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## The Permian and Triassic Systems and their Mutual Boundary

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Edited by A. Logan and L. V. Hills  
*Canadian Society of Petroleum Geologists*, 766 p., 1973.  
 Members \$20.00,  
 Non-members \$25.00.

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This memoir contains many of the papers presented at the 1971 International Permian-Triassic Conference from which it evolved. Like the Conference, the book includes contributions from many fields of geologic investigation and its chapters range as well from precise documentation to speculation. To achieve some organization the editors have chosen to fit the diverse contributions into five major categories and though the fit is not always entirely comfortable it is hard to see how it could be. Part 1, *The Systemic Boundary* contains but two papers, the first by N. D. Newell summarizes succinctly the nature of the "Permian-Triassic" problem. Part 2, *Biostratigraphic Evidence: Northern Continents*, includes 21 papers which in aggregate do cover much of the evidence for the hemisphere. Part 3, *Biostratigraphic Evidence: Southern Continents*, contains only five papers and this does not provide comparable coverage for this hemisphere. Part 4, *The Organic Crisis* with 16 contributions succeeds in dealing with what is known of the fossil record of many of the groups of organisms that actually do, or potentially can, contribute to our further understanding of this boundary problem. Part 5, *The Search for Causes*, fails to uncover one that can be claimed as *the* cause, though the eight papers which comprise this section are interesting and useful.

No one familiar with the problems that beset the placing of the Permian-Triassic boundary, to say nothing of fixing a cause for the apparent changes associated with it in some groups of organisms, will be surprised to find that no neat solution to either problem emerges from this volume. What the book does do, and quite comprehensively, is to bring together evaluations of the present state of knowledge of the nature and possible position of the systemic boundary in many parts of the world and to extend consideration of the fossil record to many groups of organisms as seen by experts in each. With many data collected and many problems pin-pointed, it seems likely that the volume will stimulate new work critically focussed on the solution of manageable parts of the complex general problem. Memoir 2 is a good summary of what we know and a tacit admission of failure thus far to penetrate to the heart of the problem. It should serve well as a spring board for future work and will find a useful place in the library of those concerned with the Permian-Triassic or with boundary problems in general.

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## Modern Mineralogy

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by Kieth Frye  
*Prentice-Hall, Inc.*  
 325 p., 1974.  
 \$12.50.

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My first reaction to this book was to seek justification for its title. What makes *Modern Mineralogy* modern? One might expect perhaps, a topical reference to triple junctions or subduction zones, or a frequent substitution of "scenario" for the old fashioned word hypothesis. But no, one concludes on examining the book, that its claim to modernity must rest on a once-over-lightly introduction to the extra-nuclear structure of atoms, a genuflection towards crystal-field theory and a perfunctory treatment of phase diagrams.

The book covers the usual topics of a one semester course in mineralogy (i.e., structural, physical and chemical aspects of the science) and had it been clearly written it might have served as an alternative to the several texts that already exist in this field. However, it is badly written and contains many errors of vocabulary, grammar and just plain fact.

Take as an example the following quotation from page 274:

All rocks having a unique and characteristic correlation between chemical composition and mineralogical composition belong to the same facies. That is, all rocks of the same chemical composition have the same mineralogical composition if they belong to the same facies.

These two sentences might mean the same thing in Choctaw, but in English they do not. What's more, the first is untrue.

Another, of many possible examples, is taken from page 249: The generic classification of rocks has led to endless controversy, much of it semantic.