stern requirements of scientific method are as yet too few to support much hope that the findings they report will ultimately add to other findings and so contribute to generalizations worthy of a place in scientific literature."

It is perhaps ironical that the major contributions of political scientists to our civilization have been in the fields of "normative doctrine and proposals for social action," fields which Hyneman would have them deemphasize if not avoid entirely. "Political scientists," according to the late Leonard White, "took a major responsibility for the reconstruction of municipal government. . . . They led the way in the reorganization of state governments. . . . They were influential in the drive for a short ballot and better election procedures. They were chiefly responsible for educating the American public to the necessity of a budget system. They began the long process of discussion that finally . . . reversed the historical direction of American foreign policy. . . . Suffice it to say that where good works are to be done on the body politic, there political scientists are to be found." These are no mean achievements, and they have been accomplished by men and women who were unafraid to mix scholarship with active statesmanship.

Hyneman has a good deal to say about how *scientific* political science can be without sacrificing a legitimate concern for political values. He calls for a more rigorous analysis of means and ends and for a more pragmatic use of political theory, and especially of the so-called "classics," in this analysis. Unless I misread what he has to say, Hyneman takes a dim view of those who, in their zeal for scientific method, would focus the attention of political scientists on such concepts as "power" and "influence," "behavior" or "decision making," to the exclusion of their more traditional concern with "legal government" and political ideas. "If," he asks, "the study of influence offers high hope of arriving at generalizations, why isn't the traditional study of political scientists right down the line? Legal governments are great systems of influence; they provide readily accessible demonstrations of power, which is influence backed up by compelling sanctions."

There is much in this volume that is confusing and even contradictory. Much of Hyneman's own terminology shows the same lack of careful definition for which he takes his colleagues to task. He appears to be impatient with those who indulge in detailed textual exegesis of political classics, although it is hard to see how the real meat of these great works can be extracted without such analysis. Time and again he uses *power* and *influence* as synonymous terms, although they refer to profoundly different aspects of political behavior. He does less than justice to the so-called "behavioralists" and seems to assume that somehow "legal governments," "ideas," and "normative doctrine and proposals for social action" can have meaning and significance apart from the political behavior of living men and women. He correctly criticizes political scientists for being fuzzy-minded generalists but pleads for greater and greater breadth in those specialized fields to which he would direct their efforts. And while taking political scientists to task for attempting too much, he calls upon them repeatedly to do more and more.

Nevertheless, Hyneman has done political scientists a notable service in holding up this mirror to their achievements and their shortcomings. This volume deserves a wide, careful, and critical reading by all those who profess what has long been described as the "queen of the sciences," the ancient and honorable science of politics.

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Complete Field Guide to American Wildlife. East, Central and North. Henry Hill Collins, Jr. Harper, New York, 1959. xix + 683 pp. Illus. $6.95.

The World of Living Things. Paul Griswold Howes. Duell, Sloan and Pearce, New York, 1959. xix + 232 pp. Illus. $4.50.

Curious Naturalists. Niko Tinbergen. Basic Books, New York, 1959. 280 pp. Illus. $5.

These three books are quite dissimilar, but they have in common a primary focus on the animal kingdom. The first is a field identification manual, the second is a series of reflective essays on natural history themes, while the third blends, in a highly intriguing fashion, a series of glimpses into the fascinating and bewilderingly diverse lives of various creatures with an informal account of the experiences and joys the author has had in the course of his studies.

Collins' book *Complete Field Guide to American Wildlife,* covers, in its 683 pages, all the species of mammals, birds, reptiles, amphibians, food and game fishes, shells, and principal marine invertebrates of North America east of the Rocky Mountains and north of Mexico. The use of the word *wildlife* is thus restricted to animal life aside from insects. Not only are about 1400 species of animals treated in some detail in the text, but 700 of them are shown in color and 800 in black-and-white. Over 2000 maps and other illustrations are included in this ambitious and seemingly well done manual, which is intended to be a "one-book-library" for use in the field. A rapid sampling of the contents gives me the impression that it will prove to be a reliable and handy guide.

Howes' book, *This World of Living Things,* is intended for reading, rather than for field use. While the creatures described are as varied as collembolans, the tropical forests of British Guiana, infusorians, and the human species, Howes tells us that these are not random sketches, but were carefully chosen from a great many that, at one time or another, occupied his attention. The 10 chapters and their documentation are uniformly good and hold the interest of the reader. The book is written in such a way that it introduces the nonnaturalist to various aspects of the world of living things and shows him, in simple and straightforward descriptions, what a wonderful and richly rewarding world it is. Howes has worked for many years in the field of popular education as writer and lecturer, and as curator of the Bruce Museum in Greenwich, Conn. The present book shows an experienced hand and an ever-alert and receptive mind.

