he devoted his life, viz., the amelioration of the condition of the insane, and the progress of neurological and psychological medicine.

With the view of carrying out this object, an influential and representative committee has been appointed, and they are of opinion that the memorial should take the form of a prize or medal to be awarded as an encouragement to the study of the above-mentioned subjects.

The committee venture to make an earnest appeal to all those who desire to honor the memory of Dr. Tuke and to promote his life's work, for subscriptions to carry out this object.

The subscriptions may be sent to the Honorary Treasurer, Henry Rayner, M. D., 2 Harly street, London, W.

G. F. BLANDFORD, M. D.,
Chairman.

SCIENTIFIC LITERATURE.

L 'Année psychologique. Première Année, 1894. Publiée par MM. H. BEAUNIS et A. BINET. Alcan, Paris, 1895. Pp. vii., 619. 10 francs.

This new annual combines two main features, both of which will prove of interest and value to psychologists: it publishes the results of the investigations undertaken at the psychological laboratory of the Sorbonne, together with some other original articles, and a general review on some important question; and it gives an extended analysis and bibliography of all the important psychological literature which appeared in 1894. With the largely increasing mass of literature appearing in this field, the latter feature will render the annual extremely helpful. As to the original matter, every one who is familiar with the previous work of M. Binet, the director of the laboratory, will be assured beforehand of its high quality, its thoroughness and its insight.

I. After a brief introduction by M. Beaunis, we find the original articles occupying in all 255 pages. They are as follows:

(1) A. Binet and V. Henri: *Memory for Words* (Pp. 1–23). The number of isolated words retained after a single hearing varies with age and with the number of words heard; only one-third to one-half as many are preserved in memory as can be repeated immediately after hearing them read; the first and the last words heard are the ones best retained; in immediate repetition, errors of sound, and in later repetition, errors of sense predominate. Errors of omission are much more numerous than errors of imagination, where for one word is substituted another entirely different. The principles of contiguity and of resemblance are not sufficient to account for the recall of particular words; the direction of the attention towards the experiment as a whole is a further essential condition.

(2) A. Binet and V. Henri: *Memory for Phrases* (for ideas). (Pp. 24–59). The number of words retained was found, under the conditions of the experiment, to be about 25 times as great when they occur in connected phrases as when they are isolated.

(3) A. Binet and J. Passy: *Psychological Studies of Dramatic Authors.* (Pp. 60–119). This paper gives the results of an attempt to throw light on the question of the creative imagination by means of interviews with Victorien Sardou, Alexandre Dumas, Alphonse Daudet, Edouard Pailleron, Henry Meilhac, Edmond de Goncourt and François Cåppée. The following results were attained: (1) The work of literary composition does not manifest itself in any exceptional physical or moral condition distinguishing it from other mental occupations. The belief in an 'artistic hallucination,' as well as in the importance of the influence of the seasons, of the environment, of artificial excitants, is unfounded. The work of artistic creation demands full

self-possession, and depends not only on the imagination, but also on reason and common sense. (2) The sole effective excitation to work is of psychological nature; the author finds himself in a particular emotional state, which originates directly in the subject treated. (3) The work of dramatic composition takes place most frequently under the form of crises—longer or shorter periods during which production is especially easy. (4) As to the mental state during composition, the author may simply attribute to his characters his own ideas and emotions; he may seek to forget his own personality, and to enter into that of the characters he imagines; or he may be in a state which may be truly called one of inspiration, where he seems to listen passively to the conversation which his characters themselves carry on. (5) With few exceptions, the professional dramatic authors, when they compose, represent the scene to themselves as occurring on the stage of a true theatre. (6) The question of mental images is one of little importance in composition.

(4) A. Binet: *François de Curel* (pp. 119–173). This paper continues the previous one, and is given separately because the observations furnished by Mr. de Curel are so abundant and so precise as to constitute probably the most complete analysis in existence of the creative imagination. M. de Curel's mental state during composition is of the third type mentioned in the previous paper, that of inspiration.

(5) Weeks: *Experimental Researches in Phonetics* (pp. 174–178). Contrary to the received opinion the South German consonants b, d, g, whether at the beginning, in the middle, or at the end of a word, are weaker than p, t, k, instead of identical with them.

(6) Th. Flournoy: *The Action of the Environment on Ideation* (pp. 180–197). Forty-three persons each drew ten designs and wrote ten isolated words. The immediate environment was responsible for 15.7% of the drawings, 37.2% of the words; individual habits, profession, etc., accounted for 41.6% of the designs, 31.1% of the words.

(7.) Th. Flournoy: *A case of personification.* (Pp. 191–197.) A rare phenomenon, similar in nature to colored hearing, visual schemes, etc. It consists in the concrete representation of a person (or animal or object) regularly aroused by a word or an idea which has no comprehensible relation with this associated image.

(8.) Th. Flournoy: *The influence of the visual perception of bodies on their apparent weight.* (Pp. 198–208.) Smaller objects of equal weight seem heavier than the larger if they are looked at while the comparison takes place. The illusion persists, even when the equality of weight is known, and does not depend on the mode of prehension or upon inequalities of cutaneous contact. Of two equal weights occupying a volume of 2100 and 10 ccm. respectively, the smaller was judged to be from two to five times as heavy as the larger. This experiment proves that the sensation of motor effort is purely kinæsthetic, and that so-called sensations of innervation have no existence.

(9.) E. B. Delabarre: *The Laboratories of Psychology in America.* (Pp. 209–255.) A brief account of the development of Psychology in America is followed by a detailed description of the psychological laboratories. These number 27, of which 8 or 9 are for demonstration only; some 5 to 8 devote some attention also to research; and 10 or more are especially active in research. In connection with each laboratory are given the names of director and instructors; list of courses; date of establishment of the laboratory, number of rooms occupied, value of equipment and annual appropriation, and kind of research for

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