

pleasure in performance. Although "the healthy body works in silence" (Carrel), the fit person has a keen sense of the enjoyment to be obtained from suitable exercise. The physiological foundation of the exhilaration resulting from exercise—an exhilaration not entirely due to a decreasing handicap at golf or competitive improvement at other games—would be a suitable and profitable study for ambitious politicians and others.

While it is true that one cannot assess a man's efficiency until his whole life's story has been unrolled (and then it is too late to do anything about it), one should be able to establish norms related to age and sex. The recent Military Service Act provides an occasion for the audit of the nation's young manhood, and, provided suitable tests are applied by properly trained examiners, a beginning will have been made to the collection of facts and figures from which much may be learned.

There is no doubt as to the improvement in mental and physical fitness that results from wise physical training, co-operative effort and good feeding such as that obtained in military camps of the best type. Such training may go far towards reconditioning some of the youth of Great Britain. The American Department of Labour, in a report (1935) on two years' experience of civilian conservation camps, says, "Thousands of actual case records reflect the fact that the C.C.C. men have returned to their homes definitely benefited physically and mentally; their outlook toward the future is brighter, their sense of self-reliance and their ability to adjust themselves to economic conditions is stronger." To this tribute to wise and varied physical, mental and moral education

one may add the results of a short experiment in effectively reconditioning a selected number of rejected recruits for the British Army: "My predecessor started a depot for training a limited number of men who were below standard and, as a result, . . . 576 of the 600 . . . have reached the full standard of fitness" (Right Hon. L. Hore-Belisha, Devonport, 1937).

While not in any way detracting from the importance of work of this type on men during late adolescence and early maturity, one may ask why the audit is not made earlier in the course of our national business of turning out citizens—taken early before the debit balance of wasted lives becomes so large that strenuous measures have to be taken to safeguard our interests. No factory the products of which were good, bad and indifferent would exist long before the shareholders were demanding an inquiry and a change of directorship. Our national strength lies in our men and women and not in the machines that they tend or the battleships that they man. To be really great a State must have citizens fit in body and also in mind. "The health of the intelligence and of the affective sense, moral discipline and spiritual development are just as necessary as the health of the body and the prevention of infectious diseases" (Carrel).

To ensure this would cost money, but so does radium. The chief use of this rare element is to prolong the life of the aged; should we not be equally ready to foot a bill which would make young lives more fit to bear hopefully and without undue strain the heavy burden their ancestry has laid on them?

OBITUARIES

Mr. H. P. Hollis

ASTRONOMICAL circles will miss the familiar figure of H. P. Hollis, who died on August 7 at the age of eighty-one years. Hollis was born on January 9, 1858, and was educated at Westminster, from which he went to Jesus College, Cambridge. He took his degree in 1880 and in the following year was appointed to the post of assistant at the Royal Observatory, Greenwich, where he remained for forty years, retiring in 1920. His work at first was connected with the regular astronomical observations with the transit and altazimuth instruments; but later he took part in the measurement and reduction of solar photographs. Among his various other activities must be mentioned his work in the determination of the difference of longitude between Greenwich and Paris. The reductions of the observations made in 1892 and also in 1901 were carried out

under his directions. In 1896 he was promoted to a higher grade and took charge of the work of the Astrographic Chart and Catalogue. A record of his twenty-four years in this department is found in the two volumes which give the positions of the stars as measured on the photographs and also the photographic reproduction of the chart plates, as well as in the two other volumes supplementing these results.

Outside his professional duties at the Royal Observatory, Hollis took a keen interest in astronomy and was always pleased to assist the amateur in his difficulties. For some years he contributed very useful information to the tyro by his letters to the *English Mechanic*. He was an original member of the British Astronomical Association founded in 1890, and was president during 1908-9. In addition to serving on the Council at various times, he repre-

sented the Association on the Geophysical Committee of the Royal Astronomical Society, and contributed a number of valuable papers to the *Journal* of the Association.

In 1884 Hollis was elected a fellow of the Royal Astronomical Society, and served on the Council from 1909 until 1911. A number of papers appeared under his name in the *Monthly Notices* and the *Memoirs*; the last of these was in the *Monthly Notices* 79, 36 (1918), in which he discussed the magnitudes of Nova Aquilæ, deduced from the photographs which had been taken at the Royal Observatory, Greenwich. He edited the *Observatory* magazine from 1893 until 1912, and for many years was astronomical correspondent to *The Times*, to which he contributed the well-known article, "Stars of the Month". In 1910 his work, "Chats on Astronomy", was published. This was written in a popular style and was specially useful to beginners interested in astronomy.

