

which it is especially fitted; library facilities; scholarships and fellowships open to students; lists of apparatus invented, researches published and in preparation, and other publications by the instructors.

II. The second part of the *année* is headed 'Bibliographie,' and consists of analyses of nearly 200 books and articles (pp. 257-528), of a description of new apparatus (529-534), and of a necrology (535-538).

III. In a third part is placed a bibliographical table of 1217 titles, provided with an index of authors. The classification of this bibliography, which differs slightly from that of the analyses of the second part, is the following: Psychological treatises; articles on general psychology; normal and pathological anatomy and histology of the central nervous system; physiology of the nervous system; psychological methods; physiology and anatomy of vision; visual sensations; audition; sensations of the skin; gustatory and olfactory sensations; movements; fatigue; emotions; memory; psychometry; attention; association; individual psychology and character; scholastic psychology (pedagogy); heredity and evolution; criminal psychology; hypnotism, suggestion and sleep; aphasia; mental and nervous pathology; anthropology; comparative psychology.

The first five articles of part I. do not represent all the work accomplished in connection with the laboratory of the Sorbonne. A full list, given on p. 179, includes twelve further titles of papers which have been published elsewhere, and which are therefore merely analyzed in part II. It is proposed to retain as a permanent feature of the *Année* the 'general review on some important question,' represented this year by the paper on American laboratories, in such a manner as to gradually work through the entire field of psychology. General reviews on psychometry, on the graphic

method, and on the psychology of vision, are announced as probable.

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Iowa Geological Survey. SAMUEL CALVIN, State Geologist. Volume III. being the Second Annual Report (1893) and accompanying papers. Des Moines, 1895, pp. 501, plates XXXVII., figs 34.

In July, 1892, the present Geological Survey of Iowa took the field, and up to date three volumes have been issued. These are the Annual Report for 1892, issued 1893; the Coal Deposits of Iowa, issued 1894; and the Annual Report for 1893, the volume here under consideration. Iowa is more widely known for its agricultural than for its mineral resources, but the latter are none the less of extreme importance. In coal there is a vast productive area and an annual output of five million tons. The great beds of gypsum near Fort Dodge are now being adequately developed, and in not a few places throughout the State the less conspicuous industries of brick, pottery and building stone are coming into prominence. It is not intended to imply that agriculture is in any degree less benefited by a geological survey than these other industries, and the reports in question give evidence that this fact has been well appreciated by the State Geologist. The wise manager in an office of this kind carries on, behind the breastworks of economic geology, all the purely scientific work that his constituency will bear. Professor Calvin seems to have nicely adjusted these relations.

Passing over the routine reports, the work before us contains the following special papers:

H. F. Bain describes the 'Cretaceous Deposits of the Sioux Valley,' pp. 101-114. The classification of the cretaceous is more accurately carried out for this region than

had been previously done, and the importance of this formation in Iowa, a fact that we are just beginning to appreciate, is still further brought out.

W. H. Norton, 'Certain Devonian and Carboniferous Outliers in Eastern Iowa,' pp. 117-133. Both these formations are represented east of their main areas, but whether the outliers have or have not been cut off by erosion is still undecided.

J. L. Tilton, 'Geological Section along Middle River in Central Iowa,' pp. 137-146.

C. R. Keyes, 'Glacial Scorings in Iowa,' pp. 149-165. The paper describes and tabulates striæ in all four quarters of the State. The general directions are between south and east.

W. H. Norton, 'Thickness of the Paleozoic Strata of Northeastern Iowa,' pp. 169. This important paper is based on well records obtained from holes sunk both for water and oil or gas. These valuable records are usually so evanescent that to have so many preserved is a matter of congratulation.

C. R. Keyes, 'Gypsum Deposits of Iowa,' pp. 259-304. This report is a welcome addition to the scanty literature of an important industry. Iowa is now fourth among the States as a producer of plaster and has great reserves of the crude rock for the future.

C. R. Keyes, 'Geology of Lee County,' pp. 307-407. Lee county forms the southeastern corner of the State. The paper reviews its geology with thoroughness and with good illustrations.

C. R. Keyes, 'Economic Geology of Des Moines County,' pp. 411-492. This county adjoins Lee on the north. After an introductory geological sketch, the building stones, clays, coal and other minor economic minerals are taken up.

The typography and general style of the volume are excellent and reflect credit on the management of the Survey. Since its issue Dr. C. R. Keyes has become State

Geologist of Missouri, and H. F. Bain has become Professor Calvin's chief assistant, making thus some recent changes of personnel in the staff. J. F. KEMP.

HYGIENE.

Annual report of the Department of Health of the City of Chicago for the year ended December 31, 1894. ARTHUR R. REYNOLDS, M. D., Commissioner of Health, Chicago. 1895. 268 pp., 8°.

Dr. Reynolds remarks that "the phenomenal healthfulness of the city continues to be the theme of incredulous comment by less favored localities." When a death rate of 15.24 per 1,000 is reported for a city of a million and a half of people it is very apt to be the subject of incredulous comment by statisticians, who are skeptical about municipal death rates of less than 17 per 1,000, knowing that there are several ways of lowering death rates besides the primitive one of reducing the number of deaths. It is clear, however, that there were but 23,892 deaths reported in Chicago during the year 1894 as against 27,083 in 1893; 26,219 in 1892, and 27,754 in 1891, and that, therefore, the death rate must have been comparatively low last year, as it was in almost all large cities.

The account of the small pox epidemic is interesting. 2332 cases were received in the city small pox hospital. 993 of these had been vaccinated after some fashion, and of these 161, or 16.2 per cent., died. 1339 had not been vaccinated, and of these 485, or 36.2 per cent., died. The difference was most marked in the children under 6 years of age, in whom the mortality of those vaccinated was 12.5, and of those unvaccinated 44.0 per cent. The chronological summary of Chicago mortality from 1851 to 1894, with diagrams, is interesting and valuable. The report, as a whole, contains a vast amount of information and is highly creditable to the department which issues it.