In "American Acceptance of Nuclear Power," philosopher William Barrett reviews the causes of the current "malaise" in public attitudes toward technology. Barrett blames this on the perceived failure of technology to solve society's ills, particularly the spiritual and moral ones. He sees modern antinuclear activism as part of a spiritual and moral crusade against technology and as the cause of spiritual and moral disorder in our society. Barrett responds to this premise by holding that technology, including nuclear, is spiritually and morally neutral, with import depending only on the use to which it is put. Barrett advocates that the proponents of technology strike a middle ground and not oversell its potential. He also recommends that there be a better identification and separation of those problems that do and those that do not have technological solutions.

In the final essay, "The Nuclear 'Genie': Beyond Faust, Fate, and Incantations," prepared by philosopher Margaret Maxey, the target is "soft technology," or, perhaps more accurately, the contention that soft technologies such as solar, are ethically more acceptable than nuclear power. The basis of this contention is that development of nuclear technology would commit future generations to risks not of their own choosing. Maxey counters with opposing ethical arguments, noting the many deficiencies of current and foreseeable solar technology, and that reliance on unproven solar prospects may commit future generations to deprivation. She also notes that concerns over long-range nuclear waste disposal problems are out of proportion to the actual risks involved. She proposes that such risks can ethically be ignored when they become smaller than natural risks of the same type, e.g., background radiation levels, or concentrations of radioactive and other toxic elements in natural ore bodies. This concept is also relevant to ALARA and other current regulatory issues.

The medical radiation community is involved in current public controversies over radiation and its effects. Recent examples include the virtual stoppage of mammographic screening and the closure of low-level waste disposal sites in the late 1970s, due to public and political concerns over low-level radiation. Although this book deals with nuclear power and the nontechnical aspects of the nuclear power debate, there is substantial overlapping of the issues (and personalities) involved in medical radiation controversies. For this reason, a book such as this one should be of interest to the medical radiation community. It is a small, inexpensive book, very suitable for reading while traveling or at quiet moments "away from the office." Readers with a taste for philosophic discussion will find this a particularly stimulating and challenging book.

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THE SYNTHESIS OF CARBON-11, FLUORINE-18, AND NITROGEN-13 LABELED RADIOTRACERS FOR BIOMEDICAL APPLICATIONS. J. S. Fowler, A. P. Wolf. Nuclear Sciences Series (Report No. NAS-NS-3201), Springfield, VA. Technical Information Center, U.S. Department of Energy, 1982, 124 pp, $11.25

This monograph, the first in a new series on radionuclides in nuclear medicine, deals with general concepts and methods on the synthesis of positron-emitting labeled radiotracers. The stated objective of this work is "to treat the topic (carbon-11, nitrogen-13, fluorine-18 labeled radiotracers) principally from the standpoint of synthetic organic chemistry." The authors have organized the information into seven sections: "Introduction," "Radiotracer Design," "Radiotracer Synthesis," "Carbon-11," "Fluorine-18," "Nitrogen-13," "Experimental Design and Related Technology," and two appendices. These are combined with both significant and recent references along with a subject index. Most of this material is found dispersed in many reviews, and the creation of a self-contained volume seems appropriate at this time.

The sections on "Radiotracer Design" and "Radiotracer Synthesis" are concerned with the choice and positions of labels, synthetic strategies, reagents, radiotracer purification, and optimization of reaction rates. The emphasis is not so much on fundamental principles, but rather on the practical aspects of positron-emitting radionuclide chemistry. This section offers an abundant source of advice on problems that chemists frequently face during their work, and could be useful for graduate students who are learning about this chemistry, methods, and analytical techniques. Furthermore, these sections are of interest to investigators because they approach problems; e.g., noncarrier added, carried added, carrier free, etc., that have confused many workers in this field for a long time.

The sections on "Carbon-11," "Nitrogen-13," and particularly "Fluorine-8," admirably reveal the existing complexities of the chemistry with positron-emitting labeled radiotracers, and are a valuable source of information on the synthesis of these compounds.

The section on "Experimental Design and Related Technology" is heavy on practical applications, e.g., ion chamber and well counter callibration, radioactivity monitoring during synthesis, and shielded work areas. Also included are recipes taken from the literature for the preparation of selected positron-emitting labeled radiopharmaceuticals.

Anyone involved in research in nuclear medicine, and particularly in positron emission tomography, will find this concisely written book well worth reading, since it offers an overview of what the synthesis of carbon-11, fluorine-18, and nitrogen-13 radiotracers entails, and points out the material that must be understood to gain insight into the field.

Perhaps the chief value of this monograph is that it includes in one short volume an extensive, rather than exhaustive, review of the literature complemented by a pleasing number of tables, formulas and references (almost 500). The sections are well organized and written at a level readily understood even by workers in related fields.

In summary, this modestly priced volume is a useful reference book for researchers, and is highly recommended for both the novice and the expert.

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RECENT ADVANCES IN BRACHYTHERAPY PHYSICS. AAPM. Monograph No. 7, D. R. Shearer, Ed. New York, American Institute of Physics, 1981, 202 pp, $50.00

This volume contains the proceedings of an American Association of Physicists in Medicine workshop held in Sturbridge, Massachusetts, in October, 1979. Despite the delay in publication of this volume, it contains a great deal of up-to-date information on the practice of brachytherapy physics and some of the medical reasons for the resurgence of interest in this important mode of therapy. The ability to control tumors is limited principally by the radiation tolerance levels of the surrounding normal tissues. These tissues are necessarily included in both external beam treatment ports and implant therapy, but in the case of implants a much higher dose can be delivered to a large portion of the tumor for a given dose to normal tissues. In an era when micrometastases are becoming more easily controlled with systemic agents, the local control of more advanced bulky tumors is becoming more important. Brachytherapy offers a real improvement on the control of such tumors.

This monograph provides much of the background and technical information needed by the medical physicist to understand and practice the intricacies of implant dose calculations, source standardization, and radiation safety. The invited lecturers were chosen