Book Reviews

Technology and Social Change. Francis R. Allen, Hornell Hart, Delbert C. Miller, William F. Ogburn, Meyer F. Nimkoff. Appleton - Century - Crofts, New York, 1957. 529 pp. Illus. $7.

The two central themes of this work are the acceleration in technological developments and the ensuing cultural lags caused by the slow adjustment of man's cultural, social, and political institutions to the ever-faster-developing technological environment. In chapter 3 Hornell Hart gives a very impressive picture of this acceleration; in prehistoric and early historic times it was very slow, but then, as a result of scientific discoveries and technical inventions, it became so rapid that we may compare the technological progress made in this century with all the previous progress made by man since his appearance on earth. Man's accelerating efficiency in cutting tools, his accelerating mastery of physical power, the speed-up of movement and communication, and the rapid development in disease control and physical comfort are no less spectacular than his power to kill and to destroy, which outruns all effective efforts to organize its control on a world-wide basis.

In the chapters that follow, the influence of the automobile and of motion pictures, radio and television, aviation, and atomic energy on social institutions is very vividly discussed, and their impact upon industry and agriculture, medicine, family life, and political organization is outlined. While we have made great progress in the physical and biological sciences and have used our rapidly increasing knowledge for both constructive and destructive purposes, our advances in the social sciences have lagged ever farther behind; still greater is the lag in their effective employment in the resolution of the world crisis, which, according to Ogburn, consists in the strain between two correlated parts of culture that change at unequal rates. After giving careful consideration to the cultural lag hypothesis, Hart and Allen elaborate on the major problems arising from rapid social change under a condition of ever-widening cultural lag. In this connection they deal, in an illuminating manner, with the baffling problems of contact between the progressive, industrialized nations and the underdeveloped, backward ones—problems that are but typical examples of cultural lag.

While the authors' attempt to illuminate technological acceleration and cultural lag is very effective and extremely instructive, their endeavors to find solutions for some of the problems created by cultural lag are, naturally enough, less satisfactory. But would it not be too much to expect to find in a book by social scientists, however eminent, and however penetrating and comprehensive the book, the solution to the deep-rooted world problems to which the best brains of the world's statesmen, politicians, and social and physical scientists have devoted all their energy with so little result? It appears to me that the solution cannot be found within the material and organizational dimension of our culture but should be sought in man's moral and religious character, the discussion of which, however, would have transcended the objective which the authors have set for themselves.

This objective has been attained in a very admirable way and, for this reason, the book is recommended as giving plenty of food for thought and the raw material with which to build a socially better balanced society and more stable world organization. The summaries and annotated bibliographies at the end of each chapter are very welcome.

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Niels Henrik Abel, Mathematician Extraordinary. Oystein Ore. University of Minnesota Press, Minneapolis, 1957. 277 pp. $5.75.

Biographies have an inherent fascination, and biographies of great scientists, in addition, are intriguing because we may hope from them to gain insight into the way in which new science is created. Moreover, such biographies have a certain topical importance at a time when the public is concerned with the national need for more original minds in science.

In his short 27 years of life, Abel established a place as one of the great mathematicians of the 19th century. Like his contemporary, Galois, he was stimulated and supported by a few teachers and contemporaries, misunderstood and neglected by public officials, and subjected to the experience of having important papers "lost" by his seniors in the mathematical hierarchy of the period. Oystein Ore's biography is sympathetic but judiciously objective in tone. The author is restrained in his discusson of mathematical technicalities but includes enough for the mathematician.

This is an enjoyable book for anyone interested in biography or the history of science. Upon putting it down, the reader will say to himself that, in our time, such a genius would not go so unappreciated and unrecognized. And yet one cannot help wondering whether today the young scientist does not face hazards of an even more insidious kind. He is not likely to be denied a livelihood, but is it not possible that the pressure for conformity, the large group projects, and the custom of measuring "success" by the volume and fashionableness of publication, rather than by originality, may cause some of our contemporaries to spend a life of comfortable mediocrity less productive than the brief and unhappy career of Abel?

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The Making of a Moon. The Story of the Earth Satellite Program. Arthur C. Clarke. Harper, New York, 1957. 205 pp. Illus. $3.50.

No one who has read any part of the technical and scientific literature on the artificial earth satellite, or for that matter even the supposedly nonscientific articles such as have appeared recently in *Life, Fortune,* and other similar journals, is likely to learn anything very significant from this newest book by Arthur Clarke. However, the book is written in the same delightful semihumorous style as *The Exploration of Space,* the only previous book by this author with which I am personally familiar. *The Making of a Moon* is easy reading, and well worth the few hours it will take to finish it, especially for anyone who wants to acquire an informal acquaintance with this fascinating field as painlessly as possible.

For the most part, Clarke stands on solid ground, both technically and scientifically. He deserves much credit for avoiding the obvious temptation to echo Wernher von Braun's scare headlines about the possibility of satellites being used as impregnable launching bases for atomic missiles; in fact he demonstrates in a common-sense way that a satellite is unlikely to be either impregnable or to possess any particular advantage as an offensive missile base. Furthermore, he takes much of the confusion