thors review the work or problems of individual departments and several others some of the social and economic aspects of government science; John C. Honey points to shortcomings of the present government system and concludes that major improvements will require a greater sense of national purpose and a strengthening of the leadership role of the President.

Research and development support now accounts for a tenth of the national budget. The nation's economic and military welfare are widely recognized to be dependent on a growing base of science and technology. The administrative machinery with which the federal government carries out its scientific and technical responsibilities must therefore be of serious concern to government officials, natural and social scientists, and, indeed, to any serious student of government or science administration. For these groups, *Perspectives on Government and Science* is recommended.

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Sons of the Shaking Earth. Eric R. Wolf. University of Chicago Press, Chicago, Ill., 1959. xii + 303 pp. Illus. $5.

This excellent synthesis of Middle American geography, archeology, colonial history, and modern ethnology provides a broad view and valuable background information for students of Latin American affairs, ancient and modern. Chapters 1 and 2 present the geographical and biological diversity of Mexico and Guatemala. Wolf places much emphasis (some readers may consider it unduly heavy) on the role of evolution and environmental determinism in the development of physical types among the American Indians after they arrived in the New World. "Mutation, drift, and genetic recombination, the forces of natural selection were continuously operative." Wolf restates the hypothesis that cold may modify human stature by stimulating the adrenal glands, while altitude, because of decreased oxygen intake, may favor massive chests and lungs. Chapter 3 stresses the value of linguistic studies in reconstructing ancient history and "the direction of the flow of culture" in Middle America.

Chapters 4 to 7 summarize the archeology of this area: the early hunter-gatherer stages; the incipient, then fully developed horticultural stage; the theocratic period when "egalitarian life of the simple farming community yields to increased complexity"; the years between A.D. 750 and 900, which "shook the old world order to its foundations"; and the final epoch, when the Mexica Aztecs brought militarism to its culmination.

The Spanish conquest (chapter 8) came when "the time was ripe for a redress in the balance of power in Middle America." Two Spanish trends—one toward warfare, one toward industry and trade by a town-based *bourgeoisie* — were colliding in the Old World when this new American frontier suddenly favored the otherwise doomed warrior-adventurers and, thus, ultimately led to Spain's downfall. Chapter 9 on the colonial period, points out that "the goal of the Indian noble was to consume wealth commensurate with his social position. The Spanish colonist, however . . . wanted to convert wealth and labor to salable goods." Wolf here describes Spanish enterprises—mining, agriculture, stock-raising, and manufacturing. Chapter 10 tells how the 17th-century depression ended Utopian dreaming and "Middle America again retreated into its countryside." Chapter 11 on modern ethnology states: "To fulfil the goals of his revolution, the mestizo had to go beyond land reform and beyond Indianism to an active transformation of society. . . ." The economic instruments of this transformation were industrialization and mechanized agriculture; the ideological instrument was nationalism.

On the whole, this valuable analytical synthesis is well written; in spite of the compression of its enormous scope into 300 pages, the reader does not feel that he is being hastened through a cafeteria line on a busy day. There is, however, a curiously abrupt alternation of highly poetic and eloquent phrasing on the one hand and purely factual, straight-forward reporting on the other. The language sometimes seems a little pretentious, like political oratory, in contexts that scarcely warrant this style. But the book is accurate and thoughtful, a welcome and much needed addition to the growing number of general studies interesting to student and layman alike.

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Economics and the Policy Maker. Brookings lectures, 1958–1959. Brookings Institution, Washington, D.C., 1959. xiii + 209 pp. $2.95.

The Brookings Institution is to be commended for the several series of lectures it has held since 1954. Designed for audiences of professional specialists and public officials, the lectures contribute to the wider understanding of the uses of social sciences in raising the level of decision making. The present volume discusses the role of economics in some areas of national policy.

The goal of maintaining growth and stability in the American economy has become obsessive. It is not surprising, therefore, to find that four of the eight lectures are variations on this theme. Gerhard Colm discusses the tasks of federal stabilization policies, with emphasis on the adjustments of taxes and expenditures. Robert V. Roosa presents a brief for achieving stability through controls over the banking system—a policy that today is more often treated as a rival than as a complement to fiscal controls. Neil H. Jacoby gives a comprehensive survey of the adjustments in national economic policies that would stop creeping inflation. The late Sumner H. Slichter, motivated by the desire to examine the contribution of labor union activities to inflation, scrutinizes the union.

The other lectures are on the applications of economic analysis in business planning (Sidney S. Alexander), on taxation (Louis Shere), on the mixture of economics and law in the enforcement of the antitrust laws (Mark S. Massel), and on problems of the underdeveloped countries (Everett E. Hagen). Hagen seeks to allay currently popular fears concerning the overpopulation of the earth.

The book should appeal to all serious students of public affairs, even though, in some places, the level of discourse is suited only to professional economists.

