great rookeries of this species on the level or gently sloping ground—just the condition that von Tschudi and Raimondi had encountered on the islands. Such a photograph as Murphy shows opposite page 304[8] could not possibly have been taken in 1908. The statement is not lightly made. I saw hundreds of rookeries of this species on islands and mainland over some 700 miles of the coastal region during a period of a year and a half and made many inquiries with the particular aim of checking the statements of von Tschudi and Raimondi. The conclusion seems inescapable that *Sula variegata* did originally nest extensively on level ground (and doubtless also on the cliffs), that some time during the period of unregulated extraction of guano, it gave up practically entirely the level areas, and, seemingly, found previously unfrequented cliffs on the mainland, and that it subsequently reclaimed the level areas when conditions made it feasible to do so. It is still believed, however, that von Tschudi was incorrect in ascribing chief importance to the gannet, locally known as "piquero" or "camanay." The fact that the name "guanay" or "huanay" was applied by the indigenous Peruvians to the white-breasted cormorant, taken together with the knowledge of its habits and the ascertained facts regarding the amount and quality of the guano it produces, points to the primacy of this species as a producer of the fertilizer that was valued by the Incas, and doubtless by their predecessors.

R. E. COKER

UNIVERSITY OF NORTH CAROLINA

AN ABSTRACTING SERVICE FOR TECHNIQUE IN BIOLOGICAL MICROSCOPY

THE journal *Stain Technology,* the official publication of the Commission on Standardization of Biological Stains, is now in its tenth year and plans are being made for enlarging its scope with the beginning of 1936.

This journal has, almost since the beginning, consisted of two parts—one composed of original articles; the other of reviews of articles dealing with microtechnique that have appeared in other journals. The original articles at first dealt wholly with stains and staining procedures, but as it became known a few years ago that the editors were willing to receive more general contributions along other lines of microtechnique, their scope has gradually been widening and for about three years the journal has carried on its cover page as a sub-title the name "A Journal for Microtechnique." Recent numbers, in fact, have included an unusually large number of papers dealing with other subjects beside stains and staining.

The abstract section of the journal, which has been entitled "Laboratory Hints from the Literature," has always included microscopic methods in general, although the greater number of the articles reviewed have had to do with staining procedures, methods of fixation, etc. The abstracts have always been of distinctly unusual style in that the plan has constantly been followed of giving enough of the author's technique in the abstract so that it could be followed without consulting the original article. Up to the present time, however, the articles reviewed have been only those appearing in a limited number of journals available at Geneva, N. Y., where the commission laboratory is located. For this reason, the field has never been covered as completely as might be desired.

Beginning with January, 1936, however, it is hoped to cover in this abstracting service a much larger list of journals. A list of nearly 100 periodicals has been drawn up in which articles on microtechnique often occur and it is desired to cover in the future as many as possible of the journals on this list. It is obvious that not all this can be done in the future at the Commission offices as it has been in the past. Assistance must be obtained from biologists elsewhere in reporting on the methods published in many of these journals. The editors have already secured about 15 collaborators who have promised to assist in the necessary abstracting work, but additional abstracters would be desirable. If any of the readers of this article, therefore, are sufficiently interested in this undertaking to be willing to abstract a few articles each quarter, it will be appreciated very much if they would get in touch with the writer of this note and indicate their willingness.

The object in this proposed development is to convert *Stain Technology* into a journal which presents in a clear, concise and usable form not only the latest news concerning the biological uses of dyes, but also the most recent methods in general biological microscopy. No other periodical does this at the present time, the usual abstracting journal in the biological field laying its stress on results rather than on methods. It is hoped that the proposed plan will make *Stain Technology* a more useful factor in the field of microtechnique than it has been in the past.

H. J. CONN

GENEVA, N. Y.

THE ANTIVIVISECTION FIGHT IN ILLINOIS

THE methods employed by the Illinois Society for the Protection of Medical Research in combatting antivivisection activities in Chicago during the winter of 1934–35 may be of some interest to biologists in

[8] Robert Cushman Murphy, "Bird Islands of Peru," pp. xx + 362. New York and London, 1925, Putnam's. Illustrated with photographs taken in 1919 or 1920.

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, Visscher, 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.

C. I. REED

UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE, CHICAGO

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