

few, we think, can read the latest returns of the Registrar-General without realizing that, so far as population is concerned, all is not well with our state. These figures—the quarterly return of marriages, births and deaths—reveal the outstanding fact that last quarter for the first time since the establishment of civil registration the number of deaths exceeded the number of births. The excess was 79,443. The average excess of births over deaths in the fourth quarter of the three preceding years was 44,785.

This lamentable state of matters requires, however, to be viewed in the light of the influenza epidemic. The Registrar-General regards influenza as a primary or contributory cause of death in no fewer than 98,998 instances, or 41 per cent. of the total deaths registered last quarter.

Influenza, however, by no means completely accounts for the fact that the relationship between birth-rate and death-rate is not improving, but is on the contrary getting worse. Even if we deduct all the influenza deaths the situation remains disquieting.

There is one chief remedy—the saving of those children we have. The fact that of 161,775 births in the quarter under consideration 10,367 were illegitimate should not be lost sight of. At present the way of the illegitimate child in a health sense is hard and dangerous. It must, we think, in the national interest be safeguarded. This is an economic and social as well as, perhaps more than, a medical question. But it is not the less on that account urgent.

Medicine can to some extent prevent disease from attacking the child; medicine can not perform miracles. It is a miracle if children brought up in foul and evil surroundings grow up healthy and wholesome men and women. The miracle, incidentally, is usually accomplished not by doctors but by the self-sacrifice and heroism of the mother of the children, who too often loses her own health in the process.

The birth-rate is the lowest on record, even though 8,104 more births occurred than in the fourth quarter of 1917. Marriages increased in the third quarter of 1918 23,710 over the

preceding quarter, and 18,672 over the third quarter of 1917.

According to the returns, 662,773 births and 611,991 deaths were registered in England and Wales in 1918. The natural increase of population, by excess of births over deaths, was, therefore, 50,782, the average annual increase in the preceding five years having been 287,664. The number of persons married during the year was 573,614.

The marriage-rate in England and Wales during 1918 was 15.3 per 1,000, the birth-rate 17.7 per 1,000—the lowest on record—and the death-rate 17.6 per 1,000. Infant mortality was 97 per 1,000 registered births.

The number of deaths registered in the last quarter, 241,218 was 127,000 more than in the preceding quarter, and 128,477 more than in the fourth quarter of 1917. The civilian deaths correspond to a rate of 26.8 per 1,000 of the civil population in 1917. The highest death-rate recorded in England and Wales as a whole in any previous quarter was 25.5 per 1,000 in 1846.—The London Times.

SCIENTIFIC BOOKS

The Pygidiidæ, a Family of South American Catfishes. By C. H. EIGENMANN. Mem. Carnegie Mus. 7 (5), 259–398; pls. 36–56.

The catfishes described in this excellent monograph are generally burrowers. They are usually characterized by the presence of spines on the opercula and interopercula and the absence of an adipose fin. The opercular spines render the fishes difficult to dislodge from cavities into which they are accustomed to insinuate themselves. Certain specialized types commonly live as parasites in the gill chambers of other fishes and some are even said to enter the urethræ of mammals, including man. *Nematogenys* from central Chile is the most primitive living representative, and resembles the Siluridæ in certain characters. The eighteen other genera are distributed throughout South America. Most pygidiids are slender, slimy fishes “as slippery as the proverbial eel.” Eighty-nine species are described; sixty-three being placed in the genus *Pygidium*, which is said to occur “probably in

all mountain streams north of the latitude of Buenos Aires and sporadically in the lowlands."

Though the monograph is intended primarily to give a systematic survey of the fishes included, the writer's interesting style makes many parts very entertaining for the general reader.

A. S. PEARSE

THE PARIS ACADEMY OF SCIENCES

THE recently issued *Annual of the Académie des Sciences* for 1919¹ records the election of fourteen new members in 1917 and 1918, seven in the former, and the same number in the latter year; none had been chosen from January 19, 1914, to February 26, 1917, an interval of over three years. Of these new members three belong to the section *Géographie et Navigation*, Ernest Fournier, Robert Bourgeois and Louis Fave; two enter the section *Botanique*, Henri Lecomte and P. A. Dangeard; one is credited to the section *Minéralogie*, Émile Haug; one to the section *Médecine et Chirurgie*, Edouard Quénu; one to *Économie Rurale*, Emmanuel Leclainche, and one to the section *Mécanique*, Gabriel Koenigs. In addition there are three chosen for the new division *Applications de la Science à l'Industrie*, namely, Maurice Leblanc, Auguste Rateau and Charles Charpy, and also one new non-resident member, Charles Flahault, of Montpellier. Last, but not least, Marshall Ferdinand Foch was elected *Académicien Libre*, on November 11, 1918, the day on which took place the signing of the armistice between the Allies and the Central Powers, one of the great events of history, and one to which the masterly military leadership of Foch had chiefly contributed.

It is worthy of note that an institution so thoroughly imbued with the most ardent patriotism still retains on its rolls the name of one German as *Associé Étranger*, namely Simon Schwendener of Berlin. There are

¹"Institut de France, Académie des Sciences, *Annuaire pour 1919*," Paris, Gauthiers-Villars et Cie, 178 pp, 8vo.

also nine German *Correspondents* and two Austrians, one of these the great mineralogist, Gustav Tschermak. This shows that whatever may have been the animus displayed by individual scientists in both camps, this great institution, though placed in the vortex of the fearful conflict, did not lose the conviction that science is international and eternal.

In the *Annual* is given an imposing list of the prizes adjudged annually, or at longer intervals, as well as of the special foundations or funds, and also of the medals regularly awarded. Here we have details regarding 94 different prizes, 10 foundations or funds, and 3 medals, the "Arago Medal," last awarded in 1887, the "Lavoisier Medal" of which the last award was in 1900 and the "Berthelot Medal" that has not been adjudged since 1902.

The president of the Académie des Sciences for the present year is M. Louis Guignard, the vice-president being M. Henri Deslandes. As it is an invariable rule that the vice-president succeeds to the presidency in the following year, M. Deslandes will be, if still living, the next president. The perpetual secretaries are M. Alfred Lacroix, elected in 1914, for the department of *Sciences mathématiques*, and M. Émile Picard, elected in 1917, for that of *Sciences physiques*.

K.

SPECIAL ARTICLES

SOME PHYSICAL IMPROVEMENTS IN NATIONAL ARMY MEN UNDER MILITARY TRAINING¹

AT the present time when the interest of the country is focused on the military policy of the future, it is worth while to record the effects of training on the physique of men who enter the army from civil life. This has been done before in the case of recruits and university men, and data secured from the men who trained for the present conflict constitute interesting material for comparison. It is a matter of common knowledge that civilians usually show an increase in weight and a generally improved condition after a

¹From the Section of Food and Nutrition, Medical Department, U. S. Army.