desirable, is it possible to do so? The general trend of opinion at the present time is that, except for certain isolated trades, a revival of the apprenticeship system is both undesirable and impossible. Apprenticeship gives manual dexterity, but not the general industrial knowledge and intelligence which will enable the boy to adapt himself to changing industrial conditions. Hence it is desirable to make the necessary provision for compulsory education in the principles of different trades. The chief suggestions for effecting this are as follows:—(*a*) that the "leaving age" should be raised to fifteen years, the later years of school life being given partly to continuing the general education of the boy or girl, and partly to manual, scientific, and industrial work; (*b*) the establishment of "trade schools" for boys of from thirteen to sixteen years, giving about fifteen hours per week to class-room work in science and English, and about fifteen hours per week in the workshops; (*c*) compulsory attendance, for about twelve or more hours per week, at day or evening continuation schools for all young persons engaged in industrial work.

The movement for the spread of industrial education among the mass of the population of this country merits the support of the scientific world because of its bearing upon the general intellectual development of the nation as a whole, if that industrial education be framed upon sufficiently broad and generous lines. National progress, whether industrial or scientific, depends upon two main agencies—the organiser or leader and the skilled subordinate. University and higher technical education will produce the first of these, but the second will only be forthcoming in sufficient quantities through the operation of a broad general scheme of industrial education.

J. WILSON.

NILOMETRY.[1]

IT is the common fate of the ancient gods of flood and field in these sternly practical days to find their empires gone, their sceptres dishonoured, and even their personal liberty endangered. The Nile is no exception to the rule. The old age of the river of Egypt finds his fitful temper curbed, his moods controlled,

"... all his faults observed,
Set in a note-book, learned and conned by rote."

Where he was master, he has become a slave. Where he ruled, he must now learn to obey.

Such are the reflections induced on turning over the pages of a report, recently issued by the Egyptian Survey Department, dealing with the measurement of the water discharged by the Nile. The patient, persistent efforts of a Governmental bureau are gradually transforming the excesses of a capricious river into quiet and orderly processes adapted in every way to the agricultural needs of the country through which it flows. The construction of the Aswan Dam constituted the first great epoch-making achievement in this direction, and it is being followed up by a series of systematic observations of the regimen of the river which will throw light upon many obscurities in its phenomena, and enable further steps to be taken for its improvement.

The Nile, as is now generally known, is fed almost exclusively by the rain which falls over two elevated areas, the equatorial plateau of Central Africa and the Abyssinian plateau. These two sources act in very different ways, the first affording a relatively small but continuous supply, and the latter, copious but intermittent increments, producing the regular flood effect upon which, until quite recently, the agricultural prosperity of the country depended.

The admeasurement of the variation in the volume of water which is thus discharged necessitated the establishment of a gauging station, and the report states that, on grounds of expediency, a site was chosen at Sarras Old Fort, a little above Wadi Halfa. Here the necessary plant and apparatus were installed. It would take too long, however, to recapitulate, even succinctly, the dispositions which were made and the manner in which various local obstacles were overcome. These were duly related in the report, and the results of the observations taken are tabulated in part ii. of the volume. They include the mean velocity and cross-sectional area of the stream on successive dates, also a chemical analysis of the water and the percentage of mud in suspension. A third section gives a brief mathematical account of various rating formulæ for current meters.

[1] "Measurement of the Volumes Discharged by the Nile during 1905 and 1906." By E. M. Dowson, with a Note on Rating Formulæ for Current-meters, by J. I. Craig. Egyptian Ministry of Finance. Survey Department Paper, No. 11. Pp. 82. (Cairo: National Printing Department.) Price 100 millièmes.

NOTES.

WE regret to see the announcement of the death, on December 5, of Prof. H. Bauerman, at seventy-five years of age. The funeral will take place at Brookwood Cemetery on Friday, ember 10.

PROF. A. C. SEWARD, F.R.S., professor of botany in the University of Cambridge, has accepted the invitation of the executive committee of the Yorkshire Naturalists' Union to be president of that society for the year 1910.

THE council of the University of Paris has, we learn from the *Revue scientifique*, passed a resolution to the effect that monuments intended to commemorate men who have brought distinction on the University of Paris since 1808 shall be erected in the church of the Sorbonne. This honour will be awarded on the decision of the council, by a majority of two-thirds, not earlier than ten years after the decease of the person concerned.

WE notice with regret the death of Dr. Jean Binot, on November 25, at the age of forty-two years. Dr. Binot had charge of one of the laboratories of the Pasteur Institute of Paris. Before taking up the study of bacteriology he was associated with astronomy. In 1901 he had charge of an expedition for the study of the transit of Venus, and in connection with this work he was awarded the Janssen prize of the Paris Academy.

AN appeal is being made to the Treasury for funds to complete the publication of the scientific reports of the voyage of the *Scotia*. It appears that the Scottish expedition is the only one of the recent Antarctic expeditions—British, Belgian, German, French, Swedish, and Argentine—that has not received Government help. The appeal is made by the committee of the Scottish National Antarctic Expedition through its honorary secretary, Mr. J. G. Ferrier. An additional grant is asked for beyond the funds for publication, to enable Dr. Bruce to reimburse those who have advanced money beyond their regular subscriptions to the expedition.

THE following are among the lecture arrangements at the Royal Institution before Easter:—Mr. W. Duddell, a Christmas course of six illustrated lectures on modern electricity, adapted to a juvenile auditory: (1) first principles; (2) electrical instruments; (3) Röntgen rays; (4) the generation of electricity; (5) electric oscillations; (6) electric lighting; Prof. W. A. Herdman, three lectures on the cultivation of the sea; Rev. C. H. W. Johns, two