pired nitrogen), splenic hemodynamics, a multi-compartmental study using radioiodinated albumin, chromium labeled red blood cells, and gold-198 phagocytosis were of greatest interest to me. The other chapters are too narrowly focused to be of great use to nuclear medicine practitioners. The chapter on water and electrolytes is particularly disappointing because little information, either by way of review or new, is offered. Although this book was published in 1984, very few references to literature published after 1980 are cited. Physicians interested in the specific problems addressed in the last section of this book will do better to review the scientific literature.

For $79.25, this book will not find its way into many personal libraries, and its content does not justify institutional purchase either. Whereas, compartmental analysis remains of interest to both physiologists and nuclear medicine practitioners, this book, unfortunately, offers little of value to either.

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TECHNETIUM IN CHEMISTRY AND NUCLEAR MEDICINE.

E. Deutsch, M. Nicolini, H.N. Wagner, Jr., Eds. New York, Cortina International-Verona, 1984, 246 pp, $45.50

This book is the proceedings of an international symposium held in Padova, Italy, September 7–9, 1982, 45 years after the discovery of element number 43 by Perrier and Segrè. It is divided into three sections: 1) Technetium Chemistry (12 papers); 2) Production of Radiopharmaceuticals Labelled with ^{99m}Tc (11 papers); and 3) Use of Technetium Radiopharmaceuticals in Nuclear Medicine (17 papers). The 40 papers were authored by 105 contributors from eight countries.

The aims of the symposium were to have users of technetium-99m (^{99m}Tc) radiopharmaceuticals become aware of the capabilities of synthetic inorganic chemists, and to make inorganic chemists aware of the specific requirements of nuclear medicine.

Each section has two general background papers that are excellent. Section I contains "The Coordination Chemistry of Technetium" by A. Davison, and "Applications of Technetium Chemistry to the Practice of Nuclear Medicine" by E. Deutsch and K. Kibson. Section II contains "Design of Technetium Radiopharmaceuticals" by L. G. Marzilli, A. V. Kramer, H. D. Burns, and L. A. Epps, and "^{99m}Tc-Radiopharmaceuticals: Development, Production, and Quality Controls at Industrial Level" by F. Lunghi. The papers in Section III are as follows: "The Impact of Technetium-99m on the Development of Nuclear Medicine" by G. Mariani, and "The Present and Future of Technetium-99m" by H. N. Wagner, Jr. and A. V. Kramer. Each section is completed by papers covering specific research relating to the general topic of the section.

The quality of the papers differ to a large degree from that of the lengthy well constructed paper to one-page abstracts. The same is true as to the number of references listed for each paper. The longest list of references for one paper is 140; five papers list no references at all. Many readers rapidly scan the table of contents in their initial evaluation of a book. In this book, the table of contents gives a misleading impression because the word technetium is misspelled twice and the word derivative is misspelled once. These errors are not indicative because the remainder of the book contains amazingly few errors even though many of the presentations are complicated.

One of the more interesting questions approached in this volume is whether or not chemical studies using macroscopic amounts of ^{99m}Tc ("carrier added," 10^{-4}–$10^{-3}M$ in concentration) give results that can be applied to ^{99m}Tc studies ("no carrier added," 10^{-8}–$10^{-6}M$ in concentration). The major thesis of Dr. Deutsch's paper, "Applications of Technetium Chemistry to the Practice of Nuclear Medicine," is that studies of technetium chemistry using macroscopic amounts of ^{99m}Tc have and will continue to: 1) help in the modification and improvement of existing radiopharmaceuticals, as well as in the delineation of the mechanisms of actions of these agents, and 2) help in the development of entirely new classes of ^{99m}Tc radiopharmaceuticals. The author then shows that first order chemical reactions, which are not a function of concentration, should not be noticeably different because of the great differences in technetium concentrations. Second order chemical reactions which are dependent on concentration would be different and are affected. Differences in chemistry based on differences in concentrations are noted or are strongly inferred in at least four of the papers presented in the book.

This reviewer was pleased with the way in which technetium chemistry was presented. I think an excellent effort was made and success was achieved in fulfilling the first goal of the symposium—making the users of ^{99m}Tc radiopharmaceuticals, largely nuclear medical physicians, aware of the capabilities of synthetic inorganic chemists. I do not think that the second goal of making inorganic chemists aware of the specific requirements of nuclear medicine was achieved to an equal degree. The papers relating to clinical applications are spotty in nature and make no attempt to cover the entire use of technetium in nuclear medicine.

From a historical standpoint, the most interesting presentation in the book is that of Emilio Segrè, which describes his early work, and that of Carlo Perrier which led to the discovery of element 43—later named technetium. This presentation should be read by all interested in nuclear medicine.

This is a book written largely by chemists. As such, it should be read by chemists and related nuclear medical scientists. However, it may be more complex than the average nuclear medical physician would want or need.

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1985 YEAR BOOK OF NUCLEAR MEDICINE.

P.B. Hoffer. Chicago, Year Book Medical Publishers, Inc., 424 pp, $44.95

For the fifth year, Drs. Hoffer, Gottschalk, and Zaret have successfully fulfilled their commitment in assembling this