

Coconut palms are also found on small rocky islets off some of the Fiji Islands, where evidently the nuts have been cast up by the sea and could never have been planted.

Guppy, in his paper on the Cocos-Keeling Islands (*loc. cit.*), produces weighty evidence to show that the coconuts there must have been water-borne and have germinated when washed up on the strand. He also brings evidence in support of the contention that the coconut is able to germinate without human intervention when washed up on Fijian beaches, whether brought down by a river or transported by an ocean current.²⁰

Leguat, in his account of the Island of Rodriguez (1691),²¹ says: "The sea having thrown us up some Cocos which began to bud, we planted some of the fruit some months after our arrival, and when we left the place the trees were four feet high." These nuts he believed came from the Island of Ste. Brande. There are also two islands called Coco and Cocos in this region.

A definite proof that the coconut will germinate unaided when washed ashore has been afforded in the case of the Island of Verlaten, which lies to the north-west of the Island of Krakatau in the Straits of Sunda, between Java and Sumatra. Verlaten Island, which is uninhabited and uninhabitable, was visited in April 1919 by Dr. W. Docters van

²⁰ Guppy, H. B. "Observations of a Naturalist in the Pacific", vol. 2, p. 436.

²¹ "The Voyage of Francois Leguat", vol. 1, p. 65 *et seq.*, Hakluyt Society.

Leeuwen, now Director of the Botanic Gardens, Buitenzorg, and he records,²² with a photograph, the finding there of a coconut palm sprouting in the drift mud—an accretion of soil containing pumice stone—at only a few yards distance from the sea. This proves conclusively that an ocean-borne coconut can germinate without human aid, as Beccari asserted, and refutes the opinion of Hugo de Vries, O. F. Cook, and others.

When I was in Java in March 1928, Dr. Docters van Leeuwen very kindly gave me prints of two photographs of two young coconut palms, similar to the one on Verlaten, which he found growing on the beach of the Island of Krakatau (Fig. 1), which since the great eruption of 1883 has remained uninhabited. In one case the young palm is partly overgrown by *Ipomoea denticulata*; in the other, here reproduced, the palm is growing amongst the grass *Ischemum muticum* and, despite the competition with other vegetation, they both appear to be holding their own quite successfully. These observations afford satisfactory evidence that ocean-borne nuts can germinate when washed ashore on an uninhabited island and become established without the intervention of human agency, and the evidence which has been brought forward may be considered to strengthen the view that the Polynesian or East Indian Islands are the original home of the coconut palm.

²² Docters van Leeuwen, Dr. W. *Ann. Jard. Bot. Buitenzorg*, 31, p. 114, Plate xxi.

Obituary.

PROF. L. T. HOBHOUSE.

THE death of Prof. Leonard Trelawny Hobhouse on June 21, at the age of sixty-four years, at Alençon, Normandy, is a heavy loss to science and philosophy. Martin White professor of sociology in the University of London since 1907, he has done more than anyone else in England towards the development of sociology as a scientific discipline; he has made contributions of the highest value to comparative psychology and anthropology; and his work on logic and metaphysics must entitle him to rank among the most distinguished systematic philosophers of recent times.

Already as an undergraduate at Oxford, Hobhouse was led through his interest in social reform to a deeper study of the nature of society and its relation to the wider problems of metaphysics, and throughout his life his scientific and philosophical researches were closely and intimately interwoven with his work as a politician and practical reformer. His passion for humanity and justice gave him tremendous driving power, while his love of truth and rare intellectual candour and willingness to profit from criticism and experience led him to ever fresh fields of investigation and ever deeper analyses of the foundations of knowledge. He illustrates in his life-work his own view of reason as a continuous and comprehensive effort towards harmony in experience whether in the fields of practice or speculation, and those who saw

him at work, whether as a teacher, journalist, or chairman of trade boards, will have recognised in his endeavours the very same spirit which in other fields was exhibited in his persistent attempts at wider and more inclusive syntheses of the results of empirical research and metaphysical speculation.

Hobhouse laid his foundations solidly in an early work on the "Theory of Knowledge" (1896), in which he developed what may be termed an organic view of rationality which was to be the basis of all his future work. This has affinities with idealistic metaphysics but is essentially realistic. Hobhouse, indeed, may be regarded as one of the founders of modern realism, but unlike some of its more recent upholders who tend to reduce the cognitive function to a vanishing point, he seeks to vindicate the reality of mind as well as of the external world, of the self as well as the not-self, the conception of the self being built up by the same logical processes as go to the making of any other valid conception.

