62[Z].—D. S. Evans, *Digital Data, Their Derivation and Reduction for Analysis and Process Control*, Interscience Publishers, Inc., New York, 1961, ii + 82 p., 19 cm. Price $2.95.

This amazingly small monograph presents, with typical English economy of words, a detailed introduction to the considerations involved in producing digital data from mechanical position analogs, such as shaft rotation or linear displacement.

Chapter I, Incremental Measurements, is introductory in nature, and states the prime reasons and principles for automatic digitizing, namely, to conserve manpower and to avoid human failure in applications where both accuracy and speed become increasingly important. The relations among physical, graphical, and digital representations of quantity are discussed, as are the limitations of scaling with respect to ultimate accuracy and precision. The chief advantages, methods, and system considerations are even summarized.

Chapters II and III, Digital Counting Devices and Direct Reading from Coded Scales, give brief, clear presentations of the several counting, direct reading, mechanical, and optical devices for analog-to-digital data conversion in the author's experience. The codes employed, methods to avoid ambiguities in read-outs, and detailed characteristics of each device are presented. A valuable feature here is the listing of performance figures and system requirements for seven specific digitizers.

Chapter IV, Ancillary Equipment, introduces some of the additional hardware and techniques required in incorporating mechanical analog-to-digital converters into data systems. The final chapter, Chapter V, System Arrangement and Application, approaches the analog-to-digital data flow from an over-all system view, indicating some of the end uses to which decoders are often put, and which type of device is then selected.

The author has succeeded in proving, that much valuable and easily applied information can be supplied in a very small volume, which includes 63 excellent figures and photographs within its 78 pages of text.

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63[Z].—Lejaren Hiller, Jr. & Leonard M. Isaacson, *Experimental Music Composition with an Electronic Computer*, McGraw-Hill Book Co., Inc., New York, 1959, vii + 197 p., 24 cm. Price $6.00.

This book is an exposition of the use of programming techniques, mathematics, and musical theory in the composition of music on the ILLIAC computer at the University of Illinois. It is based on the results of a set of experiments designed to determine whether high-speed computers could be used effectively to "compose" music and to analyze musical structures. No attempt was made to generate electronic (synthetic) music, so the performance of the music composed was reserved for conventional musical instruments. Within the limited scope of their aims, the authors were successful not only in carrying out their experiments, but also in producing this neat and scholarly description of their work.