Book Reviews

Ice to Atoms

A Short History of Technology from the Earliest Times to A.D. 1900. T. K. Derry and Trevor I. Williams. Oxford University Press, New York, 1961. xviii + 782 pp. $8.50.

As the five volumes of the monumental *History of Technology* gradually appeared (Oxford University Press, 1954–1958), it became clear that some type of abridgment would be highly useful, especially if such an abridgment were so designed that it could be used as the basic text in a university course on the history of technology. The present work is technically not an abridgment of the earlier volumes, but rather a completely new book which, naturally enough, relies heavily upon the earlier work. Indeed, we are told that from the very beginning of the earlier project—Williams was a co-editor of the last four volumes of the Oxford series—the need for a shorter version was recognized. Consequently, Imperial Chemical Industries Limited, financial sponsors of the original project, increased their support to make possible the book which Derry and Williams have now written.

The result is an admirable introduction to the history of technology, which should serve both the textbook purpose and the general reader. This is not to say that it is an ideal book. When we reflect on the relative novelty of the history of technology as a separate discipline, it is not difficult to understand why authors are still "feeling their way," so to speak, concerning both the importance of specific technological developments and an acceptable style, or form, for such writing. The authors point out that there are many compromises involved in attempting to present a "readable and connected account." This must be admitted, for such material cannot be displayed in its rightful richness when presented in strict chronological order, in merely geographical order, or simply in terms of the development of first one and then another idea or invention. The innovation here attempted is to preface each section with a general historical introduction to the period under discussion so that technology may be viewed in the larger context of political, economic, and institutional factors. Such an imbedding is clearly indicated, and it is quite successfully carried out in the present work.

There are more than 350 illustrations, but no plates. The illustrations lack uniformity (this is understandable, since they came from a variety of sources). Some of the drawings (for example, Figs. 304 to 306) are both clear and detailed enough to have real meaning in a work such as this. Others, unfortunately, are either so crude (for example, Figs. 214 and 336), or so dark (for example, Fig. 325), or just so unhelpful (for example, Figs. 132 and 314) that one wishes more care had been devoted to their selection.

The book concludes with an excellent set of chronological tables, a selected bibliography which should be very useful, a subject index, and an index of persons and place names.

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Making Landscapes

The Finger Lakes Region. Its origin and nature. O. D. von Engeln. Cornell University Press, Ithaca, N.Y., 1961. x + 156 pp. Illus. + plates. $4.50.

Books on American regional land forms are so few that a new one is eagerly looked for, even by geologists who, like this reviewer, have no special competence in the author's fields of geomorphology and glacial geology.

Von Engeln first describes the origin and nature of the area's preglacial landscape: a country of slight relief except for a few north-facing steep slopes (escarpments). The largest streams flowed north. Later, during glaciation, ice moved southward, was "dammed up" against the highest escarpments, and was funneled into the major stream courses. Selectively, these valleys were widened and deepened into the imposing Finger Lake valleys of today. Glacial erosion and deposition have given us beautiful hanging valleys, waterfalls, postglacial gorges (like Watkins Glen), drumlins, and high-lake terraces.

Following these chapters on glacial processes and the resulting landscape, the author discusses the causes of glaciation in an epilogue. There is an appendix, "Vantage points and excursions," another titled "Maps," a glossary, and a brief list of references.

Local amateurs and professionals are likely to use the book to greatest advantage, so overwhelming is the amount of geographic detail. Even these readers may find the maps and diagrams inadequate by themselves, and indeed they are seldom keyed in with the text. For example, scores of names used in the text cannot be found on the principal map (pages 28 and 29). Many localities are given by mileage along a numbered state route, so a good road map is a necessity. True, there is an index of the hundred or more topographic quadrangles. I am sure that the serious reader must have many of these on hand, indoors or in the field. Again, he will find that exact localities on these quadrangles are seldom given in the text.

Most of von Engeln's ideas are current and familiar. But in the epilogue, submarine canyons are cited as proof of subaerial erosion—hence as proof that continents stood many thousands of feet higher (sea level that much lower) during glaciation than now. What implications for zoogeography!

To get the most out of this book, the "average reader" might turn first to von Engeln's own *Geomorphology* (1942) for an account of glaciation as a whole. The more serious reader might follow along in Flint's *Glacial and Pleistocene Geology* (1957) for a wider treatment of processes described in the present book. Neither of these titles is given in the brief list of references.

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