From his epistemological investigations Hobhouse turned to empirical research. In his "Mind in Evolution" (1901) he traces the growth of mind in the various forms of organic life, from its earliest manifestations in the gropings of unconscious effort to the full clearness of conscious purpose. This work was based on extensive experimental investigations, now generally regarded as among the most important pioneer contributions to the science of

comparative psychology. Moral and social development were then studied in his "Morals in Evolution" (1906), in which he utilises on a magnificent scale the data of anthropology and history in the establishment of a social morphology indispensable to the evolutionary point of view in sociology.

Armed with the conclusions derived from these researches into empirical fact, Hobhouse returned to the metaphysical problem in his "Development and Purpose" (1913; revised and rewritten in 1927). He shows that development consists in the extension of harmony through a series of syntheses. Development proceeds by the liberation of elements originally in conflict, the building up of structures of varying degrees of plasticity and coherence. The power behind this liberation and these syntheses is mind, essentially a correlating activity, manifested in all orderly structure, but more clearly in living organisms, which are interpreted as a modification of mechanical structure by teleological factors, and eventually emerging in the form of conscious purpose in the human mind, as expressed in the advancing movement of civilisation. Mind is, on this view, not coextensive with reality, but is the principle of orderly growth within it. It is limited by the material it works upon, and its purposes themselves undergo development. His fundamental principle, which he entitles 'conditioned teleology', is examined both from the point of view of the logical requirements of systematic explanation and its value as an instrument in scientific investigation in the fields of biology and sociology.

In a further series of works collectively entitled the "Principles of Sociology" (1918-1924), Hobhouse sought once more to apply his basic conception of mind as a correlating agency to the problems of social life. In the first of these, "The Metaphysical Theory of the State" (1918), he gave what is now generally regarded as the most penetrating criticism of the Hegelian theory of the State and prepared the ground for a social philosophy which would do justice at once to individual development and the requirements of the common good. In the "Rational Good" (1921) he works out his ethical theory of the good as a harmony of

mind with its objects, a consilience of all living experience in a comprehensive system of purposes. In the "Elements of Social Justice" (1922) he applies these ethical ideas to the problems of social organisation and proves their value by the light which he is able to make them throw upon the practical problems of economics and politics. Finally, in his "Social Development" (1924) he gives us a synthesis of his scientific and philosophic studies bearing on the human problem. He first studies development from the point of view of empirical science and seeks to correlate the several aspects of social change in the light of non-ethical criteria analogous to those that might be employed in the study of biology. He then turns to the ethical problem of valuation, and finally argues that social and ethical development have a common end, rooted in the fact that the good is to be found in organic harmony. Taken together, these works must assuredly come to be recognised as the most comprehensive and scientific attempt that has yet been made to trace out the working and possibilities of rational purpose in human evolution.

Prof. Hobhouse was profoundly interested in the bearings of recent developments in the physical sciences upon the nature and validity of knowledge, as will be evident to readers of the revised edition of "Development and Purpose". He intended to devote himself on retiring from the chair of sociology to work on these problems. His sudden death has deprived the world of the results of his ripe speculation in this field of thought, and this can only deepen our sense of the loss of a great thinker, distinguished alike by a rare nobility and beauty of character, and by magnificent intellectual grasp and power.

MORRIS GINSBERG.

WE regret to announce the following deaths:

Sir Baldwin Spencer, K.C.M.G., F.R.S., emeritus professor of biology in the University of Melbourne and author, with F. J. Gillen, of works on the Australian aborigines, aged sixty-nine years.

Dr. W. J. Viljoen, Superintendent-General of Education of the Cape Province and first vice-chancellor of the University of South Africa, aged fifty-nine years.

News and Views.

IN his presidential address to the British Medical Association, delivered at Manchester on July 23, Prof. A. H. Burgess reviewed some aspects of the influence of other sciences upon the practice of modern surgery. The era of 'modern' surgery was inaugurated by Lister, and the present use of aseptic methods is merely the natural advance from the antiseptic technique as originally practised: antiseptics are still used for cleansing the skin and when sepsis is already present. As a sequel to the safety engendered by the use of these methods, the surgeon has access to all parts of the body, the spinal canal and thoracic cavity as well as the abdomen. Perhaps surgery is most indebted to the two sciences of physics and physiology during more recent years: it is only necessary to mention the aid brought by

radiology, and radium and light therapy, by localisation of function in the brain, by the use of blood transfusion, by the discovery of vitamin D and insulin, and by the development of biochemical methods of investigating the body's functions. Prof. Burgess recalled in some detail the influence which these various discoveries had exerted upon surgical treatment. X-rays were first used in the accurate diagnosis of injuries to the bones and in diseases of the chest, the bones being relatively opaque and the lungs transparent: where the density of neighbouring tissues is similar, it is now the practice to administer or inject either a substance which is opaque to the rays, or air, which is transparent, and so by displacing tissues or tissue fluids enables a differentiation of the organ under examination to be made from the