The third book, *Curious Naturalists,* by Niko Tinbergen, the great animal behaviorist at Oxford University, takes its name from the last chapter, in which the author defends his curiosity about nature. He writes that, ". . . no man need be ashamed of being curious about nature. It could even be argued that this is what he got his brains for and that no greater insult to nature and to oneself is possible than to be indifferent to nature." Tinbergen's curiosity has embraced all forms of animal life—birds, insects, fishes. His studies, only partly reflected in the almost autobiographical essays presented here, have not only

been meticulously detailed, but the deductions he has drawn from them have been experimentally tested to determine their objectivity and their validity. Unlike many naturalists, Tinbergen constructs ingenious methods of testing what he thinks he can deduce from his observations, and, by so doing, is able to present his observations in critically acceptable form. The first essay in this book deals with insect studies at Hulshorst, in Tinbergen's native Holland, where he first found the type of study that he decided to make his life work. This is followed by two chapters on experiences in the arctic, especially in Greenland, where he made his notable studies of snow buntings and phalaropes. Following these are a number of chapters devoted to a variety of creatures—falcons, sand wasps, butterflies, gulls, and ducks, as well as penetrating discussions of both animal camouflage and the symbiotic relations between insects and flowers. All in all, a pleasant and stimulating literary experience is in store for those who read this book.

All three books are well indexed. While this is of less importance in the second and third than in the first volume, the presence of an index indicates to me at least, that the author attempted to make his ideas and his data available to his readers, an attitude always to be commended. Anyone who has had to peruse, page-by-page, old unindexed travel books for the observations of natural history they contain must have had occasions to condemn the authors for this lack of cooperation.

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Men and Atoms. The discovery, the uses and the future of atomic energy. William L. Laurence. Simon and Schuster, New York, 1959. xiii + 302 pp. $4.50.

This is a fascinating account, written by the science editor of the New York *Times*, of the birth of the atomic age. Laurence was the only reporter privileged to be in on the secret of the first nuclear bomb before it was exploded above the New Mexico desert in 1945.

Though much of the story has been recorded previously, the reader may enjoy reliving the cloak-and-dagger intrigue that surrounded the Manhattan Project and some of the events of the tense 3½-day countdown that preceded the triggering of the bomb—Bacher struggling with a balky mechanism while he assembled the vital core of the bomb in an old ranch house; Kistiakowsky braving an electrical storm to inspect the bomb-laden test tower; Oppenheimer and General Groves anxiously eyeing the foreboding skies. Then "there rose as if from the bowels of the earth a light not of this world, the light of many suns in one" to herald the end of World War II and the beginning of man's efforts to avoid universal suicide.

Actually, the book covers a great deal more than the Manhattan Project and should give the lay reader, in particular, a good idea of how basic research provides the building blocks for the foundation on which technology lies. This lesson comes through despite the chronologically disjointed narrative (perhaps a reflection of the occupational disease which afflicts us newspapermen) and Laurence's unrestrained prose—sometimes as purplish as the awesome fireball it seeks to describe.

Among other things, Laurence painstakingly debunks the popular notion that the atom-bomb project was sparked by Einstein's famous letter, written in 1939, to President Roosevelt. "The tragic truth is," Laurence says, "that the Einstein letter . . . played no part whatever in the decision (26 months later) to go all out on the building of an atom bomb." For, the author points out, "it was not until December 6, 1941, the day before Pearl Harbor, after the British scientists had shown us that an atom bomb was a definite possibility and when it appeared that we had handed the Germans a head start of three full years (an assumption later proved to be erroneous), that we at last decided to go start work on the project."

As Laurence details our procrastination and lack of top-level concern, the reader should come to realize the implication of two situations: the danger to democratic survival of a scientifically illiterate electorate and, worse yet, the folly of entrusting our national fate, in times such as these, to lawmakers and policy planners ignorant of the ways of science and technology.

The reader should also sense the utter ridiculousness of some of our secrecy rules while, at the same time, recognizing the treacherous cunning of traitors like Fuchs, who breached the tight security precautions to "feed Soviet agents the secrets of the atom bomb and the early theories about the hydrogen bomb."

Undoubtedly, some readers will take issue with the author's discussion of "clean" hydrogen bombs (though he makes it clear they'll never be as pure as Ivory soap), with his defense of our recent nuclear weapons tests (to which I subscribe), and with his conviction that "there cannot be another war" because an aggressor would risk "the certainty of absolute and swift annihilation" (an obvious reality which madmen have a tragic habit of overlooking).

But, all in all, the book is well worth your reading.

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Libraries and Bibliographic Centers in the Soviet Union. Indiana University Publications. Slavic and East European series, vol. 16. Paul L. Horecky. Indiana University, Bloomington, 1959. xviii + 289 pp. $3.

Paul Horecky, assistant chief of the Slavic and East European Division of the Library of Congress, characterizes his study as "an attempt to present an up-to-date and realistic picture" of libraries and bibliographic centers in the U.S.S.R. The attempt is timely, worth while, and highly successful. Drawing its information from a wide range of Soviet material and from interviews with American visitors to Soviet libraries, the book has a double merit: it presents a great deal of carefully sifted information about the institutions in question and also points out the rather special role such institutions have been made to play in the Soviet environment. On the factual side, the book describes the Soviet legal deposit-copy system and organs of bibliographic registration and the various aspects of the network of libraries and collections; on the analytical side, the book touches upon the Soviet concept of librarianship as a vehicle for indoctrination.

The well-organized volume begins with a glossary which defines pertinent Soviet terms that often puzzle the nonspecialist, and includes 12 chapters of closely packed data interspersed with elucidating organizational charts, diagrams, and tables. Thirty-four "supplements" containing additional relevant material, a selective and up-to-date bibliography of sources, and a detailed index add to the value of the publication.

The readers of *Science* will be particularly interested in the chapters dealing