Hollis maintained his interest in astronomy to the end, in spite of his physical disability. He seldom missed any astronomical meetings, and his mental faculties seemed unimpaired.

In 1882 he married Clara Susanna Clark, who predeceased him in 1932. Two sons and a daughter survive him.

Prof. L. Lévy-Bruhl

WE regret to record the death of Prof. L. Lévy-Bruhl, the distinguished French philosopher and ethnologist, which took place in Paris on March 12 last at the age of eighty-one years.

Lucien Lévy-Bruhl was born on April 10, 1857. For long he had held a foremost place in the development in France of philosophical and sociological studies. He was appointed professor of philosophy in the Sorbonne in 1899 and occupied that chair until 1927, when on his retirement he was appointed honorary professor. He was elected a member of the Academy in 1917. He edited the *Revue philosophique* for many years. During 1927-30 he was president of the Institut française d'Anthropologie, of which he was one of the founders and a constant and enthusiastic attendant at its meetings so far as the calls of a busy life allowed. He had travelled widely, and had made the voyage round the world. He delivered courses of lectures in the universities of many countries outside France, including Egypt and both North and South America.

Although Prof. Lévy-Bruhl was the author of a number of profound works on philosophical topics, he was best known to a wide public in both France and England for his studies of primitive and 'savage' mentality, several of which appeared in English translation, while in France they served to introduce the psychological aspects of social anthropology to a wider circle than is usually attracted by scientific studies. In this field his principal or best known works are "Fonctions mentales dans les Sociétés inférieures" (1910), "Mentalité primitive" (1922), and "Surnaturel et la Nature" (1930). In these and others of a kindred character he developed his theories of

primitive mentality as belonging to a mystic and pre-logical stage of thought in a graceful and lucid style and with the support of a full documentation of facts.

Mr. Clifford Chaffer, O.B.E.

MR. CLIFFORD CHAFFER, superintendent of the Admiralty Research Laboratory, died suddenly on June 26 at his home at Weybridge, Surrey, at the early age of fifty-four years.

Mr. Chaffer was born on October 25, 1884, at Morley, Yorkshire, and, after going to the Wheelwright Grammar School, Dewsbury, became a scholar of Peterhouse, Cambridge, where he remained from 1903 until 1907. He was 18th wrangler in 1906 and took the National Science Tripos in 1907. On leaving the University he held mathematical masterships for a number of years.

In 1916 Mr. Chaffer was appointed a temporary Instructor Lieutenant in the Royal Navy, and after service at sea he was posted to the Admiralty Compass Department. On demobilization in 1920 he accepted an appointment on the civil staff of the Compass Department where he continued to serve until 1936 when he was transferred to the headquarters staff of the Department of Scientific Research and Experiment at the Admiralty.

He was appointed to the Admiralty Research Laboratory as superintendent in 1937 and in this position his clear judgment, power of recognizing the essential features of the problems with which he was called upon to deal, and his ability to inspire the staffs with his personal keenness and single-minded devotion to duty were of the greatest value in a time of unusual stress.

Baron Joji Sakurai

DR. MARIE STOPES writes: "All that Prof. Donnan says in the first paragraph (*NATURE*, Aug. 5, p. 234) of his obituary notice of Japan's greatest scientist I should like to endorse from personal experience while an honorary member of the professor's common room in the Imperial University, Tokyo. However, no obituary would be complete without mention of his spiritual and literary sensibilities. These were partly revealed by his interest and proficiency in the profound medieval religious plays "The Nô" which he and I translated together into English and published under the title 'Plays of Old Japan'. The then Japanese Ambassador, Baron Kato, wrote that they 'placed Western students of Japanese art and literature under a debt of gratitude'. Prof. Sakurai, who was a most faithful friend, was in Great Britain for the Coronation of King George VI, and I had the privilege of viewing it with him. He was one of the few scientists who made one revere him".

We regret to announce the death of Prof. E. Westermarck, formerly professor of sociology in the University of London, aged seventy-seven years.