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September 1954, p. 17), I mentioned the absence of two topics: the relation to Fisher's statistical estimation theory, and applications to library searches. Here both these topics receive some attention, but no exhaustive treatment. It is still hard for communication-theory experts to communicate; the discussion becomes particularly violent on probability as applied to telepathy experiments (p. 15).

Here are a few topics that I found particularly interesting. A machine for Braille transcription (p. 184) seems a modest and realistic goal; I have taken a dim view of proposals to build a machine that would translate (and expurgate?) Catullus. A successful experiment in Monte Carlo composition of cowboy songs is mentioned (p. 168); regrettably, the songs were not included in these proceedings. Statistical style parameters of various authors are tabulated (p. 155); for instance, the mean number of syllables per word in *Othello* is only 1.2758. I did a quick sampling on one of the less intelligible (to me) authors in the volume under review, and got 1.96.

Many readers will find these particular topics unexciting. But if the reader has interests—even casual ones—at all related to any of the five headings, he will find in this book at least a few interesting pages.

Rayleigh's Principle and its Applications to Engineering. By G. Temple and W. G. Bickley. 154 pp. Dover Publications, Inc., New York, 1956. Paperbound \$1.50. *Reviewed by Milton Abramowitz, National Bureau of Standards.*

This is a photographic reproduction of the original volume published in 1933. It describes the energy method and applies it to a large number of examples. Rayleigh's method often provides adequate information concerning the first mode of a vibrating system if a suitable approximation to the amplitude is selected. It is characterized by the fact that results may be obtained with a minimum of labor. When one attempts higher order approximations the effort required usually increases exponentially while the resulting improvement in accuracy behaves logarithmically. Engineers and physicists are wise to acquaint themselves thoroughly with the ideas presented here since they serve as an important basis for modern approximation methods in many areas.

Atomic Quest: A Personal Narrative. By Arthur Holly Compton. 370 pp. Oxford U. Press, New York, 1956. \$5.00. *Reviewed by R. B. Lindsay, Brown University.*

This is mainly a narrative of the author's personal experiences in the carrying out of the atomic bomb project during World War II. The treatment is popular and there is a minimum of technical detail, with just enough of simple basic nuclear physics to make the whole understandable to the layman. The style is rather digressive, though not so much so as to interfere seriously

with the flow of the story. Certainly few persons living are as qualified as the author to tell this story, the importance of which to the whole world is so obvious.

The five parts of the book are entitled successively Vision, Faith, Work, Choice, and Hope. They deal respectively with: 1) the attempt in the late thirties and early forties to sell the possibility of the release of atomic energy to the government of the United States as the basis for a powerful military weapon, 2) the first and ultimately successful nuclear chain reaction, 3) the actual construction of the first atomic bombs, 4) the decision to use the bomb against Japan, and 5) the impact of atomic energy on the future of mankind in peace or war. The whole forms a tale with dramatic possibilities which the author has exploited with considerable success. This is particularly true of the trials, doubts, hopes, fears, and general ups and downs associated with the achievement of the first self-sustaining nuclear chain reaction on December 2, 1942, a day that will live forever in the history of science and technology.

All readers, scientists, and nonscientists alike, will welcome the frank and candid discussion of the problem of the military use of the successfully fabricated atomic bomb. No one can doubt that the author and his co-workers searched their souls with painful thoroughness before giving their advice on this fateful question about which there will never cease to be controversy. Differences of opinion inevitably will continue, but those who face the matter honestly will have to reckon with the facts presented by Arthur Compton.

The most controversial part of the book is that which endeavors to foresee the future of a world faced with the threat of war with nuclear weapons and the inevitable widespread destruction that will accompany their use. Compton is convinced that war has actually thereby become obsolescent. Would we could all be so optimistic! Certainly few will quarrel with the view that the atomic age imposes on us all the obligation to work harder for the fundamental freedom of the individual man throughout the world. The author approaches this problem in the light of his own Christian belief. Others will doubtless find similar sanctions for effective action in their own religious faith. But this for a scientist is delicate ground on which to tread.

Two-Terminal-Pair Networks Transmission Lines. Vol. 2 of Linear Transient Analysis. By Ernst Weber. 452 pp. John Wiley & Sons, Inc., New York, 1956. \$10.50. Reviewed by T. Teichmann, Lockheed Missile Systems Division.

The study of linear circuits of various kinds using transform methods has been assiduously cultivated in recent years both by engineers and by practically minded mathematicians. The tendency has been more and more towards an intensive discussion of the behavior of the various transfer functions, particularly in relation to stability problems; the actual physical behavior of circuits has been correspondingly neglected. It is therefore refreshing to find a volume such as this, in

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