Book Reviews

The Imprisoning Walls of Higher Education

The College Dropout and the Utilization of Talent. LAWRENCE A. PERVIN, LOUIS E. REIK, and WILLARD DALRYMPLE, Eds. Princeton University Press, Princeton, N.J., 1966. 268 pp., illus. $6.50.

Such political concepts as the unalienable right to liberty are not indexed in this book, but it grapples with the same issue that troubled the Founding Fathers—individual freedom versus the requirements of the society. In the nearly 200 years since the Constitutional Convention, our understanding of the relationship between the individual and society has been advanced somewhat. We now recognize that freedom and the right to pursue happiness cannot merely be granted. Something more is required. The very meaning of these ideas is defined by the available institutions of the culture and by the way in which the culture dictates the individual's use of these institutions. If we take our ideal of freedom seriously, we have to make sure that our institutions do not subtly erode this foundation for a democratic way of life. It would be ironic if education, the cornerstone of a democracy's strength, should contribute to freedom's attrition. That, at least by implication, is the main theme of this book.

The book consists of ten papers which emerged from a conference held in 1964 under the aegis of Princeton University's Health Service. The editors divide the volume into two parts and provide an introduction for each—the first entitled The Dropout in Conflict with Society, the second, Personal Determinants and Their Interaction with the Environment. The editors state their aim as being "to raise the sophistication of our society's consideration of this complex topic and not to convert individuals to a single point of view. Thus the reader will find it a frequent conclusion that dropping out is as beneficial to one student as it may be unfortunate for another, and will note that the utilization of talent proceeds from a complex interaction of many facets of the individual's mind and the institution's nature."

A number of the authors are psychiatrists, psychoanalysts, or psychologists, and they view education from their special vantage point. They believe strongly in the importance of providing for each individual the opportunity to develop his talents to the utmost. They are also acutely aware of the subtle forms of resistance which work against this development, resistance both from within the individual and from many sources in the educational system. This volume is thus representative of the *Zeitgeist* in the mental health movement. It is both reparative and revolutionary. The reparative or therapeutic features grow out of a recognition that individuals who cannot conform to the usual pattern of a four-year college curriculum are treated with disdain. The college dropout meets this punitive attitude in many sectors of society, often in his own parents and, sadly enough, in his attitude toward himself. A major theme of this volume is directed at changing our attitude toward the nearly 50 percent of the college population who, at one time or another, become dropouts.

Lawrence A. Pervin, in a paper entitled "The later academic, vocational and personal success of college dropouts," concludes: ". . . the data strongly suggest that deans and university counselors are justified in regarding dropping out as a potentially profitable experience in the education of some students. As one professor described it, dropping out may be an inefficient but effective means of obtaining a college education." M. A. Peszke and R. L. Arnstein find that there are two main benefits of dropping out and then returning—a gain in general confidence and a settling of vocational direction.

It is clear that for some students dropping out of college may be a step toward a full utilization of their talents. But increased tolerance of such nonconforming behavior is not enough. Donald H. Ford and Hugh B. Urban write:

> . . . we are suggesting that the phenomenon of college dropouts implies a basic flaw in our entire educational structure, and a fundamental distortion of our values in regard to different forms of human activity. We need to invent forms of education that are appropriate for those who are not highly effective as symbolic learners, or who—though effective at it—don't care to learn that way. A young person should have the opportunity to choose among several avenues for continuing his or her education, and should be free to make that choice with confidence that all avenues are socially approved and valued. Our federal and state programs should give emphasis not only to "more" higher education but also to "new forms" of higher education.
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> We believe universities must lead the way in inventing new social strategies for education to fit that world we are rapidly creating, in which fantastic increases in control over our environment and our bodies must be matched with new views of ourselves, and additional ways of making our lives meaningful.

It is all too easy for us to agree that large numbers of students should not go to the traditional college, and to relegate their problem to the experts in the appropriate department. There is little room for complacency, however, about those students who *do* make it through college in four years. Other papers in this volume focus on problems inherent in the education offered by the most esteemed universities and raise questions about what we do to our most successful students. Benson R. Snyder, under the title "Adaptation, education, and emotional growth," points out that "educational institutions can be viewed as special environments in which one group deliberately intends to alter another group, in part by setting explicit and implicit tasks, pressures and satisfactions to which the second group must adapt." Snyder reports on a study of "the consequences, in terms of emotional growth, of the student's adaptation to his educational environment." His cautious conclusion is that "education, by virtue of the adaptive demands which it places on its students, will affect their emotional growth." He might have said that the effect is often adverse. There are enough troubling reports from other eminent universities to suggest that the haphazard interplay between the emotional needs of the student and the environmental demands of the college frequently severely reduces the student's intellectual efforts. (A brief guide to this literature is provided in an appendix of this volume.)

