

Phenomenology and Physics

AN article under this title by H. Margenau appears in the current issue of *Philosophy and Phenomenological Research*. It sets out to expound to the student of physics the main concepts of Husserl and his school; in addition, some consideration is given to the point of view which a physicist interested in methodology might take about the doctrines of phenomenology. At the outset the author is at pains to stress the special meaning attached to the word 'phenomenology'. Far from representing something superficial (that is, associated with 'mere' phenomena) this discipline is the most all-embracing matrix in which, so to say, all experience can be embedded. The paper is in three sections: (1) general thesis of phenomenology; (2) epistemology of physics; (3) the notion of certainty in phenomenology. It seems likely that, of the two types of facts recognized by Husserl, contingent and necessary, the latter are being gradually worn down by a process of attrition as scientific knowledge progresses. Thus a natural question to ask is whether or not the tendency will stop before all *eidetic* (that is, form-like) truth has become contingent. To Husserl, for example, Euclidean geometry appeared "immediately evident and therefore indubitably correct". Here indeed is an example of the rapid strides made by modern science since his day towards contingency. The caution towards ontological problems which phenomenology is forced to observe wrung from Husserl his famous "epoché" or abstinence, sometimes called bracketing. It implies, even if it does not absolutely require, the waiving of all existential judgments.

With this in mind, we are led to distinguish sense data from 'constructs', and to consider the rules of correspondence relating them. The inadequacy of ordinary language is the cause of much difficulty in making the necessary distinction between percept and correlate. Hallucinations cannot be dismissed too easily, for they are part of the 'given' in nature, but their spurious character is apparent by reference to constructs. Broadly, science is conceived as self-corrective, a property in which phenomenology is lacking. So long as the latter subject is without a discriminant between the infinite variety of forms which inner experience can take, it is likely to remain somewhat unproductive. It seems doubtful whether this disadvantage can be overcome without doing violence, to some part at least, of Husserl's thought.

Swiss Contributions to Western Civilization

UNDER the title "The Swiss Contribution to Western Civilization", Dr. Raphael E. C. Armattee has set forth an account of the cultural achievements of Switzerland which, as Dr. Julian Huxley suggests in his foreword, most people may well find surprising (Dundalk: W. Tempest Dundalgan Press. Pp. 91. 5s.). As the record shows, Switzerland has sent out many from its free institutions to play their part elsewhere, while its universities have attracted many notable men from abroad. It has provided asylum for a number of distinguished workers anxious to avoid tyranny or persecution in their own countries, and Switzerland was almost the only centre of science, learning and culture in Europe which was able to remain out of the War. Its part in the reconstruction of European civilization may well be out of all proportion to its size. Dr. Armattee seeks to distinguish from the outset a few sources of the Swiss contribution; but he makes no claim to be comprehensive,

especially in dealing with music and the physical sciences. Chemists will note, for example, that while D.D.T. is mentioned, there is no reference to Engi's work, and the reference to the work of P. Karrer and L. Ruzicka is very brief. Besides the sections dealing with the Swiss contribution to biological sciences, the mathematical and physical sciences, agriculture, research in climatology and meteorology, and such special fields as climatic treatment of lung complaints, and Jungfrauoch Alpine research, with its humanitarian contributions, there are notes on the Swiss educational system, vocational and industrial education, industry and commerce, Swiss cultural life and so forth.

Public Health and the Museum

IN 1942, authorities of the South Australian Museum, at the request of the Council for Scientific and Industrial Research, examined the River Murray billabongs and seepage areas for Mollusca which might act as secondary hosts for the trematode worm parasites known to be present in the internees of the Loveday Internment Camps. Crustacea and edible fish—together with Cephalopoda taken from the stomachs of the latter—were also examined. The result of this work was a report strongly recommending that the internees should not be allowed in the vicinity of the river, since there was danger of their excreta infecting local fauna, with the possible consequence that the parasites would be introduced into the Australian population (see Report of the South Australian Museum, Adelaide, for 1942). The report for 1944 shows further work of high social value and importance. During last year the research activities of the Museum were turned towards the microscopic study of insects, the Acarina (particularly the Trombiculinae), which are associated with the occurrence of scrub typhus in Australia and New Guinea. This work was carried out in collaboration with the Medical Section of the Australian Army, the Scrub Typhus Commission of the U.S.A., as well as with officers of the U.S. Navy. It has resulted in making the South Australian Museum the recognized centre for the identification of these mites; and the Museum's collection of these is now probably the largest in existence.

Consider the Calendar

BHOLA D. PANTH has produced a book with the above title, published by the Bureau of Publications, Teachers College, Columbia University, 1944 (pp. 138), which supplies an excellent account of the calendar, and also shows the great difficulties that beset the path of those who desire calendar reform. Details concerning the basic concepts of ancient calendars among the Babylonians, Egyptians, Hebrews, Mohammedans and others will prove helpful to many, more especially as such information is no longer supplied in every issue of the *Nautical Almanac*. Chapter 4 is devoted to a consideration of various proposals for calendar improvement. Reference to some of these proposals has been made in *Nature* (153, 229; 1944), and it is unnecessary to deal further with the different suggestions made to simplify our calendar. The Special Committee of Enquiry into the Reform of the Calendar of the League of Nations in 1926, in Geneva, received 185 plans from 33 different countries, and although this was evidence of keen interest in the subject, it also showed that a certain amount of opposition is inevitable whatever plan be adopted. It does

not seem highly probable that the nations of the world are yet prepared to accept any particular scheme, though some reform on the lines indicated in this book would certainly simplify matters in many ways. At the end of the book there is a short table which enables the reader to determine the day of the week by the Julian Calendar, A.D. 1–2099, or by the Gregorian Calendar, A.D. 1582–2099.

