pers, and stick insects/flies, earwigs and aphids/spiders/woodlice and other cryptozoic animals/snails and slugs. All species detailed exhibit high success ratios in the classroom and are "easily obtainable." (Keep in mind this means "easily obtainable" in England. Of the 13 moths and butterflies cited in Chapter 1, only one is native to the United States.) Each chapter has background information concerning number of species, life cycles, mating rituals, and raising of young. Instructions are given on how to trap, identify, determine sex, and house the organisms. Many detailed drawings and some photographs are included to help in construction of cages. Tips on food preferences and daily care are also included. All techniques mentioned in the book have been field tested by the authors or under their supervision.

The book's most outstanding feature is its wealth of open-ended questions and ideas for study and experimentation found in every chapter. Any teacher could benefit from the innovative, inquiry-oriented suggestions offered in this informative though geographically limited handbook.

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FOUNDATIONS OF ANIMAL DEVELOPMENT

by A. F. Hopper and N. H. Hart. 1980. Oxford University Press (200 Madison Avenue, New York 10016). 624 p. $19.95.

This comprehensive college textbook is a well-written synthesis by experienced authors, blending the descriptive, biochemical, and experimental aspects of animal development. After a brief introduction, the authors review such concepts and principles as gametogenesis, fertilization, cleavage, gastrulation, tissue interactions, neurulations, and morphogenesis. The second portion of the book describes the development of organ systems with most emphasis on the cardiovascular, nervous, and urogenital systems.

The text has numerous headings and subheadings, and new terms are in italics. The illustrations are excellent line-drawings and are well labeled; features in some are shaded with pink for contrast. Good quality photomicrographs are used, mostly in the first portion of the book. There are no chapter summaries and no glossary, but there is an extensive index. References are listed at the end of each chapter. These are primarily to journal articles on original research and include many from the past ten years. The chapters on fertilization and gastrulation have more than twice as many references as the average chapter that has about twelve. The discussion of fertilization is quite extensive and comparatively advanced. The inclusion of a chapter on early human development is another useful feature of this textbook.

Foundations of Animal Development is a significant contribution to this rapidly changing field of study. It may allow more instructors to adopt only one book, rather than using a classic textbook along with readings or paperbacks on more contemporary approaches.

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BIRDS: READINGS FROM *SCIENTIFIC AMERICAN*

Introduction by Barry W. Wilson. 1980. W. H. Freeman and Company (660 Market Street, San Francisco 94104). 276 p. $17.95 hardback; $8.95 softback.

We are all quite familiar with the fine articles that have appeared in the *Scientific American* since the magazine was revised and revitalized some thirty years ago. We also know that many of these articles have been made available as individual offprints. Many teachers stock class sets of appropriate reprints to use as supplements to their textbooks at the proper moment.

More recently, the W. H. Freeman Company has been assembling articles of particular subject areas into collections to be printed as books. This one called *Birds* is the most recent compilation. It contains 25 of the more than 40 bird articles that have appeared in *Scientific American* since 1948. Obviously, then, the articles are not new. They range in age from *Bird Dynamics*, originally printed in April 1952, to *How Bird Eggs Breathe* from the February 1979 issue.

The subject matter is quite broad in scope. The book is divided into seven sections, each with a special introduction that surveys the subject area. Sections include: (1) Diversity of Birds (2 articles); (2) Flight (3 articles); (3) Migration and Navigation (3 articles); (4) Evolution (3 articles); (5) Behavior (6 articles); (6) Physiology and Song (6 articles); and (7) Birds and People (2 articles). There is also a bibliography followed by an alphabetical index.

Birds are most unusual animals. They are small, feathered specialists with wings and other adaptations that give them access to the sky, the sea, the land. They are only one of four life forms that developed the ability of true flight—insects, pterasaurs, birds, and bats. (Humans can fly too, but only when they get into one of their new-fangled flying machines.) It is probably safe to say that of all flying things, those closest to the heart of humans are the birds.

Bird behavior seems to be stereotyped in many ways, but modern research seems to show that even what we call their instinctive behavior may be partially learned. (See *How Insects Are Learned*.) Also, some birds, like crows and ravens, have learning powers equal to those of many mammals. (See *The Brain of Birds*.)

At any rate, though *Birds* is not a book to read at one sitting, it certainly merits a place of honor as a reference work. If you want to know how homing pigeons find their way home, read *The Mystery of Homing Pigeons*. To learn a little about