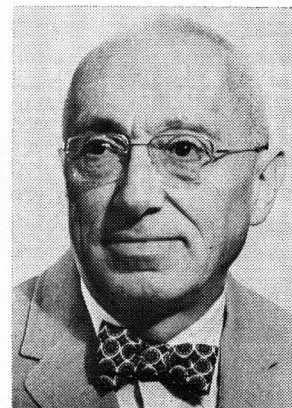


## In Memorium

### Giuseppe Parravano



Giuseppe Parravano, Professor of Chemical Engineering and of Materials & Metallurgical Engineering at the University of Michigan since 1958, died suddenly April 1, 1978 in his Ann Arbor home. He was born in Florence, Italy, Dec. 17, 1917, received doctorates in both electrical engineering and chemistry from the University of Rome. He held appointments at Milan Polytechnic Institute, Princeton University, University of Rome, Franklin Institute and the University of Notre Dame, before joining the U-M faculty in 1958. He was recognized for his research in the field of catalysis of chemical reactions.

Paul J. Flory, Nobel Prize winner in chemistry, said of Parravano: "His work combines a freshness of viewpoint and breadth of knowledge in the fields of surface catalysis and electrochemistry that is unique. He has introduced important elements of novelty and originality, both in systems investigated and methods applied."

Professor Parravano was pursuing some new theories of catalytic behavior which have application in energy conversion processes and in the design of anti-pollution devices in automobiles.

"With his broad knowledge of several disciplines he was instrumental in initiating and teaching ten courses at the undergraduate and graduate levels," said Prof. Jerome S. Schultz, chairman of the U-M department of chemical engineering.

His high standards of scholarship, creativity, and intensity with which he approached his research attracted students and researchers from all over the world to visit and work in his laboratory. The collaborations have resulted in more than 100 technical publications.

Prof. Parravano's interest was not limited to science as he was intensely concerned with ethical values in present society and served on the Catholic Commission on International and Cultural Affairs.

Always there to help others, his untimely death will be a loss to his many friends in the Ann Arbor community.

He was a Fulbright Scholar at the University of Innsbruck in 1976 and had held visiting appointments at the University of California at Berkeley, Stanford University and the University of Rome. In recent years he had periodically directed a research group on surface catalysis at the Donegani Institute in Novara, Italy.

Prof. Parravano is survived by his wife Ernestina, four sons—Nicola, Carlo, Pietro and Paul—and three grandchildren.

### ChE book reviews

#### THERMODYNAMICS: FUNDAMENTALS, APPLICATIONS

*O. Redlich, Elsevier, 1976*

Reviewed by Kraemer D. Luks, University of Notre Dame

Redlich's "Thermodynamics: Fundamentals, Applications," on one hand, provides the reader with insights and viewpoints that reflect the author's experience in thermodynamics. These

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#### DEPARTMENT OF CHEMICAL AND BIOCHEMICAL ENGINEERING RUTGERS UNIVERSITY THE STATE UNIVERSITY OF NEW JERSEY

Rutgers U. seeks applicants for a tenure-track position of Asst. Prof. effective July 1, 1979. Applicants must have a recent Ph.D. in ChE. Expertise in any of the mainstream areas of classical chemical (not biochemical) engineering fundamentals, including experimental research experience, is most desirable. Send resume, names of at least three references, and statement of research and teaching objectives, to Prof. Burton Davidson, Chrm., Dept. of Chemical and Biochemical Engr., Rutgers U., New Brunswick, N.J. 08903. Rutgers is an equal opportunity/affirmative action employer who encourages applications from minorities and women.

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## BOOK REVIEW: Thermodynamics

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features made the book a treat to review. On the other hand, the book has an unevenness about its presentation, in its continuity and its definition of some concepts. These shortcomings would make its use as an undergraduate text quite difficult; at the graduate level, a competent teacher would be required to aid the student in "reading between the lines" and filling in what this reviewer feels are gaps in the unified presentation of thermodynamics. There are very few problems to solve in the text except for the later chapters. The price of this book will probably discourage widespread course adoption as well.

In all fairness, however, the book is constructed from the viewpoint of an eminent thermodynamicist and, in that context, will satisfy the scientist or engineer who has had some experience or is presently working in the area of applied thermodynamics. Such an individual would find this book an enlightening refresher course on the fundamentals, with a broad enough selection of applications (presented in the form of examples) to satisfy most readers' particular interests. Those seriously interested in thermodynamics per se or the instruction of thermodynamics owe themselves more than a casual perusal of this book.

Chapter 3 on pure phases is a strong chapter particularly in its discussion of equations-of-state. Unfortunately, such an area is constantly undergoing change, and current workers will find the content somewhat outdated, a risk that every writer in this area runs. This chapter is preceded by thoughtful and challenging chapters on physics and the two laws of thermodynamics. This reviewer was impressed by Chapters 5-7 on phase equilibria and solutions; the author employs a kind of "case method" in the sense of using examples prior to the complete statement of what concept he has in mind demonstrating. The examples are quite interesting and often probe deeper into certain well-known thermodynamic phenomena than one is accustomed in a text (e.g., the inflection in the vapor pressure curve of a pure substance; the discussion of azeotropy; vapor-liquid criticality, although this topic is preceded by only a shallow attempt at explaining phase stability). Chapter 8 on electrolytes and Chapter 10 on work modes other than those of compression or expansion (entitled "various phenomena") are unique in comparison with existing texts and quite well done. Chapter 9 on chemical reactions is basically a collection of examples of the author's choosing.

This reviewer, although finding more than an occasional "gem" of insight in this book, had the feeling that the text was for the most part composed of material which significantly predates its publication date. The author appears influenced by the text of Lewis and Randall. The book lacks the "freshness" one finds in, e.g., the book by Modell and Reid, who are more successful in unifying the field of thermodynamics. Despite the shortcomings mentioned above, Redlich's book can reward the diligent reader with a sound perspective of thermodynamics and its practice. □