratified sheets of dolerite, occasionally thin seams of micaceous schist, and narrow basaltic dykes. The granites are capped by a yellowish sandstone which reaches a thickness, of 2,000 feet or more, and at certain localities retains carbonized traces of vegetable remains. These rocks were horizontal or inclined only at comparatively small angles. The carbonaceous matter occurs in sufficient quantity to form blackish bands in the strata, which also show at times cross-bedding, pebble bands, and yellowish argillaceous mudstones or concretions up to two inches in length. Some calcareous layers were also noted.

Above the sandstones the uppermost horizon consists of intrusive dolerites, sometimes columnar.

Full notes are given on the inland and sea ice. The former covers and obliterates the inequalities of the interior land surface, leaving coastal land fringes, comparatively free from ice. The floe or sea-ice rarely exceeds eight feet in thickness, and, if depressed by a deposit of snow above, the lower surface of the floe is removed by the action of the sea to an equivalent extent, so that, according to Ferrar, it seems impossible that the thickness of the floe can be increased to any very marked extent by the addition of snow to the upper surface. The rise of the inland ice from the coast inland is very gentle and almost imperceptible, so that it seems as if, should an elevated hinterland occur at all, it must be at a considerable distance inland.

Denudation in this region seems largely due to wind action, the temperature being so low that erosion by water flow is hardly possible. Exposed surfaces of rock rapidly disintegrate into dust, but at a small distance below the