done in isolation by passing numerical price and quantity bids back and forth via the experimenter until the contestants are satisfied with the bargain achieved.

The hypotheses tested by these laboratory experiments centered around the case of equal bargaining strength, the theoretically indeterminate case. The main hypothesis, that contracts negotiated under simulated, bilateral, monopoly conditions will tend to the quantity which maximizes joint payoff, was confirmed. By varying cost and revenue functions, the generality of the result was established. It was further shown that personal characteristics of the bargainers enter heavily into the determination of differential payoff and price. The variability of contracts around the maximum joint payoff appears to be controlled by the amount of information the bargainers have. Results are reported for the complete-complete, incomplete-complete and incomplete-incomplete information cases.

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Third Ur Kingdom Archives

Sumerian Economic Texts from the Third Ur Dynasty. A catalogue and discussion of documents from various collections. Tom B. Jones and W. Snyder. University of Minnesota Press, Minneapolis, 1961. 421 pp. Illus. $10.

Administrative and economic texts from the archives of the third Ur kingdom (end of the 3rd millennium B.C.) already published are approaching the 15,000 mark, but a large number in public and private collections all over the world remain unpublished. And, of course, complete archives from the same period are probably still buried in the sands of southern Iraq. This extraordinary wealth of source material, unmatched by that of any other period of antiquity, is nevertheless difficult to digest: the large number of texts, the dispersion of the publications (some of them rather inadequate), the large amount of necessarily tedious preparatory work, and last but not least the language difficulties have until now prevented the preparation of a reasonably complete synthesis useful to historians of economics and technology.

The present volume represents a contribution towards that goal, without intending to be in any way a complete exposition of the available material. The catalog comprises 354 new pieces, most of them from the collection of the Rosicrucian Egyptian, Oriental Museum in San José, California; the others are from eight or nine different public and private collections. The texts are given in transliteration only, except for a few copies of difficult cuneiform passages. A good deal of attention was given to presenting the individual texts as clearly as possible (see, for example, the tables accompanying No. 78). The commentary consists of 11 independent chapters on selected points touching not only on the texts presented by the authors but also on questions arising from the whole corpus concerned with the third Ur dynasty; the reconstruction of the prosopography and administrative frame of Drehem will be specially welcome for future research. A useful bibliography, intended to supplement the one given by Oppenheim in his catalog of the Eames collection (still the most informative and well-balanced work in this field), and comprehensive indexes complete the book.

However the synthesis of all Ur III material is yet to be made, and basic questions remain unanswered: Is the available material a representative sample of the economic life of the period? Which sectors of this economic life are represented and which are excluded? As is true of all reconstructions, we must first study carefully the limitations of our material to avoid unjustified extrapolations and the abuse of the arguments *ex silentio*.

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Computer Technology

Digital Applications of Magnetic Devices. Albert J. Meyerhoff and others, Eds. Wiley, New York, 1960. xix + 604 pp. Illus. $14.

In the computing industry the magnetic core has become the accepted device for large-scale storage of information because of its high reliability even under adverse conditions, its high speed capabilities, and its low energy expenditure. Most of the cores in digital computer systems are used for high-speed

memory; however, they are also employed as logical circuit elements. The present text is mainly devoted to the latter applications. Much of the material is available in appropriate journals in less complete form; some of the topics have been considered in more general texts, but not as comprehensively as in this treatment. The editors have performed a very useful service in providing a one-volume, systematic treatment of an important field of digital technology.

The book, a reference text in the field of digital magnetic circuits, emphasizes the utilization of magnetic core circuits in the implementation of logical functions in digital systems. Although it consists of chapters written by 25 active workers from six industrial organizations, the volume is a well-organized and well-edited, unified presentation. Following the first part which discusses the fundamentals of magnetic core circuit technology, the six remaining parts cover particular areas of application. Each part consists of an introductory chapter explaining the general philosophy of the devices under consideration and of chapters discussing detailed circuit design, logical design, and systems design. Many references are cited, and the index is well prepared and complete.

The treatment of subject matter is, on the whole, clear and understandable. The section devoted to magnetic core memories is limited in scope to systems design. The editor justifies his position by stating that the existing literature covering this area is more extensive than that covering the topics he chose to elaborate on, but I feel that more could have been written here. The book should provide the digital systems designer with a set of digital techniques which have proven to be useful and reliable.

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Reprints

A Course of Analysis. E. G. Phillips. Cambridge Univ. Press, New York, 1960. 369 pp. Illus. $2.95.

Culture Methods for Invertebrate Animals. Paul S. Galtsoff *et al.* Dover, New York, 1961, 522 pp. Illus. $2.75. Prepared by American zoologists under the direction of a committee of AAAS Section F. Contains 313 articles covering 17 phyla. First published in 1937.