

farmer rides" will know exactly how to show a child that "This is the way the Rocketman rides: JATO! JATO! JATO!!!" one can puzzle over the affairs of the three jolly sailors who "went to sea in a bottle by Klein"; and one can continue for quite a while after learning that "This is the Flaw that lay in the Theory Jack built."

I could go on and on, but

Russell and Whitehead and Hegel
and Kant!

Maybe I shall and maybe I shan't.

DAEL WOLFLE

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The Liberal Arts College. A chapter in American cultural history. George P. Schmidt. Rutgers University Press, New Brunswick, N.J., 1957. ix + 310 pp. \$6.

George P. Schmidt of Douglass College, Rutgers University, has accomplished a feat as unusual as it is useful. In 264 pages of text he has compressed a thoroughly readable and remarkably well-balanced account of the history and present situation of the liberal arts college in this country. The 31 pages of notes, together with the brief bibliographical note, provide a well-selected list of authorities and statistics on all manner of colleges and situations. Here, for example, we can find that in 1830 the essential expenses of attending college varied from a minimum of \$72 a year (at Hamilton) to an estimated maximum of \$190 at Yale. Or that in 1860 Yale had the largest student body (502) but a smaller faculty and smaller library than Harvard, the latter having a faculty of 24 and a library of 123,400 volumes for 409 students against Yale's 21 and 67,000. But the citation of such statistics may give the impression that this is a compendium of facts and figures. It is not that. Schmidt has written a short account of the rise of liberal arts colleges which makes skillful use of figures, frequently in notes, only to round out and support his story.

The book opens with a chapter on the "first fruits," a chapter on "Colleges in the wilderness." From the founding of Harvard in 1636 through the establishment of the other pre-Revolutionary colleges, he goes, by easy transition, to the establishment of numerous colleges, many short-lived, in the newer areas. Chapters dealing with the influence of the churches on the establishment and support of colleges, and on the classical tradition, carry the story well into the 19th century. There is a delightful chapter on the "Old-time college president," one which can be criticized only for the restraint exercised by the author—an au-

thority on this subject—in not making it longer. The rise of the women's colleges to an academic equality with those for men, and the emergence of the modern, complex university, in which the liberal arts college is often a minor part, are informative but never heavy.

In the last five chapters, which make up just over a third of the book, the author deals with recent and contemporary tendencies, controversies, and problems. It seemed to me that he exaggerated the importance—for colleges as distinguished from elementary and secondary schools—of "Dewey vs. Hutchins," but he does justice to the influence of the new courses and curriculum of Columbia College and gives some indication of the variety of discussion and of experimentation in recent years.

A book of such broad scope and of so few pages cannot possibly deal fully with any of the scores of colleges, individuals, or arguments which have marked the history and present situation of American colleges. As I read it, I noticed half a dozen or more points, where, as I knew from observation or reading, Schmidt's account was incomplete, perhaps misleading. But it is not offered as a detailed, much less as a definitive, history. Within its limits of space it is remarkably comprehensive and well documented, as well as clear, honest, and entertaining. What more could we ask for?

BENJAMIN F. WRIGHT

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The Immense Journey. Loren Eiseley. Random House, New York, 1957. 210 pp. \$3.50.

Loren Eiseley has taken an immense journey through time: backward to catch tantalizing glimpses through the fog of our ignorance at the beginnings of things; forward to wonder, a little pessimistically, about the future of man. It is an imaginative journey, reported in an imaginative and evocative prose. Eiseley is not trying to popularize science. He is writing about his own inward experiences, about his reactions to the paleontological record, about his wonderment at the world in which he finds himself. He is writing for the love of words and metaphors and ideas—I wonder whether love of words and of ideas can be separated—and he should be judged in terms of this intent.

I suppose scientists can be roughly divided into two groups: those mostly impressed by our knowledge and those mostly impressed by our ignorance. The "look-at-how-much-we-know" people will not like Eiseley's book. The others will find the reading a pleasant and rewarding experience, often provocative,

often stimulating, often esthetically satisfying because of the aptness and beauty of the phrasing.

Eiseley is professionally concerned with human evolution, and much of *The Immense Journey* turns on this problem. Some of the text, on the break between Darwin and Wallace, was published in *Harper's Magazine* a couple of years ago. At that time Eiseley was criticized by some biologists for "undermining public confidence in evolution" or something similarly absurd. Because he explained Wallace's views and doubts, it was felt that he shared Wallace's mysticism. It seems to me, on the other hand, that Eiseley is looking at man in a quite hard-headed fashion, because he is willing to sketch problems for which he has no present and sure solution. We are not going to find the answers in human evolution until we have framed the right questions, and the questions are difficult because they involve both body and mind, physique and culture—tools and symbols as well as cerebral configurations. These are now the separate problems of many different sciences, but the understanding is a single problem for all science.

MARSTON BATES

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Engineering Manpower, How to Improve its Productivity. A special report for management by graduate students at the Graduate School of Business Administration, Harvard University, Boston, 1957. Engineering Managements Reports, P.O. Box 161, Cambridge, Mass., 1957. 162 pp. \$16.50.

This is a report of a comprehensive survey of management practices in companies where engineering is an important function. It is the work of nine graduate students under the direction of Georges F. Doriot. They are R. E. S. Arndt, J. L. Clark, C. W. Coker, Jr., W. B. Ellis, Jr., G. C. Hibben, C. B. Johnson, Jr., S. Keehn, R. M. Pribleau, and G. A. Peterfly, the group leader.

The report concludes that the modern management practices that have been so effective in sales, production, finance, and other departments have not been applied so thoroughly in engineering. And here is something that can improve the effectiveness of engineering departments. Part of the trouble has been due to top management's not understanding the engineer's problems. Great improvement should be made in the engineering departments. In particular, the authors point to the need for better planning and leadership. Engineering's first-line supervisory personnel should be trained