catastrophe. Such anxieties resulted in attempts to manipulate one element—modes of payment—in the total system; but, as we have seen most recently in Medicare and Medicaid, these attempts have clearly demonstrated the ultimate need for structural change in the medical care system itself. And in the past decade, the medical school establishment, even prominent representatives of the AMA, as well as prominent and influential laymen, have come to accept the need for at least some change of this sort.

Despite such hopeful signs, Stevens is not entirely optimistic in regard to the ability of the medical community to reform itself. The impetus for reorganization will, she implies, come very likely from without, that is, from government, reflecting a deeply felt if not always well-defined public interest. And this ultimate change will, she argues, result most likely from a process of drift developing out of the progressive failures of fragmented, economically oriented measures. The possibility of a conscious national commitment to the universal provision of medical care and centralized control of its providers —analogous to that made in the United Kingdom after World War II—she regards as unrealistic, given American social values and specific historical traditions.

This has been, I am afraid, an inadequate outline of a vastly detailed book, one based on the tireless inspection of editorials, reports, programmatic statements, policy papers, and other such forbidding fare. It is, I must emphasize, an invaluable and in many ways admirable book. At the same time, it is a not entirely successful one. There is a difficulty of scale. Stevens's attempt to be comprehensive in a field in which the secondary literature is sparse guarantees that no problem will be discussed in adequate depth. Nor is there an explicit theoretical commitment to give shape to her argument; sometimes an intelligent eclecticism is not enough. "Egalitarian," for example, is simply not an adequate explanatory category; without further analysis, its use constitutes evasion, rather than explication.

The book leaves the historian with more questions than answers: "History," the author explains with entire seriousness, "is a review of past politics which influence, if they do not predetermine, present events." But history is, of course, a great deal more than past politics, and medical history especially a great deal more than medical politics. It is no more than a truism to see a culture's basic values and commitments reaffirming themselves in the shape of the medical care it provides. Attitudes toward technology, toward entrepreneurship and productivity, toward the role of government, toward caste and sex, all obviously help shape medicine, not only in its intraprofessional aspect but in the interaction between physician and patient. Thus a study of any particular aspect of medical care might well be regarded as an appropriate sampling device for examining more general and pervasive social values (while, at the same time, common sense tells us, one cannot understand the interior logic and structure of medical care without examining such social variables). R. M. Titmuss's recent and widely praised comparative study of blood donorship illustrates the value of such an approach; and though Titmuss may perhaps err on the side of overdetermining a particular phenomenon, Stevens succumbs to the opposite peril, that of arbitrarily limiting the variables and relationships she considers.

This problem is inevitably one of depth as well. Her treatment of particular specialties, for example, is consistently general; it can be described as a chronicle of policy decisions. We still lack a detailed, analytically sophisticated, reliable history of any particular specialty. (Stevens seems to be unaware of what contemporary historical standards would demand in such a history, and is thus, for example, able to refer to George Rosen's brilliant programmatic essay of 1944 on ophthalmology as being uniquely "a detailed social analysis of the history of one specialty." Admirable as this suggestive essay is, it can hardly be described in such terms, especially after a lapse of almost 30 years.) A full analysis of a particular specialty would have to use manuscript records, very likely interviews, possibly clinical and certainly institutional records; it could not be limited to policy decisions and their formal rationale.

This is, in other words, a book which adds considerably to our knowledge but not to our understanding. Its general orientation is already familiar to those academics who will provide its largest audience; they will mine it for dates and incidents, but it will hardly change their minds. And Stevens simply ignores the passion and ideological commitment of the New Left; they will—unfortunately—dismiss her book as an artifact tailored to the needs of the liberal establishment. This is, paradoxically, a good book and one that had to be written, yet one that will neither change minds nor provide new ways of looking at an intractable configuration of problems.

CHARLES ROSENBERG
Department of History, University of Pennsylvania, Philadelphia

Neolithic Cultures

Hunters, Fishers and Farmers of Eastern Europe, 6000–3000 B.C. RUTH TRINGHAM. Hutchinson University Library, London, 1971. 240 pp., illus. Cloth, £2.50; paper, £1.50. Archaeology series.

This book presents a synthesis of the Mesolithic and Early and Middle Neolithic periods in the geographical area of east central, southeastern, and parts of eastern Europe. The enormous amount of archeological literature, especially from work in the last two decades, plus the linguistic diversity in this geographical area, presents a great challenge to an archeologist attempting to write any type of synthesis. Ruth Tringham has produced an impressive summary of hundreds of archeologists' work in that area.

The text is divided into four parts: Environmental Background; Postglacial Hunting and Gathering Communities in Eastern Europe; the Earliest Food-Producers 5500–3800 B.C.; and Economic Development and the Earliest Use of Metal *c.* 3800–3000 B.C. The first of these chapters is very short. The greatest part of the book is devoted to the Early and the Middle Neolithic—that is, to village farmers—and it is the most successful part. Since everything is compressed into approximately 200 pages, Tringham has wisely been selective with respect to subjects, problems, and even bibliographic references. Also, she has avoided becoming involved in detailed chronological discussions. I could dispute some of her choices, however, and some of her observations are presented in too absolute terms—for example, her statement that the Linear (Linear Pottery) cultures sites are found outside the Bükk and Matra mountain area only on loess. In some parts of the book she has concentrated too much on the description of various cultures or the appearance of new artifacts and fails to discuss the broad sociocultural

changes that occurred from the Early through the Middle Neolithic. It is apparent that there was an increase of warfare, the development of a more complex exchange system, and only a slight increase in social differentiation.

