thermodynamic energy loss at the electric generating station. Thus, comparing coal, oil, and electricity on the basis of cost per Btu of contained energy puts electricity at an unfair disadvantage.

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About the Reviewer: H. G. MacPherson, now in semi-retirement, is a chief scientist with the Institute for Energy Analysis at Oak Ridge Associated Universities. Dr. MacPherson had a long career in research with the Union Carbide Corporation beginning with National Carbon and concluding as deputy director of the Oak Ridge National Laboratory. His academic training was at the University of California, Berkeley.

Transitional Energy Policy 1980-2030 Alternative Nuclear Technologies. By Hugh B. Stewart. Pergamon Press, New York (1981). 266 pp. $12.50 paperbound. $30.00 hardcover.

This book's title appropriately identifies its purpose and even gives a reasonable description of its material content. Starting with a summary of various projections of total energy requirements for the future and the methods used in their determination, the author continues by briefly describing the contributions that might currently be expected from various energy sources; not surprisingly (and with the full concurrence of this reviewer) the nuclear option appears to be a "must." The author then gives an economic analysis of various nuclear strategies and technologies which might be employed. What he considers the "prevalent strategy," and this at present energy demand growth, is the "once-through" fuel cycle with present price structures militating against recycle programs involving plutonium and ^{233}U (from thorium). A "not-so-prevalent-strategy" assumes a less-rapid energy demand growth with a consequently greater need for plutonium and ^{233}U, even though these are weapons materials. In addition to considerations of technology (and economics), some attention is also given to public acceptability of nuclear power as well as the administrative patterns used commercially, some successful and some less so.

In the appendix is an outline of the bases for the logistics of the energy growth projections used along with the neutron-economic bases for some of the fuel cycles described. These appear adequate.

Considering his self-imposed restraints and the limitations of his data, the author seems to have treated his material competently. However, as stated in the Preface, the work was essentially completed in early 1980, and many of the projections used were published earlier. Unavoidably, and this is mentioned, long-term projections of this type are usually very poorly fulfilled; hence, one might question the usefulness of any 50-yr prediction. This general problem is particularly significant today, at a time of rapid and radical change in both the perception and actuality of the energy picture, especially from an economic viewpoint. The effects of such recent factors as current exorbitant interest rates and the changing availability of oil may be difficult to foresee, even for as short a period as two years; however, as perturbations of an overall picture, they might be "cranked into" the analyses to give some sort of "current" picture.

This reviewer considers it a major failing that in such a volatile situation, no attempt was made even to consider various alternatives, especially the radical possibilities that might form "boundaries" of some aspect of actuality. For example, brief treatments might have been given to the two rather extreme possibilities of public acceptance of the nuclear option. First, the anti-nuclear pressure could be assumed so successful as almost to preclude operation of current power reactors, much less encourage additional construction. At the other extreme, the nuclear option could be treated as a normal energy source with members of the general public realizing that actual reactor hazards do not support the current violent anti-nuclear propaganda. Either view seems unrealistic, but probably not much more so than is continuance of the status quo which is the only possibility considered.

Overall, the book is somewhat useful, principally as an analysis of where nuclear energy is today and possibly will be in the near future of up to a decade. As far as being useful for a long term, much less 50 years, this reviewer doesn't see that in the cards. It is hard to recommend the book for personal use by anyone, though copies for libraries might be recommended.

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About the Reviewer: Hugh Henry is now professor emeritus in physics at DePauw University where he was chairman of the department for a score of years. Between that activity and other academic experiences, he was responsible for health physics and nuclear criticality safety at the Oak Ridge Gaseous Diffusion Plant. Dr. Henry completed his graduate studies at the University of Virginia.