information provided by cytochemical techniques about processes of synthesis in the egg of the rat and mouse. The final three chapters deal with the œstrous cycle of the cat; the occurrence of supernumerary spermatozoa in the fertilized ova of rabbits; and fertility in the ewe—all of them accounts of valuable and interesting work.

Twentieth-Century Bestiary

(A *Scientific American* Book.) Pp. xi+240. (London: G. Bell and Sons, Ltd., 1957.) 13*s*. 6*d*. net.

WITH 130,000 regular subscribers and many casual sales from news-vendors *Scientific American* has now become one of the most powerful agents for spreading scientific knowledge throughout the United States. So popular have been its non-technical articles that, two years ago, the Board of Editors launched a series of short books on specific areas of science consisting of contemporary articles from the journal. These books have been as successful as the journal and are now being published for British readers. Each is designed to elucidate the new knowledge recently gained by research in a particular field of science and to acquaint the reader with the problems which are at present being investigated.

As its name implies, "Twentieth-Century Bestiary" is concerned with certain aspects of zoological science. These, presumably, have been chosen because of the appeal of the original articles and represent but a small sample of current zoological investigations. The random sample includes two articles on the balance of Nature, three on mating, two on the social insects, two on the origin of species, three on what is aptly called physiological engineering, four on bird flight, one on sonar in bats and others on laboratory entomology and researches on primates. The authors include American, British, Danish and Swiss investigators who are as well known for their abilities to write as for the quality of their researches. Between them they have produced a book the contents of which belie the quaintly chosen title. This is no moralizing treatise but an unvarnished account of how the frontiers of science are being extended by imagination, patience and humility.

The Great Chain of Life

By Joseph Wood Krutch. Pp. xiv+227. (London: Eyre and Spottiswoode, Ltd., 1957.) 21*s*. net.

IN this little introduction to biology a distinguished American naturalist challenges many accepted beliefs. He questions, for example, whether the complexity of a microscopic, one-celled animal can be explained by natural selection or any other logical theory. He believes that joy and other emotions are not confined to man and that animals—even in zoos—develop an awareness of, and an interest in, people of which we would never believe them capable if we knew them only in the wild. . . . "Monkeys are notorious exhibitionists and gibbons, especially, will put on performances at intervals after a preliminary ballyhoo of howls to collect an audience." In his love for, and zeal to promote the study of, animals as individuals, Krutch also argues that laboratory biology, which has tended to become the most earnestly cultivated kind of scientific study, is precisely the kind least likely "to stimulate compassion, love or reverence for the creatures it studies . . . the laboratory scientist is not of necessity drawn into any emotional relationship with animals or plants and the experiments which must be performed are more likely to make him more, rather than less callous, than the ordinary man".

Does Krutch really believe this? Could he produce evidence? Do most biologists believe in a mechanized process of natural selection which is making the animal machine more and more efficient? That man is merely an extrapolated version of the Anthropoidea? That most biologists do not accept that there are varying degrees of 'intelligence' and 'emotion' in all animals? Krutch has written a book which will appeal to many—and especially those who find delight in erecting their own Aunt Sallies to aim at. It is a masterpiece of unsubstantiated assertion.

T. H. Hawkins

The American Arbacia and Other Sea Urchins

By Ethel Browne Harvey. Pp. iv+298+16 plates. (Princeton, N.J.: Princeton University Press; London: Oxford University Press, 1956.) 48*s*. net.

THIS is the story of an egg, or, to be more precise, an annotated bibliography and summary of the story of an egg. The first sixty pages are devoted to a description of the etymology, history and natural history of sea urchins (still called sea eggs in parts of Britain) in general and *Arbacia punctulata* in particular. The next eighty pages review investigations into the normal and modified development of the egg of *Arbacia*. This is followed by eighty pages of a "compilation of experimental work" arranged alphabetically and set down in note form. The bibliography lists 1,500 titles and is stated to include all the important papers written on *Arbacia* between 1850 and 1954. The index is admirable. The scholarship involved in this work is immense, and the book is a most complete guide to the voluminous literature which has grown up on sea urchin eggs. These eggs are one of the most investigated of biological entities, rivalling even *Drosophila* in popularity.

The extent of the investigations on the American species can be gauged by the numbers used at Woods Hole and the decline in population which appears to have been brought about chiefly by overcollecting. In the summer of 1933, 70,000 were collected. In 1949, although the same number were ordered, only 4,000 could be found. The chief value of this book lies in its use as a reference source, for which it is indeed indispensable. The first half may be used also by students and teachers as an account of the embryological and cytological investigations, but it is rather concentrated.

D. B. Carlisle

Marine Algae of the Northeastern Coast of North America

By Prof. William Randolph Taylor. Second revised edition. Pp. ix+509. (Ann Arbor, Michigan: University of Michigan Press, 1957.) 12.50 dollars.

THE new and revised edition of this important work is especially welcome because of the advances in knowledge of the life-histories and taxonomy of the algæ which have accrued in the past twenty years. The area with which the book deals extends from the coast of Virginia to the Arctic Circle and contains, therefore, elements of the northern flora with subarctic tendencies as well as plants which inhabit warmer waters. The volume, in consequence, will be welcomed by algologists from many locations either for direct or comparative reference. On this account one regrets that, in the new edition, biblio-