(especially as related to the location of known coal reserves), all accentuated by the introduction of advanced technology, that make the achievement of the "one-world" millenium actually less likely in the near future than at any time since the Industrial Revolution.

Ubbelohde's book, on the other hand, had its inception in a series of talks on the British Broadcasting Corporation's famed high-brow "Third Pragramme", and although they have been evidently watered down for publication, the book still retains much of the *ex cathedra* flavor that characterizes many a university lecturer's approach to broadcasting. Thermodynamics is the author's specialty, and he examines mankind's progress toward the ideal technological state (for which he coins the somewhat unfortunate name *Tektopia*) chiefly in the the light of the history of thermodynamics, which he manages to make very interesting indeed. American readers might be irked by the author's apparent provincialism in relying excessively on British examples to make many of his points, although this fault can have its charming side, too. Thus, the caption under an illustrative cartoon (unsigned, though one does detect the fine hand of David Langdon) of a citizen warming himself at an inefficient fireplace reads "Heating the World at Large with Britain's Energy Reserves. Not only does much of the heat of badly designed open fires go up the chimney. Incompletely burnt fuel rises with the hot gases, and later plagues the inhabitants of the larger cities by coming down on them as SMOG, or Coals of Vengeance, upon their heads."

Curiously, although the publication of both books was obviously occasioned by the advent of nuclear fission as a possible source of useful energy (as acknowledged on the book jackets), that subject is given very short shrift by both authors. This dismissal might portend a distaste for grappling with the problem, possibly because the amount of data available to the authors is still so small as to make any deduction largely speculative; but the reader *is* left with the vague impression that their knowledge, like that of Gilbert and Sullivan's model of a modern major general, "has only been brought down to the beginning of the century".

Combustion Processes. Edited by B. Lewis, R. N. Pease, H. S. Taylor. 662 pp. Princeton U. Press, Princeton, N. J., 1956. $12.50. *Reviewed by Henry Wise, Stanford Research Institute.*

The advent of jet propulsion has stimulated a rapid advance in the study of combustion phenomena. To this research effort the physicist, the chemist, the fluid dynamicist, and the engineer have made valuable contributions. Consolidation of the voluminous scientific literature which has been published on the theoretical and experimental aspects of combustion processes represents therefore a formidable task. *Combustion Processes,* the second volume in the series *High-Speed Aerodynamics and Jet Propulsion,* deals with the fundamental aspects of combustion. Essentially this text is designed to acquaint the engineer with the principal

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elements such as chemical rate processes, kinetics of transport phenomena, fluid dynamics, and thermodynamics. The particular aspects of combustion contributed by various authors include thermodynamics of combustion, chemical kinetics of combustion, flame propagation in gases, combustion of liquids and solids, detonation processes, and energy production by nuclear reaction.

An attempt has been made by the editors to present a coordinated account rather than merely an assembly of reviews. In this difficult task the editors have been fairly successful although some duplication of subject material does occur, such as, for example, in the analysis of heterogeneous combustion which is treated in three different chapters and in the treatment of gas flow with phase change which appears in two separate chapters of the book. The volume offers a special service to the reader by making available to him a large list of references to reports which in many cases have not appeared in the open literature. These detailed bibliographies attached to each chapter of the book are a necessary adjunct to the treatment of the subject material which in some instances shows only the results and conclusions of certain studies without much additional detail. The book is most suited for the reader who wishes to obtain a quick and up-to-date account of various topics related to combustion processes and to the specialist who will want to refer to the numerous references quoted.

An Introduction to Reactor Physics. By D. J. Littler and J. F. Raffle. 196 pp. McGraw-Hill Book Co., Inc., New York, 1955. $4.50. *Reviewed by E. Richard Cohen, North American Aviation, Inc.*

The wartime development of nuclear reactors was covered by security restrictions. These have now been lifted; a great mass of information is available in the open literature on the technology and engineering of reactors for research and power. The physics of nuclear reactors, however, has not yet been properly collected into an adequate text. The reason for this lies in the fact that, of all the top scientists in this country who had a part in the development, only Wigner has maintained an active association with the field; now that the books can be written the men who did the work are not available to write them.

Although Littler and Raffle's book does not solve the problem (nor is it intended to), it is an additional step in the right direction. Inevitably the book will be compared to Glasstone and Edlund's *Elements of Nuclear Reactor Theory;* it is quite similar in scope, and even in origin (it bears the imprimatur of the United Kingdom Atomic Energy Authority), but is on a somewhat more elementary level. In the first four chapters, *An Introduction to Reactor Physics* discusses briefly the background material of nuclear structure, radioactivity, and fission. The treatment of neutron diffusion is restricted to elementary considerations and there is no mention at all of transport theory or the various spheri-