so high a relief will not be attained, for the magnitude of the relief will be found roughly proportionate to the size of the master stream.

The deposition by unadjusted tributaries at their débouchement has an important local influence upon the relief of the flood-plain. Along the flood-plain borders alluvial fans, which may be closely spaced, sometimes accentuate the relief by more than sixty feet. The extent and thickness of these fans are usually not closely related genetically to the size and development of the main stream; hence large fans may accumulate upon narrow flood-plains. Because of their low angle of slope and fairly large areal extent these deposits are but difficultly recognizable in the field, a rise of forty or fifty feet in one or more miles being scarcely noticeable.

From the foregoing, it follows that before the investigator of river terraces can assign any particular terrace remnant to a postulated ancient surface of deposition, he must consider, among other things, whether the remnant which he is studying may represent (1) some portion of the surface of a broad alluvial fan, a portion perhaps sixty or more feet above the normal level of the ancient flood-plain; (2) an interfan area, which itself may have been part of a natural levee, an abandoned channel, a bar, a swale or some other feature of the complex surface called the "flood-plain," embracing a possible difference in relief of more than fifty feet.

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INTERNATIONAL ENCYCLOPEDIA OF UNIFIED SCIENCE

RECENT years have witnessed a striking growth of interest in the scientific enterprise as a whole and especially in the unity of science. The concern throughout the world for the logic of science, the history of science and the sociology of science reveals a systematic tendency to consider science as a whole in terms of the scientific temper itself. A science of science is appearing. This is an indispensable corrective of the extreme specialization of scientific research. It is an urgent task of science to work out the synthesis of its results and methods. Otherwise science will not have carried to its limit the fulfilment of its own task as science, nor will it perform adequately its educational rôle in the modern world.

The unity of science movement has found an organized contemporary expression in the International Congresses for the Unity of Science, administered by an international committee composed of the following persons: N. Bohr, M. Boll, H. Bonnet, P. W. Bridgman, E. Brunswik, R. Carnap, E. Cartan, J. Clay, M. R. Cohen, J. Dewey, W. Dubislav, F. Enriques, P. Frank, M. Fréchet, F. Gonseth, J. Hadamard, P. Janet, H. S. Jennings, J. Joergensen, E. Kaila, H. Kelsen, T. Kotarbinski, A. Lalande, P. Langevin, K. S. Lashley, C. I. Lewis, J. Lukasiewicz, G. Mannoury, R. von Mises, C. W. Morris, O. Neurath, C. K. Ogden, J. Perrin, H. Reichenbach, A. Rey, C. Rist, L. Rougier, B. Russell, L. S. Stebbing, J. H. Woodger.

Three such congresses have been held, and preparations are now being made for a congress to be held at Harvard University from September 5 to 10, 1939. This congress includes among its sponsors the American Association for the Advancement of Science, the Association for Symbolic Logic and the American Philosophical Association. The theme will be "Logic of Science."

For some time it has been felt that a systematic expression of the point of view and results of the unity of science movement was necessary. This need has led to the development of a plan for the publication of an "International Encyclopedia of Unified Science." The general purpose of this work is to bring together material pertaining to the scientific enterprise as a whole. Its task will not be to present the detailed results of the special sciences but rather to stress the logical structure of the special sciences considered in relation to one another. The Encyclopedia will therefore be concerned with the development of a unified scientific language; with problems concerning the logical analysis of, and correlations between, concepts and fundamental principles of the various sciences; with questions of scientific procedure; and with the various senses in which science may be considered a unified whole. Treatment of these fundamental matters will be supplemented by presentations of the history of scientific thought, the sociology of science, the newer logical techniques and the general theory of signs. It is planned to show explicitly gaps in the system of knowledge and questions which still remain open; where agreement has not been reached, divergent opinions will be presented side by side.

The wish to insure impartiality has led to a selection of collaborators with somewhat different points of view, but who agree in considering the unity of science as the ideal aim of their efforts, in eliminating any form of speculation other than that recognized in science, in stressing the importance of logical analysis in various fields, and in taking into account the historical development of scientific concepts and regulative prin-

ciples. Such collaborators include, for instance, persons stemming from the Vienna circle, from the Berlin group of scientific philosophers, from the Polish school of logicians, from the group centering around *Scientia* and the *Centre de Synthèse,* as well as representatives of American pragmatism, the English analytical school, French conventionalism, various groups of scientific philosophers in Belgium, Holland, Switzerland, Denmark, Sweden and other countries, and a large number of scientists from the various special branches of science.

For these and other reasons there will be a certain divergence of opinions within the wider set of agreements which give unity to the work; tendencies which are often called scientific empiricism and logical empiricism will find a place by the side of other tendencies which prefer to be called scientific or experimental rationalism. Collaborators of various nationalities have been invited; only their personal competence has been considered or the benefits to be obtained from a variety of cultural view-points—their political views or the political ideologies of the countries they represent have not come into consideration, since the Encyclopedia is a scientific and not a political enterprise. Each collaborator will, of course, be responsible only for the ideas which he himself expresses.

The subjects chosen will insure that the total series of contributions will form a systematic whole dealing with all the main fields of science and with all the types of consideration which the existence of science provokes. The monographs will be intelligible to the person of a scientific habit of mind interested in the whole range of science. The Encyclopedia is not designed to popularize science or to compete with the existing type of scientific encyclopedia. It is believed that the general educational implications of the unity of science movement are important, but the immediate aim of the proposed work is rather to reach those persons upon whom the future of science depends and to stress those matters which existing encyclopedias of science neglect.

As a means of launching the project of an "International Encyclopedia of Unified Science," there is to be published by the University of Chicago Press a series of short monographs or pamphlets, twenty in number, which will serve as introductions to all the main fields which are to be represented in the Encyclopedia. This series of pamphlets taken as a whole will constitute the first two introductory volumes of the Encyclopedia, but will be issued as an independent and completely self-contained unit under the title of "Foundations of the Unity of Science."

It is to be hoped that scientists as well as those interested in the institution of science will make the Encyclopedia project and the International Congresses for the Unity of Science their own. The most concrete form of aid at the moment toward realizing the larger project of the Encyclopedia is to subscribe to these independent volumes, "Foundations of the Unity of Science."

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SCIENTIFIC BOOKS

MARCONI

Marconi the Man and His Wireless. By ORRIN E. DUNLAP, JR. The Macmillan Company, New York, $3.50.

IN his latest book, the radio editor of *The New York Times* has presented an interesting and timely biography of one of the most constructive workers of our age. Marconi was always an attractive figure to Americans, for, like Henry Ford, the public felt that he had attained personal eminence and affluence through originality, daring and hard work. These qualifications, at least in the past, were the "camel's eye" through which even wealth might be admitted to the heaven of good repute.

Mr. Dunlap has most painstakingly searched the record for data relative to the career of Marconi, and the results attest to his thoroughness. If the book is occasionally chatty, discursive and verging on hero worship, it is not unnatural that in so full a compendium, Marconi's aims, ambitions, reactions and recognition should have loomed large before the biographer. A mountain in the foreground can block out an entire mountain range and stand in vast and horizon-shadowing perspective.

Mr. Dunlap, nevertheless, is careful to give numerous quotations giving full credit to the pure scientists, Maxwell and Hertz, who made possible the work of Marconi, and as well many later workers who will follow in their steps. Maxwell first gave us the concept of the electromagnetic wave, and to this day the problems of its production and propagation over the earth are only partly understood. The physical existence of surface and space waves is still sharply debated among radio scientists. Hertz first taught us how to transmit and receive these waves. The Hertz-