and from work done by himself and others since 1940, on the other. The result is a beautifully organized and complete record, with the original data clearly separated from the author's scheme of interpretation.

Wedel is more than a supremely competent archeologist; he is one of the rare students of the interrelationships of man and environment who can separate fact from fancy. Beginning with a study of natural environment and climate in Kansas, he proceeds to a thorough examination of documentary data on the known tribes of Kansas: the Kansa, Osage, Pawnee, Wichita, Plains Apache, Kiowa Apache, Kiowa, Comanche, Cheyenne, Arapaho, and Padouca. In historic times some of these tribes were purely bison hunters, some were agriculturalists, and some combined these economies. As in most parts of the United States, it is difficult to relate certain tribes to the archeological past, but Wedel handles these problems with his usual consummate skill.

Thus, whether the author is discussing the purported association of artifacts with the Pleistocene fauna at Russell Springs, the ceramic or agricultural complexes which may be related to eastern "Woodland" cultures, or the problems of identifying historic "Quivira" and "El Cuartelejo," we see the same careful sifting of evidence and lucidly stated opinions, not to mention his greatly detailed descriptions of the sites he personally excavated.

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Information Processing. Proceedings of the International Conference on Information Processing, UNESCO, Paris, 15–20 June 1959. Oldenbourg, Munich; Butterworths, London, 1960 (order from UNESCO Publications Center, New York). 520 pp. Illus. $25.

This conference, the first international conference devoted to information processing, was sponsored by UNESCO, and it brought together approximately 2000 experts on computers and information processing, representing 39 countries. Howard Aiken, the director of the computation laboratory at Harvard University, was president of the conference; Pierre Auger served as the secretary-general.

The papers and symposia at the conference were on subjects in the following categories: methods of digital computing; a common symbolic language for computers; automatic translation of languages; pattern recognition and machine learning; logical design of computers; and computer techniques of the future.

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The Biology of Marine Animals. J. A. Colin Nicol. Interscience, New York, 1960. xi + 707 pp. Illus. $14.

Although the theme of this book is ecological, its content is mainly physiological. It is concerned with the physiology of the solutions made by marine animals to the problems presented by their environment.

The introductory chapter summarizes the properties of the marine environment which impinge upon vital processes. Most of the others deal with comparative physiology and, in arrangement and content, resemble Prosser's *Comparative Animal Physiology*. The two books have eight chapter titles that are almost identical.

Water, ions, and the *milieu interne* are taken up first, then respiration and digestive functions. Here, for example, although there is overlap with Prosser, Nicol's emphasis is more on feeding mechanisms and functional morphology, less on enzymes and intermediary metabolism.

A long section of three chapters is devoted to sensory physiology, transmission, and effector mechanisms. Pigments, color change, and bioluminescence are treated in the next three chapters.

Chapter 14 departs from comparative physiology to deal in a well-rounded way with associations. These are categorized as commensalism, symbiosis, and parasitism, but Nicol emphasizes that these are stages in a spectrum of relationships between closely associated organisms.

Finally, an account of skeletons, shelters, and special protective mechanisms is given. Here as elsewhere the discussion is in a phylogenetic framework which does not discriminate against marine vertebrates other than fishes.

All of the chapters are well documented reviews. References, mainly through 1956, are conveniently grouped with each chapter and occupy 80 pages or 12 percent of the book. A sample of 200 revealed 84 percent to be in English and 70 percent to be from British or American sources; only 1.5 percent were from the Japanese literature.

Specialists will doubtless find their own research areas slighted in favor of less exciting aspects of marine zoology. However, Nicol has attained a commendable balance of the various ecological aspects of comparative physiology; and the coverage conveys the fascination of observation and experiment to those for whom the book is mainly intended—young biologists making their first serious excursion to the sea and undergraduates specializing in marine zoology. However, even the brighter among these readers will find the book meaty. Knowledge of comparative morphology and general biology are expressly presumed, and some familiarity with the generic names of the better known invertebrates is helpful.

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The Story of Engineering. James Kip Finch. Doubleday, Garden City, N.Y., 1960. xxvii + 528 pp. Illus. $1.45 ($1.65 in Canada).

The increasing popularity of books dealing with the history of engineering and technology is pointed up by the appearance of this paperback original (meaning that there is no hardback edition). In this book, 200,000 words of text and 32 pages of nicely lithographed illustrations are used to tell the story of the construction of all kinds of structures and machines from the earliest times, in Egypt and Mesopotamia, nearly to the present, in Western Europe and the United States.

James K. Finch, Renwick professor emeritus of civil engineering and retired dean of the school of engineering at Columbia University, has for many years pursued as an avocation the study of engineering history; he has published one other book, *Engineering and Western Civilization* (1951), and numerous articles on various aspects of the subject. He is one of a very few engineering teachers who have found interesting and relevant the history of their profession