Comparative Anatomy. William Montagna. Wiley, New York; Chapman and Hall, London, 1959. xii + 397 pp. Illus. $6.

"This book is written for the college sophomore for a one-semester course" is the first sentence in this book's preface. After reading the book, I feel that the author has very successfully fulfilled his aims. This is not the first stimulating text on comparative anatomy to come out of Brown University, but it is very different from the previous one (by Walter). Walter's book, a series of lectures delivered by a very good lecturer, was used by many teachers, not as a textbook but as a source for preparing clever lectures while another, less lively text was used in class. Montagna's work is a textbook in every sense. Every word counts, and every sentence contributes to the development of the subject. One might refer to this book for facts, but not for material to adorn a lecture. The facts presented are well chosen, and they are within the limits of sophomores' abilities.

The first few pages are deceptively easy. The definitions are so simple that they seem almost trivial. On two occasions I have seen smart 14-year-old youngsters pick up the book, read it for half an hour, and then put it down because the difficulty of the material increases very rapidly, and soon demands very close study. By the time a student finishes the chapter on the endoskeleton, he will realize that he is no longer a freshman, and that he has tackled something of considerable depth and complexity. The treatment is clear throughout, but demands concentration. The easy start is a wise procedure.

There are a few points that I do not like. The first is the practice of applying men's names to structures rather than the descriptive terms of more recent anatomical practice. Since these names were applied first in human anatomy, their use in a book on comparative anatomy seems unwise. Because most texts on human anatomy now use the more modern nomenclature, this is an unnecessary duplication of terms which detracts from the comparative aspects of anatomy. There is too little paleontology and possibly too much embryology, but these are matters of individual taste. A very few statements of fact may need correction. These are minor points, and the text is so sound that the lecturer can take class time to elaborate on any aspect of the subject which he considers inadequately treated.

Against these trivial detractions must be set the text's many excellent departures. The freedom from copying previous work is refreshing. This freedom shows in both the text and the illustrations. The introduction to the chapter on the muscular system is possibly the best in the book, or in any comparative anatomy text written for undergraduates. The book is well printed on good paper. It should stand up under hard use. It is not a reviewer's duty to discuss anything except the book under review, but since many of this review's readers may consider using the book as a text, I take the liberty of pointing out that a laboratory manual is available to accompany the text, and that the manual should be revised. Not only does it mix up terms such as "lateral and medial" and "dorsal and ventral," but the nomenclature differs from the nomenclature of the text. There are some conspicuous errors of fact, yet it is a good manual with a broad coverage, which omits only work on the skin and its appendages. With these reservations, I am convinced that a stimulating and informative course could be built on these two books.

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Grasslands. A symposium. Howard B. Sprague, Ed. Publ. No. 53. American Association for the Advancement of Science, Washington, D.C., 1959. xv + 406 pp. Illus. Prepaid to members, $8; others, $9.

The conservation movement, in any effective sense, is now a half century old. As launched by Roosevelt I, its most dramatic aspect was centered about our forests. It its a pleasure to record, on the basis of recent visits to the Northwest and others to the southern pine region, that American forestry is coming of age.

Unfortunately, while cowpokes may be more romantic than lumberjacks, the grasslands where they work seem to have less appeal than the woods. It was, I believe, during Theodore Roosevelt's reign that a scientist in the Department of Agriculture addressed a memorandum to the secretary, calling attention to the serious deterioration of the western range, due to overgrazing and general mismanagement. The document was returned, endorsed "Probably true, but best not to do anything about it now." Actually our grasslands have suffered fully as much damage as our forests. Fortunately their cycle of recuperation is somewhat briefer, unless erosion has been severe.

Students of the food pyramid estimate that a unit of animal produce requires seven to ten units of plant material, and a similar ratio holds between meat eaters and meat. To the extent that we depend upon animal proteins and fats, each pound of us, therefore, represents from 343 to 1000 pounds of grain or forage—the former from cultivated lands, the latter from grasslands proper.

The area of grasslands in this country is about one billion acres—roughly three times that in all harvested crops except hay and, of course, timber. Much of this grassland never was, and probably never will be, highly productive. It follows, then, that grasslands are pretty basic to our economy and that their condition is a matter of grave importance.

In publishing this volume, *Grasslands,* and in sponsoring the symposium on which it is based, the American Association for the Advancement of Science has performed a public service. And so has Howard B. Sprague, who has ridden herd on some 44 authors of 37 papers; he deserves praise for doing well the kind of an editing job that is difficult at best. Except for an occasional rather perfunctory paper, the amount and the quality of information is highly satisfactory. It is also well presented.

It is impossible to summarize so complex a discussion. In it a rich array of the sciences has been marshalled—biochemistry, genetics, entomology, engineering, climatology, soils, pathology, and, of course, ecology. There is a record of much work well done and a clear indication that much more is needed. The general import is one of a much higher potential than is now enjoyed.

Some 15 million acres in the Northeastern States and some 60 million acres in the Corn Belt are reckoned as grassland. Despite the rapid growth of the livestock industry in the South it is these two areas and the drier grasslands of the West that receive chief attention. Broadly speaking, the technology of the more humid regions is one of intensive,