Tringham has made an especially important contribution for English-speaking archeologists, and the bibliography of her book will be very helpful to any professional archeologist or student trying to pursue further the study of these periods.

As Tringham indicates, much has been accomplished by archeologists in the area with which she deals. Their work forms a base for further research and will make it easier for other archeologists to pursue various studies. Some aspects of archeological research need to receive more emphasis than they have. Currently, most of the accepted hypotheses in European archeology are left untested, and, as in other parts of the world, more testing of models with archeological data is needed. We can observe changes in the archeological record of the European Neolithic, but we would also like to account for these changes in terms of culture process. So far attempts at understanding the operation of the cultural processes have not been very satisfactory. Some archeologists, both of the Old World and of the New World, are now concentrating more and more on these explanatory aspects. This common approach is bringing these archeologists closer together.

SARUNAS MILISAUSKAS
Department of Anthropology,
State University of New York, Buffalo

Cetaceans

Mammals of the Sea. Biology and Medicine. SAM H. RIDGWAY, Ed. Thomas, Springfield, Ill., 1972. xiv, 812 pp., illus. $45.

It used to be that the cetologist who wanted to study live whales and dolphins had to spend many days at sea to obtain even brief glimpses of his subjects. With the proliferation of oceanaria in many parts of the world during the past two decades, the keeping of cetaceans in captivity has become commonplace. Members of 24 of the 34 genera of odontocetes have been kept in captivity, and two—the bottlenose dolphin (*Tursiops truncatus*) and the gray grampus (*Grampus griseus*)—have been bred and reared in captivity. Even among the generally larger baleen whales, members of two of the five genera have been kept in captivity, and a third has been successfully live-captured. The ready availability of captive cetaceans has resulted in a quantum jump in research on their physiology and behavior.

According to the introduction, the present volume was conceived as a much-needed text in the field of marine mammal medical care and husbandry. In execution, the editor considerably expanded its scope. Although all of the 12 contributors are recognized authorities, only 2 are veterinarians, and apparently only 2 others have done extensive research on live captive animals.

The first quarter of the book is devoted to mostly rather brief summaries of the "general biology" of each living species of cetacean, pinniped, and sirenian, and of the sea otter. This material should have been relegated to a separate volume, where it could have received more detailed, critical treatment with adequate literature citations. I think it was unwise to employ an innovative classification of the odontocetes that has not been generally accepted by taxonomists.

The remainder of the book is devoted to anatomy (three chapters), behavior and senses (two), evolution and cytogenetics (one), and parasites (one), ending with a 160-page chapter on physiology, medicine, and husbandry. In general these chapters are authoritative and well written, if not always quite up to date. Some topics receive only a terse general review of the literature, whereas others receive long, detailed treatment including many new data. The uneven coverage is somewhat remedied by an extensive list of references at the end of each chapter.

A more integrated, functional arrangement would have made this book more convenient as a reference. As it is, to obtain information on reproduction, for example, the reader must consult the separate chapters on anatomy, behavior, and physiology. This is facilitated by the exemplary 62-page index. The book has far too many misprints. Biologists, veterinarians, keepers, and trainers who work with marine mammals will find this book one of the most useful sources of information and references.

DALE W. RICE
National Marine Fisheries Service,
Southwest Fisheries Center,
La Jolla, California

Interactions in Solids

Magnetic Resonance in Metals. J. WINTER. Oxford University Press, New York, 1971. xvi, 206 pp., illus. $17.75. International Series of Monographs on Physics.

In 1946, experiments by Purcell and by Block showed that when samples of ordinary materials such as paraffin or water were placed in a steady magnetic field the resulting system could absorb power from the radio-frequency field by "flipping" the nuclear magnetic moments inside the sample from an orientation parallel to the magnetic field (low energy) to an antiparallel orientation (high energy). It was soon realized that the same phenomenon can be observed in a large variety of substances and that the electronic magnetic moments can be induced to do similar tricks. Moreover, it was recognized that nuclear and electronic magnetic moments also interact with each other and with their surroundings. When the surrounding is metallic, for example, the lattice periodicity and interaction between electrons and nuclei can leave a significant and characteristic signature on the shape and position of the resonance signal. A careful study of the resonance data can therefore provide information concerning the magnetic and structural properties of matter. However, because of the wide variety and complexity of interactions present in a solid, there usually exists a gap between the basic understanding of magnetic resonance principles and the actual extraction of useful information from the resonance data.

Magnetic Resonance in Metals attempts to fill such a gap. The book can be divided into two parts. The first part is devoted to the study of nuclear magnetic resonance in metals. After a short summary of basic principles, the author directly proceeds to describe the effects due to quadrupolar and hyperfine interactions between electrons and nuclei. Methods for calculating resonance lineshapes are outlined, and theoretical results are quoted and compared to experimental values. The effects of the same interactions under the condition where long-range order no longer exists, that is, in alloys and liquid metals, are then examined. This is followed by two descriptive and interesting chapters about nuclear resonance in alloys with transition elements and in superconductors. The second part of the book concerns itself with spin resonance of conduction electrons. Treating the problem