Lung Cavities in Pulmonary Tuberculosis

DR. ALFONSO R. SIMS contributes a paper on the spontaneous healing of cavities in tuberculosis of the lungs to *Aparato Respiratorio y Tuberculosis*, No. 3, 1944, published in Santiago De Chile, in which he gives the results of investigations carried out during the period 1937–42 at the Laeene Sanatorium, when 1,130 cases were dealt with. Males only were admitted—adolescents and adults—and it was found that spontaneous cures amounted to only 8.71 per cent. The importance of the size of the cavity was recognized and cures were not effected in cases where the diameter of the cavity exceeded 4–5 cm. It is remarkable that cavities in the left lung showed a greater tendency to heal spontaneously than those in the right lung. Schminke's classification of the cavities as primary, secondary and tertiary, the first having three and the second two subdivisions, was adopted, and it was found that by far the greatest number of spontaneous cures took place with the first class. Infra-clavicle cavities provided the greatest percentage of spontaneous cures, and those at the apex seldom provided any. It is pointed out that great care is necessary before taking any risks in the treatment of pulmonary tuberculosis, and in all cases the patients should be dealt with while they are confined to bed, or at least under the best possible conditions of repose.

Influenza Epidemics in the United States

ACCORDING to Selwyn D. Collins, head statistician of the United States Public Health Service (*Public Health Rep.*, 59, 1483; 1944), in the eighteen major or minor epidemics of influenza that have occurred in the United States since the beginning of 1918, there has been great variability in the age curve. In the recent outbreak, the curve was in general similar to that of 1928–29 except for a very high incidence among children less than ten years of age. Pneumonic incidence in the current epidemic was far below that of 1918–19. Among persons less than twenty-five years of age the pneumonic rate was less in the current epidemic than in any of the others, but above twenty-five the rates corresponded closely to those recorded for the epidemic of 1928–29. The percentage of the total cases which were complicated by pneumonia in the 1943–44 epidemic was far below the figure for any other epidemic for which figures were available. In most of the epidemics the rates for influenza were consistently higher for females than for males, particularly adult females, with the exception of the 1918–19 epidemic and the minor outbreak of 1940–41, in which there were no obvious sex differences.

Cooper Centenary Fellowships for Veterinary Parasitology

THE Veterinary Educational Trust announces that Cooper Centenary Fellowships have been awarded to Mr. J. F. A. Sprent and Mr. J. Hobart. The Fellowships were established with the Trust by Messrs. Cooper McDougall and Robertson to assist in the

development of veterinary parasitology, and also as a mark of the centenary of that Company. They are normally tenable for one, two or three years, depending upon satisfactory progress in the research undertaken. Mr. Sprent qualified as a veterinary surgeon at the Royal Veterinary College in 1939 and took a B.Sc. degree in zoology with first-class honours at Birkbeck College in 1942. Since then he has been a veterinary research officer in the Colonial Veterinary Service, stationed at Vom, Nigeria, where he has carried out important investigations upon helminth infestation of cattle in that country. He hopes to continue to work upon helminth infestations of domestic animals with particular reference to host resistance and the development of a host immunity. Mr. Hobart took a B.Sc. degree in zoology with first-class honours in 1943 at University College, London. He has been a demonstrator in zoology at the University College of North Wales, Bangor, and has carried out research upon the ecology of adult sheep blowflies in North Wales. His field work has comprised the trapping of flies in the field and the study of the Dipterous succession in small carcasses. This work was commenced in collaboration with the Entomological Unit of the Agricultural Research Council. Mr. Hobart proposes to continue his field work in North Wales and to work upon the physiology of insects at the London School of Hygiene and Tropical Medicine.

Comets

A TELEGRAM from Dr. Harlow Shapley announces the rediscovery of Comet Pons Winnecke on May 3, its magnitude being 14. A definitive orbit for this comet was computed by Mr. J. G. Porter and members of the Computing Section of the British Astronomical Association, and an ephemeris is given in the "Handbook" for 1945. The correction to the computed perihelion is + 2.6 days, and the result must be considered very satisfactory as the comet passes just over 0.6 unit from Jupiter, suffering considerable perturbations. Dr. Shapley has also announced the rediscovery of Comet Kopff on May 7d. 9h. 10m., U.T., its magnitude being 13. An orbit and ephemeris were computed by Messrs. W. E. Beart and W. P. Henderson and are given in the "Handbook" of the British Astronomical Association for 1945. A correction of about – 8 m. in R.A. to the ephemeris is indicated from the observation.

Announcements

THE Catherine Wolfe Bruce Medal (commonly called the Bruce Medal) for 1945 of the Astronomical Society of the Pacific has been awarded to Prof. E. A. Milne, Rouse Ball professor of mathematics in the University of Oxford, for "distinguished services to astronomy". The medal is awarded on the recommendation of the directors of six observatories, of which two are in Europe. Previous British holders of this Medal have been Gill, Huggins, Dyson, Eddington, Turner, A. Fowler and J. S. Plaskett.

PROF. N. R. DEAR, formerly professor of chemistry in the University of Allahabad, has given the University of Calcutta an endowment of approximately one lakh of rupees (about £7,500) for "perpetuating the memory of Acharya Sir Prafulla Chandra Ray and in furtherance of establishing a University College of Agriculture". Prof. Dhar states that he hopes to make a further donation of similar amount at a later date.