Lawrence S. Kubie, who has written frequently about man's utilization of his talents, here writes in a chapter on the ontogeny of the dropout problem: "We have always known that there is a purely accidental relationship between erudition and maturity, or between erudition and wisdom. Is it now time to consider how to produce the maturity and the wisdom which will make the erudition possible?" Kubie elaborates on several ideas which would contribute toward making such an education possible. He suggests, for example: "We may have to find ways to use living as a preparation for schooling—i.e., as a way of maturing the student to a point at which he can profit from education. . . . This is the exact reverse of what we have taken for granted in the past: namely, that school is a preparation for life."

The emphasis on what the requirements of the educational system do to the individual should not obscure another important perspective. Roy Schafer, in a paper titled "Talent as danger: Psychoanalytic observations on academic difficulty," asks: "What are the compelling subjective reasons to avoid using one's talents?" and suggests that the freedom to develop may be also put in jeopardy by the individual's need to balance between his desire to know and his desire to avoid the danger of the unknown or the unacceptable.

Many of the papers in this book pose a significant challenge to the educational establishment. There is evidence that our society has developed such a voracious appetite for trained manpower that it is willing to sacrifice the development and well-being of individuals in an effort to meet short-term goals. Such a policy, according to these authors, is misdirected, not only because it threatens individual freedom but also because it is in the long run self-defeating. The highest levels of talent, as Kubie suggests, depend on the fullest possible development of the individual as a whole.

This book can be read with profit by all who are interested in the problems of higher education. They may feel what this reviewer experiences as convention indigestion—too many ideas and too many levels of discussions too rapidly presented. Despite this drawback, the papers are provocative, and at least a selective sampling is recommended.

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Cosmological Enigmas

Worlds-Antiworlds. Antimatter in Cosmology. HANNES ALFVÉN. Translated from the Swedish edition (Stockholm, 1966). Freeman, San Francisco, 1966. 109 pp., illus. $3.50.

The universe contains many puzzles. It appears to be expanding in a state of approximate uniformity and isotropy. Why? We do not know. It is usually believed to contain only matter, not antimatter. But physical laws are symmetrical for matter and antimatter. According to the theoretical discussions of Hawking and Penrose, the universe develops out of a singularity. But physicists like to believe that physical laws can be continued indefinitely into the past.

Alfvén attacks with his characteristic originality two of these enigmas. He suggests that we may be mistaken, that the universe, even our own galaxy, may contain both matter and antimatter, in equal amounts. He proposes that an originally uniform and mixed ionized medium becomes separated into fragments of matter and antimatter through the combined influences of electric currents and gravitational fields. He then proposes that the matter and antimatter bodies remain thereafter substantially separated through the influence of a type of Leidenfrost phenomenon, the generation between the bodies of a relatively thin layer of high-energy electrons. The pressure of this thin high-temperature layer separates the matter from the antimatter.

Concerning the singularity, Alfvén suggests that the universe starts as a collapsing gaseous medium that ultimately fragments into galaxies. It is proposed that in this collapse there is enough nonradial motion of the galaxies to reverse the collapse and start the universe expanding before an irrevocable collapse can occur.

As might be expected in such a novel approach to the basic ills of cosmology, Alfvén does not address himself to all the possible questions and difficulties that his ideas might suggest. Thus, the origin of purely matter or antimatter interstellar clouds derived from the ejecta of a very large number of both matter and antimatter stars could present a problem. Also, a nonuniform universe capable of reexpansion without violent collapse may encounter serious observational difficulties. The large red shifts of the quasars and the microwave background radiation might be difficult to deal with in this model.

Despite the complexities of these difficult cosmological problems, Alfvén has successfully directed this book to the nonscientist. Devoid of equations, adequately illustrated, and interestingly written, with technical details discussed carefully, the book should be intelligible to the nonspecialist. But the specialist may also want to read it, for it is probably the most complete source of information on Alfvén's interesting and original ideas about these cosmological problems.

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Immunology

Foundations of Immunochemistry. EUGENE D. DAY. Williams and Wilkins, Baltimore, 1966. 223 pp., illus. $8.50.

In this book the author has attempted to set forth the information he believes to be fundamental to any effort employing immunochemical methods. The book is apparently not intended to, nor does it, fill the growing need for a more comprehensive book that presents the developing field of immunology from a molecular point of view. The foundations of immunochemistry, according to the author, consist of a knowledge of immunoglobulin structure and of the reactions between antigens and antibodies; among the latter, only hapten binding and the precipitin reaction are deemed relevant.

The opening chapter of the book presents a thesis which a reader with some background in physical biochemistry might regard as rank heresy, that the notorious heterogeneity of immunoglobulins is the rule, rather than the exception, in protein chemistry. The remaining chapters in this part of the book deal briefly with various aspects of immunoglobulin structure in a manner that suffers at times from oversimplification, not all of which can be ascribed to the brevity of the discussion.

A more critical approach is evident in the portion of the book dealing with antigen-antibody reactions. However, in section 5 of the chapter dealing with the precipitin reaction, the author presents what appears to be a novel treatment by means of phase diagrams. The thesis is that in the equivalence zone the antigen-antibody complexes undergo a change of phase as the antigen/