

other communities where similar activities may be instituted. Acting on the assumption that a part of the support accorded the antivivisectionists by the lay public is based on misinformation, an extensive public education program was undertaken.

This campaign was carried on by means of public addresses, debates, radio talks, distribution of literature and personal letters. Over one hundred addresses were made before women's clubs, business men's organizations, Parent-Teacher groups, church groups, high school and junior college groups, college alumni organizations and open meetings. A number of public debates were held in which both sides were represented. Through cooperation with various medical and other professional organizations, more than thirty radio programs were presented. Some of these were brief, concise discussions of the results of animal experimentation and the significance thereof to society; others were presented as a forum or dialogue. Practically every radio station in Chicago gave free time.

Reprints of published articles, specially prepared

mimeographed discussions and other literature were widely distributed. At a conservative estimate more than 100,000 pages of such material were distributed. Contrary to the conventional views about such procedures, the response was such as to indicate that the general public did display an intelligent understanding of the problem. With the exception of one of the Hearst publications the newspapers in general gave sympathetic support to the society's efforts.

While many physicians and lay people, both men and women, participated in the campaign and rendered valuable assistance, the brunt of the work fell upon the active members of the society, and of these the most active and most effective were Drs. Luckhardt, Carlson, Ivy, Visseher, Boyd and Thalhimer, who made up the nucleus of the very widely extended organization which finally accomplished the defeat, locally, of this pernicious attack on scientific research.

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SCIENTIFIC BOOKS

ELECTRONS

Electrons (+ and -), Protons, Photons, Neutrons, and Cosmic Rays. By R. A. MILLIKAN. The University of Chicago Press. 492 pp. Price \$3.50.

THIS new book may be regarded as a third edition of "The Electron," which appeared in 1917, but six new chapters have been added on "Waves and Particles," "The Discovery and Origin of the Cosmic Rays," "The Spinning Electron," "The Positron," "The Neutron and the Transmutation of the Elements" and on "The Nature of the Cosmic Rays." The new chapters contain many excellent illustrations.

Like the first edition the third is largely devoted to the researches of the author and his coworkers. It contains besides enough about the work of other physicists to enable the reader to appreciate the bearing of the author's work on theirs.

This book is admirable and most interesting. It is well written and not too technical. It should enable a reader with very little scientific knowledge to get some real insight into the recent rapid advance in physical science to which the author and his associates have contributed so much. The author describes his own experiments and the wonderful technique with which he overcomes extraordinary difficulties and obtains exact results where previous investigators have been content with little better than qualitative indications. It is a record of a splendid series of researches all so well done that the results are likely to stand unchallenged for many years. No better book could be given

to an undergraduate thinking of taking up physics seriously. The intensely interesting and surprising character of the recent experimental and theoretical advances discussed should appeal to the imagination and ambition. Above all the author makes it clear that physics is a living subject advancing with ever-increasing speed and that it will surely reward the seeker after truth as richly as he deserves. No one can doubt that the next twenty years will bring forth new facts and theories which will change civilization as much or more than Faraday's researches in the nineteenth century.

H. A. W.

WILD FLOWERS

Wild Flowers. By HOMER D. HOUSE. 362 pp. 299 illustrations; 264 colored, 35 half-tone. The Macmillan Company. Price \$7.50.

ONE of the most needed types of flora is one with accurate photographic illustrations from which plants may be identified so far as to superficial characters. While this has been done before in certain groups of plants, House's "Wild Flowers" makes a step in this direction for the floristics of a large area. While a great deal of the book, especially the illustrations, is a reissue of a New York State Museum publication, in its present state it is more convenient for use and available to a greater public. The size and clarity of the illustrations make identification much easier for such plants as are included, and make one wish that more than 400 out of the many thousand plants that