

The main object of this work is to provide an indexed and classified list of mental and physical traits to assist, by enlarging their vocabularies, the "field-workers" employed by the office in the collection of data for the study of inheritance in man. A decimal system of classification is adopted. Simple numbers denote the primary classes and additional numbers are added to represent successive stages of subdivision; for example, 4 stands for mental traits, 45 special abilities, 459 special ability for athletics, 4595 for ball playing, and 45954 for golf. The classification does not appear to be always logical; thus after 46 is written "egoistic (temperament)," and after 4622 "optimism *vs.* pessimism," something different in kind to, and not a subvariety of, egoism. Not only field-workers, but others, even lexicographers, will find in this pamphlet additions to their vocabularies, but it is doubtful whether many will desire to use such words as "unaneccdoteness" or "unconversationableness." Further, we would question the propriety of contrasting "ludicrousness" with "absence of sense of humour," as a sense of humour is the faculty which most effectively enables one to avoid being ludicrous. But though these and other criticisms might be made, the work is one of undoubted utility, and will no doubt be greatly improved in future editions.

E. H. J. S.

INFLUENCE OF GEOGRAPHICAL CONDITIONS UPON JAPANESE AGRICULTURE.

IN a paper read recently before the Royal Geographical Society, Miss E. C. Semple discussed, largely on the basis of personal observation, a number of interesting features in the influence of geographical conditions upon Japanese agriculture. Premising that islands, with climates rendered equable by marine influence, and with the further advantage of supplying "the double larder of land and sea," offer specially favourable conditions for the early development of civilisation, she showed that agriculture in such circumstances quickly becomes intensive owing to the demand of an expanding population upon a cultivable area which, being insular, is not capable of expansion. This condition is particularly marked in Japan, because to its insular character are added other contributing causes. Cultivation and settlement are rare above about 2300 ft. of elevation. Forests and barren highlands above this height clearly segregate the densely populated valley-settlements, which cling closely to the rivers and streams, where rice, the staple crop, may receive the necessary irrigation.

Moreover, it is not merely what may be termed the mechanical facilities for this cultivation which limit its distribution. The generally unfertile character of the soil has also to be taken into account. Miss Semple quoted the present percentage of arable land to the total area of Japan proper as only 14.37, and proceeded to show that so far as statistical data are available, only Finland, Sweden, and Norway show a smaller percentage, and these, unlike Japan, are sparsely populated countries. The reclamation of the unfertile and ill-watered wastes, and the diversification of crops, are beyond the means of the Japanese smallholder, though a few rich farmers or companies have undertaken such work.

In dealing with the fertilisation of the soil, Miss Semple adverted to "the practical absence of stock-raising." It has been sought to attribute this peculiar feature to the principles of the Buddhistic faith, but Miss Semple prefers to find its reason in the scarcity of natural pasturage or fodder-plants. She dealt at some length with the two classes of wet and dry fields characteristic of Japanese agriculture, together

with the geographical effect of relief upon their distribution; on the other hand, she showed that the terrace system of cultivation usually associated with mountainous tracts alone is not so in Japan, because the irrigation of the lowland rice-fields also involves it. The raising of the silk-worm is found to be practically confined to inland provinces, and largely to upland farms, where communications are bad, and the natural tendency has been to develop a product of small bulk (and therefore easily conveyed) and high proportional value.

CHEMISTRY AT THE BRITISH ASSOCIATION.

THE Chemical Section may claim a fair share in what has proved to be a record year for the Association generally, and although the counter attractions of the International Congress had some effect on the attendance of the senior chemists, the section room was better filled than has sometimes been the case of late years. In particular Prof. Divers was greatly missed; for many years there has been no more regular supporter of the Association.

Whilst the plan adopted of grouping communications more or less under four main headings had the result that, as regards quality, the discussions were the best for some years past, this plan has the disadvantage that it tends to emphasise the very special nature of the subjects considered. The type of paper presented was satisfactory: brief summaries of the field rather than detailed accounts of method and results were the rule, and in consequence the task of the president in keeping to the time table was a light one.

The daily Press is apt to criticise the work of the section as too technical, but it must not be forgotten that the problems which chemists are now engaged in studying are essentially of a fundamental character. Dundee will perhaps be remembered as the "origin of life" meeting, and though the discussion on this subject was confined to the biologists, both in this discussion and in Prof. Schäfer's address it was admitted that chemical science must be looked to ultimately for light on the problems of life.

In acquiring accurate knowledge of the carbohydrates, fats and proteins, or of the properties of colloids, or in the study of enzymes and cell activators of all kinds, the chemist has already amassed a greater store of exact knowledge of biological import than is generally realised. Though he is forced at present by their very complexity to surround his conceptions in the technicalities of a nomenclature, which to the initiated is unique in its expressive simplicity, the day is not far distant when a more popular summary will be possible—indeed, only this year the announcement has been made of the success of nutrition experiments carried out entirely with synthetic food, every ingredient of which can be built up chemically from the elements.

The proceedings on Thursday, September 5, opened as customary with the presidential address, which has already appeared in full, the rest of the morning being devoted to physical papers. Prof. H. Marshall described the interaction between thiocarbamide, iodine and sulphur. Mr. A. J. Berry dealt with the distillation of binary mixtures of metals *in vacuo*, and described experiments showing that copper and cadmium are quantitatively separable by volatilisation of the cadmium, whereas magnesium and cadmium yield a non-homogeneous distillate. The compound $MgZn_2$ can be prepared by distilling alloys containing an excess of zinc beyond this composition; the excess of zinc volatilises.