

demarcating the "Durand" boundary. It commenced with the commencement of demarcation at Wana; it continued *pari passu* with the process at Chitral; and it ended only when the proposal to divide the Mohmand country in half by an outward and visible boundary line was abandoned.

"And how can we blame these people, simple, savage and unsophisticated as they are? We may explain to them as much as we like, and protest as loudly as we can, but when they see the long line of boundary pillars going up; when they are told that henceforth all inside that line practically belongs to the British *Raj*; and that from this time their allegiance must be to us; and when, finally, they note our surveyors at work, mapping their country, and measuring their fields, their reflection is, 'Methinks you do protest too much!' And they are irresistibly driven to the conclusion that their country is annexed and their independence gone."

It is, indeed, hardly necessary to assume that the Pathan is either "simple" or "unsophisticated" to account for his arrival at this conclusion.

The story of the campaign is well told, and the illustrations, although here and there they betray the sketchiness of the amateur, are on the whole exceedingly effective.

Preliminary Report of an Investigation of Rivers and Deep Ground Waters of Ohio as Sources of Water Supplies. By the State Board of Health. Pp. 259. (Cleveland: J. B. Savage Press, 1898.)

By an Act of the Legislature of the State of Ohio, U.S.A., it is provided that no city, village, or corporation shall introduce a public water supply, or system of sewerage; or change or extend any public water supply or outlet of any sewage unless the proposed works shall have been submitted to, and received the approval of, the State Board of Health; and by a subsequent Act it was ordered that the Board of Health should examine and report annually on the condition of all public water supplies. The enactment of these laws grew out of the general recognition of the fact that the pollution of streams and lakes by sewage had already reached a point when it had become a menace to public health, and that some intelligent supervision and control of the sources of public water supply had become necessary.

The Board of Health, in order to be in a position to deal in a comprehensive manner with the various schemes submitted for approval, has commenced an investigation of all the sources of supply and of the streams and rivers of the State; maps and statistics have been prepared, showing the principal towns and villages and the sources of water supply and sewage disposal; and a laboratory has been established for chemical and bacteriological examination. The report now issued deals in a very complete and comprehensive manner with the way in which the investigations of the Board are carried out; the methods of analysis, the results of bacteriological examination, reports on gauging, and the merits of different geological formations as sources for water supply. Although confined to the water supply of Ohio, the information given cannot but be of great interest and value to sanitary engineers and chemists engaged in works of a similar character in this country.

The Periodical Cicada. By C. L. Marlatt, First Assistant Entomologist. *Bulletin*, No. 14, New Series. Department of Agriculture, Division of Entomology. (Washington, 1898.)

WE learn from Dr. L. O. Howard's "Letter of Transmissal," prefixed to this Report, that it is intended to replace a former *Bulletin* on the same subject published in 1885. He says that the insect is "distinctly American, and has the longest life period of any known insect. Economically, it is chiefly important in the adult

stage from the likelihood of its injuring nursery stock and young fruit trees by depositing its eggs." We are inclined, however, to think that several large wood-feeding insects, such as Longicornes and *Siricidae*, sometimes surpass the *Cicadae* in the length of their life; and one or two *Lepidoptera*, such as *Eriogaster lanestris*, may remain in the pupa state for many years. Among the peculiarities of this *Cicada* are the periodicity of its broods, some appearing at intervals of seventeen years (whence its name), and others at intervals of thirteen years; and the dimorphism of the insect, which constantly exhibits a large form and a small form side by side in the same brood. This periodicity renders it easy to calculate when it will be common in any special locality, according to the number of thirteen-year or seventeen-year broods which may be running their course parallel with each other. Owing to the destruction of forests, however, it is much less abundant than formerly, and is hardly to be reckoned now with really destructive insects. The English sparrow, too, destroys great numbers. W. F. K.

The Brain-Machine: its Power and Weakness. By Albert Wilson, M.D. Pp. vi + 157 + 24 Plates. (London: J. and A. Churchill, 1899.)

MUCH instructive information concerning the structure and mechanism of the brain and nervous system, and the mechanism of thought and mind, is presented in a popular style in this volume. The aim of the author appears to be to show how to preserve the health and integrity of the brain-cell, and to point out the importance of the subject in national as well as individual welfare. The volume should be of assistance to parents and schoolmasters who are concerned with the education of children, for while the author pleads for the cultivation of brain-power, he shows that the *mens sana* requires to be *in corpore sano*.

The Swastika. By Thomas Wilson. Pp. 255. (London: W. Wesley and Son, 1898.)

THIS interesting monograph on the Swastika, prepared by Mr. T. Wilson, Curator of the Department of Prehistoric Anthropology, United States National Museum, appeared in the report of the Museum for 1894, and has already been described in these columns. The Swastika is the earliest known symbol, and the object of Mr. Wilson's memoir is to trace its migrations. The volume contains 374 figures in the text, and 25 plates, including a chart of the geographical distribution of the symbol. Many students of archæology will be interested in the contents.

Dictionnaire Technique Français-Anglais. By A. S. Lovendal. Pp. viii + 158. (Paris: Boyveau et Chevillet, 1899.)

THE French and English equivalents of the names of tools used in various trades are shown in parallel columns in this volume. We have, for instance, the phrase "Étau à tige à mâchoire étroite" as the equivalent of dog-nosed tail vice, and the phrase "Compas double calibre à $\frac{1}{4}$ de cercle entaille" as the equivalent of egg callipers with groove wing. The volume will be of service to technical students both in France and England, and it will serve to warn translators against the literal rendering of expressions with which they are not familiar.

Incubators and Chicken Rearing Appliances. Pp. xii + 64. (London: Cassell and Co., Ltd., 1898.)

THE chapters on the construction and use of incubators, contained in this pamphlet, originally appeared in the periodical *Work*. They are essentially practical, and may furnish keepers of poultry with useful hints. The references to the natural *heat* of a hen's body as 98° F., and the *heat* at which to work, will be understood by the readers of the pamphlet, but it would have been better to have used the word temperature instead of heat.