

The total number of Americans who have occupied tables at the Naples Station, including the appointments to the end of the year, is eighty-one. If we omit the twelve names of those who occupied tables between '81 and '91, we find that sixty-nine American investigators have worked in Naples during the last eleven years. The international character of the work done in Naples is one of the greatest advantages to be derived from a sojourn at the Station. Here are to be seen the newest methods, and to be heard the latest points of view of some of the most advanced men from Germany, Italy, Russia, Austro-Hungary, Belgium, England, etc. This alone is an advantage, which we Americans, isolated as we are by distance from the older centers of investigation, can scarcely afford to forego. Let us hope, therefore, that America will not be niggardly in maintaining at least three tables as she does at present, and that in the near future their number may be added to, since even now they are inadequate to fill the demand.

Our national representation at the Naples Station can not be better shown than by an examination of the names of those American zoologists, botanists and physiologists who have worked in Naples. T. H. MORGAN.

NOTES ON INORGANIC CHEMISTRY.

THE TELLURIC DISTRIBUTION OF THE ELEMENTS.

A PAPER on the above subject was read by William Ackroyd at the Belfast meeting of the British Association, in demonstration of the thesis that the telluric distribution of the elements is inversely in proportion to their atomic weights. The question of the relative quantity of the elements in that portion of the earth which is known to us is quite fully dealt with by Professor Frank W. Clarke in *Bulletin* 148 of the U. S. Geological Survey. Here the abundance of the elements is determined from large groups of analyses of rocks and other telluric products, but only twenty-one elements are considered. Ackroyd has adopted the commercial idea of price as a measure of plenty or rarity, a procedure which would seem to be of rather doubtful expediency. In some cases the price of the

element itself is used; in other cases, especially where there is difficulty in obtaining the elementary form, some compound is considered. The latter is the case, for example, in the calcium group where the carbonates are used, and in the arsenic group where the basis is the oxid. Measured in this way, it appears generally that in each group the abundance of each element as measured by its commercial price is inversely proportional to its atomic weight. There are, however, a number of exceptions, where the element of highest atomic weight is more abundant than its immediate predecessor, as with barium, which appears to be more abundant than strontium; the same is true of mercury, lead, thallium, osmium, platinum, iridium and thorium. The halogens obey the general proposition, but their abundance is measured by their relative quantity in sea water. The conclusion is drawn that in the formation of the atoms from primordial matter less and less atoms of highest atomic mass were evolved, and that the universe became pervaded by the greatest quantity of those atoms which have the lowest masses. It is, in general, true that the most abundant elements are those of relatively low atomic weight, but Ackroyd's line of reasoning presents too many exceptions to bear out his conclusions.

THE NATURE OF ALLOYS.

THE final report of the Committee of the British Association on this subject was presented at the Belfast meeting. The committee consisted of Messrs. Neville, Heycock and Griffiths, and the report covers a complete study of the copper-tin alloys. At least three solid solutions are formed during the solidification of these alloys. If the alloys have been cooled with sufficient slowness, the following conditions exist at ordinary temperature:

0 to 9 per cent. tin.—A uniform solid solution of copper containing tin, or, more probably, containing a compound in solution.

9 per cent. to 25.5 per cent. tin.—A complex of large crystals of the above solid solution in a minute eutectic of the same solid solution and Cu_3Sn .

25.5 per cent. to 32 per cent. tin.—The same complex, but containing the Cu_3Sn in the larger crystals, and the above solid solution only in the minute eutectic. At 32 per cent. the alloy is pure Cu_3Sn .

32 per cent. to 38.5 per cent. tin.—A complex of Cu_3Sn and Cu_5Sn , or of two solid solutions of these substances. At 38.5 per cent. the alloy is pure Cu_3Sn .

38.5 per cent. to 93 per cent. tin.—Large crystalline plates of Cu_3Sn coated with a body that is almost pure Cu_3Sn , the whole being immersed in a eutectic of this body and tin.

93 per cent. to 99 per cent. tin.—Large crystals of Cu_3Sn in a eutectic of this body and tin.

99 per cent. to 100 per cent. tin.—Large crystals of tin in the same eutectic.

The whole research presents one of the completest and most valuable studies of alloys which has yet appeared, and throws much light upon the nature of alloys in general.

THE TRAINING OF TECHNICAL CHEMISTS IN ENGLAND.

ANOTHER interesting report presented to the same meeting was that of a committee, headed by Professor W. H. Perkin, on statistics concerning the training of chemists employed in English chemical industries. Information was received from 502 managers and chemists employed in English chemical industries, and while of course not every chemist so engaged is included it is believed that the list is tolerably complete. Of this number 107, or 21 per cent., are graduates of a university, while 395 have not taken a degree; 111 are fellows or associates of the Institute of Chemistry. It is perhaps worth while to present the following more detailed information from the report:

Number of graduates of a British university.	59
Number of graduates of both a British and a foreign university	16
Number of graduates of a foreign university..	*32
	107
Number of non-graduates trained in a British university or university college.....†	137

* 13 of whom studied also in a British university or technical college.

† 20 of whom studied also in a foreign university or technical college.

Number of non-graduates trained in a British technical college	165
Number of non-graduates trained in a foreign university or technical college.....	8
Number of non-graduates trained in evening classes, analysts' laboratories, or otherwise	85
	395

These statistics present a certain amount of encouragement in that over 80 per cent. of those reported have had at least some training in university or technical college, but the proportion of graduates is deplorably low. It is also probable that most of those who have escaped enumeration have had little or no university training. On the other hand, the work of the technical colleges is clearly apparent, and this is a hopeful sign for the future. The number who have received training in a foreign institution is surprisingly low, only 76 in all. It is probable that the proportion in this country would run higher, and this in spite of the greater difficulties connected with an American's studying abroad.

J. L. H.

CURRENT NOTES ON PHYSIOGRAPHY.

NORTHEAST LABRADOR.

DALY's report on 'The Geology of the Northeast Coast of Labrador' (*Bull. Mus. Comp. Zool.*, Harvard College, XXXVIII., 1902, pp. 205-270, 10 pl., 3 maps) gives the results of a Brown-Harvard expedition in a forty-ton schooner, sailing from St. John's, Newfoundland, June 25, and returning there October 3, 1900. The Torngat mountains, rising to altitudes of 5,000 or 6,000 feet, the highest summits on the Atlantic coast from Hudson strait to Cape Horn, present many sharp ridges and peaks, unmapped and unnamed; their upper slopes are cloaked with coarse rocky detritus; their lower slopes show numerous signs of strong glaciation. The fiords by which the bold coast is so greatly indented are associated with all the features characteristic of strong glacial erosion; over-deepened floors and over-steepened walls, with hanging lateral valleys and cirques in adjoining uplands. A cascading stream descended 750 feet from one of the hanging valleys into