

Engineering in History

The excellent book *Engineering in History* by Kirby, Withington, Darling, and Kilgour¹ has recently been named as one of a small number of best books published in 1956. We agree emphatically with this selection and heartily recommend this fine book to all who are proud of the achievements of the engineering profession.

The title is accurate, in that it distinguishes the book from a mere history of engineering. The authors have preferred the broader view of history as a whole and the part engineering has played in it. Indeed, a large portion of our knowledge of ancient history is due to the permanence of some of the structures on which records are preserved and from which certain intellectual attainments of the ancients may be surmised.

The book is an excellent source of information, and repeated reference to it will be fruitful. For aid in digesting the news of the day, such as that of the Suez Canal, we found a good deal of supplementary material. The size of this canal has had much to do with the sizes of ships designed for the Oriental routes, and this, in turn, has generated an almost total dependence on the canal. In lighter reading about the times of Richard III a mention of London Bridge led us again to *Engineering in History*. It was astonishing to learn that London Bridge was almost 300 years old at the time of the last Plantagenet and that it stood for over 300 years after his sad reign.

In the course of the development of history, as outlined by these writers, one may see the evolution of the civil engineer from the earliest artisan to the designer of the modern suspension bridge or skyscraper. Mechanical engineering, perhaps beginning with Archimedes, has since led through the Industrial Revolution to the modern jet engine. Electrical engineering, a relatively recent arrival, is credited with its wonderful contributions in power, transportation, and communications. Metallurgy has played a basic part in all, and much of what the others have accomplished can be traced to the improvements in the basic metals with which they work. It is

¹ Kirby, R. S., S. Withington, A. B. Darling, and F. G. Kilgour, *Engineering in History*, McGraw-Hill Book Company, Inc., New York (1956).

regrettable that chemical engineering is only briefly mentioned; yet it is understandable, for this branch of the profession is so new that its achievements must wait for another chronicle.

There is a great value to this book which is not immediately apparent and which comes to the reader only after contemplation. This feature of it deserves a much wider audience than the engineering profession alone; the book should be read with particular attention by the academic historians and by the general public as well. For here is a history book in which war is scarcely mentioned. (Indeed, the word does not occur in the index.) Here is a history book which does not trace the rise and fall of empires and emperors. Caesar and Napoleon have no place here. Man's error-filled history of myths, persecutions, and inquisitions is not to be found here. This is an account of constructive man, man the builder. It is a much more admirable account than the recital of political machinations and authoritarian arrogance which constitutes a large part of the usual history.

Buildings, whether used for housing the individual or his priests or his government or the remains of his rulers, have a proud history of their own. They may have been put to corrupt uses, but the evolution of man's ingenuity and inventiveness which they represent cannot be overemphasized. Roads, although they may have carried aggressive armies, were built to open up new regions and to promote intercourse among peoples. Bridges have the same fine purposes and our world has grown because of them. Aqueducts and canals made possible the settlement of people in regions otherwise barren or inaccessible and led to the growth of cities and the establishment of trade. The distinguishing feature of all these structures is not the king or emperor under whom they were built. It is not the arrogant disregard for human life with which some of them were built. The distinguishing features are the patient study of physical principles, the careful experimental confirmation of these wherever possible, the ingenuity with which these principles were combined, and the responsibility with which the plans were executed—the fundamentals from which modern engineering evolved.

H.B.