Like other experts, economists wish that politicians and administrators would pay more attention to accepted economic knowledge in the design and execution of economic policies. But to the age-old problem of the interaction of the roles of philosopher and ruler, the present volume makes no real contribution, despite its many penetrating observations. One of these is Gerhard Colm's distinction between economics

as it is cultivated by the academic economists and the "action" economics developed by those advisers close to the making of actual decisions. Economists disagree on many points, just as physicians do. The reasons are similar: the lack of firm knowledge in many fields, the infinite complexity of the phenomena studied, the lack of experience with new remedies, and the differing outlooks of those who engage in research and of those who are in practice.

The book covers less ground than its title suggests. Not included are such important policy areas as transportation, public utilities, the development of water resources, agriculture, and the social welfare programs. They too have problems related to the same broad issue—the improvement of decision making by greater reliance on established economic knowledge.

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A Psychiatrist's World. The selected papers of Karl Menninger. Bernard H. Hall, Ed. Viking, New York, 1959. xxvi + 931 pp. $10.

This unique collection of writings is a multifaceted mirror of Karl Menninger's interests and activities through 40 years of his professional career. From the great wealth of his published papers, more than 80 have been selected by a committee of his medical colleagues and published in commemoration of his 65th birthday.

Bernard Hall, who served as the editor, presents vivid commentaries on each division of the book. These divisions mirror Menninger in his activities as a physician, as an investigator, as a psychiatrist, as a psychoanalyst, as a teacher, as a writer, as an administrator, and as a theorist. Both the editor and the committee that selected the papers for this volume have successfully achieved a presentation reminding the reader of a "This is your life" of this great leader in American psychiatry. Menninger has unusual literary talent for conveying his knowledge in a manner understandable to lay as well as professionally trained readers.

A Psychiatrist's World documents the development of dynamic psychiatry and the contributions of psychiatry to other disciplines. It is a convincing demonstration of the fact that psychiatry, as a basic science, obliterates the barriers between disciplines involved in human relations. The significance of this is beginning to emerge and may eventually influence the professions to a more adequate understanding of mankind.

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Adventures with the Missing Link. Raymond A. Dart (with Dennis Craig). Harper, New York, 1959. xxviii + 225 pp. Illus. $5.

Rare indeed is the scientist who earns his living in one field but becomes famous in another. Yet anatomist Raymond Dart, who retired last year as dean of the faculty of medicine at the University of Witwatersrand in Johannesburg, achieved international fame in the field of anthropology. His *Adventures with the Missing Link* is the modestly told autobiography of a scientist with great originality and persistence who achieved local success as an anatomist and teacher and worldwide acclaim for his pioneering role in the discoveries of lower Pleistocene australopithecines ("Southern Apes") in South Africa.

Just 35 years ago this month, when he was little more than started in his career as an anatomist, Dart announced in *Nature* his discovery of a fossil intermediate between man and the apes. The international press seized this story of "the missing link" in the chain of human evolution; Dart stood briefly in the limelight, and then the public and professional reaction set in. The first part of Dart's autobiography details his 13-year struggle for scientific vindication, which only came in the late 1930's when more australopithecine fossils were discovered by the late and great paleontologist Robert Broom. But in 1925 Dart's interpretation of the face and brain cast of a juvenile primate as representing an evolutionary development toward man was viewed with caution and some skepticism by his colleagues. The general feeling was that this brash and unorthodox young man had gone well beyond the evidence at hand. One authoritative opinion was that "Dart's Baby," as the press called it, represented only the young of an anthropoid variety close to the modern chimpanzee. In any case, the discovery was considered an important one, although Dart's interpretation of it was placed in the suspense account. Only Robert Broom's discoveries proved that Raymond Dart had been right all along.

Having won his struggle to prove that the australopithecines were anatomically on the road to man, Dart then set about to show they were culturally on the way as well. The second half of the book is concerned with Dart's new struggle to convince the world that he is right again. The australopithecine remains constitute only a fraction of the many thousands of animal fossils blasted from old limestone-filled caves in the Transvaal. The question is, who or what brought these hard parts into the caves? Dart's answer is that the nonrandom distribution of the animal remains demonstrates that the australopithecines brought them into the caves for use as natural tools. Certain bones, tooth sections, and horns could have been employed for a variety of uses—as bludgeons, knives, scrapers, and slitting tools. Since, thus far, none of them can be proved to have been altered by subhuman hand, their use as actual tools is still open to some question. But Dart is convinced the australopithecines were tool-users and coined the jawbreaking term "osteodontokeratic" (bone-teeth-horn) to describe this cultural level. His arguments defending this view are various and persuasive—one being the high proportion of fossil baboon skulls having localized vault fractures that could have resulted from well-placed blows with antelope femur bludgeons. Indirect support for Dart's tool-using claim are the crudely chipped pebble tools from the later portions of australopithecine-bearing strata. Perhaps the earliest man was first a tool-user, then a toolmaker.

Currently Raymond Dart and his co-workers lack sufficient evidence to prove their cultural claims for the australopithecines. Nor can the skeptics marshal convincing evidence for any counter claims. Because of this stand off, *Adventures with the Missing Link* appears to end rather lamely. This is only because the story is not finished. In retirement, Dart is continuing the mining, sorting, developing, and studying of fossils, under a vast research program. With more work he will have more to say, but as he knows full well, no story of prehistory is ever really finished.

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