

AN ALTERNATIVE TO QUALITATIVE ANALYSIS.

Introduction to Experimental Inorganic Chemistry.

By H. Biltz. Translated by William T. Hall and J. W. Phelan. Pp. vi+185. (New York: John Wiley and Sons; London: Chapman and Hall, Ltd., 1909.)

THIS book is intended to supply the lack of knowledge of descriptive chemistry which has resulted from the omission of "test-tube work" from the curricula of the schools or its restriction to small classes of advanced scholars. As compared with the "qualitative analysis" which it is intended to precede or to replace, as the case may be, the course now suggested has certain obvious advantages, arising more especially from the fact that the experiments are designed directly for the purpose of supplying a knowledge of the elements and their compounds, instead of serving this purpose only indirectly through the medium of a scheme of work designed originally for an entirely different purpose.

The abuse of the older method, by which a student could be trained to "get out" his salts and pass his examinations without acquiring any adequate knowledge of the processes used in doing this, is well known, but the alternative scheme now suggested is by no means free from faults. One of the most serious accusations that may be levelled against it arises from its monotony. Thus, in dealing with the metals, the student is expected to examine one metal after another, to heat it, dissolve it in acids, and then try the effect of a series of different agents on its solutions. After this has been done for a dozen different metals the student would certainly complain of weariness, and it is doubtful whether his mental faculties would be kept sufficiently on the alert to produce any permanent impression at the end of his course. The loss of the interest which is supplied in qualitative analysis by the incessant stimulus of a problem to be solved is a very serious drawback, and the course which the authors present would need very careful handling to prevent the class from going to sleep over its work or gliding through it without effort and, therefore, without profit.

The best use to which the book could be put would be as a duplicate text-book for a student engaged on qualitative analysis, so that when presented with a new element he might, whilst learning how to detect it, acquire at the same time some systematic experimental knowledge of its properties. If blended in this way with a series of problems, the experiments now described would undoubtedly be of considerable value.

The most noticeable fault in the arrangement of the book is due to an uncertainty on the part of the authors as to whether they are giving instructions for, or supplying a descriptive account of, the experiments. This confusion has resulted in a compromise whereby one experiment is described in the imperative tense and the next as a narrative in the present tense. It is also a characteristic weakness of the scheme that formulæ and equations are given without any hint as to the quantitative experiments on which they must necessarily be based. This lack might doubtless be

corrected by a teacher who was aware of the danger that the class might look upon a formula or an equation as an inspired product, to be accepted as a revelation sent down to mankind through the prophetic agency of the writers of text-books; but a course of chemistry which leads off with the words, "Hydrochloric acid, HCl, is a colourless gas. . . ." would (if left to develop its natural effects) be admirably calculated to propagate this all too prevalent heresy.

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THE WELFARE OF WOMEN.

The Health of the Nations. Compiled from Special Reports of the National Councils of Women. Pp. 191. (London: Constable and Co., Ltd., 1910.) Price 1s. net.

THE International Council of Women, of which the Countess of Aberdeen is president, was formed in 1888 by "a company of earnest American women" (p. 7). The result of their efforts was a federation of national councils, or unions, or associations, of women working for the common welfare. Mrs. Ogilvie Gordon sketches in this small volume the history of the council, noting the resolutions of its quinquennial meetings in the various countries, and summarising, for the year 1909, certain "special reports" prepared by representative women in Europe, America, and other continents. The movement is ambitious, and it is almost needless to say that the "special reports" here collated are of the most generalised kind. In a brief 200 pages of well-leaded print, it is not possible to give a passable summary of the "health" even of one nation, not to speak of the twenty-one "nations," or countries, here dealt with. But it is gratifying to find some twenty-two national councils of women (p. 12) sufficiently interested in general hygiene to produce even these somewhat sketchy "reports."

The main point is that the nations are thus showing an increasing concern for one another, and the International Council of Women, in focussing attention on the leading features of public-health progress, is doing, *pro tanto*, a real international service. Such reports are intended to excite interest rather than to provide materials for scientific conclusions, and, from this point of view, there is much to be said for them.

It is, however, to be regretted that there is so little reference in detail to extant official or other trustworthy documents. Had the papers each been supplemented by a short list of definite references, the usefulness of the little volume would have been immeasurably increased. As it is, one has difficulty in taking the statements on trust. For instance, in a "report on public health" for the "countries" of "Great Britain and Ireland," one finds it said—and the date of the "preface" is 1909—that "there is no compulsory notification of tuberculosis in Great Britain, but voluntary notification, instituted by local authorities, obtains in many places" (p. 65). Yet at that date, May, 1909, nearly 25 per cent. of the population of Scotland was under "compulsory notification," a fact that could have been obtained without difficulty, either from published blue-books or from