

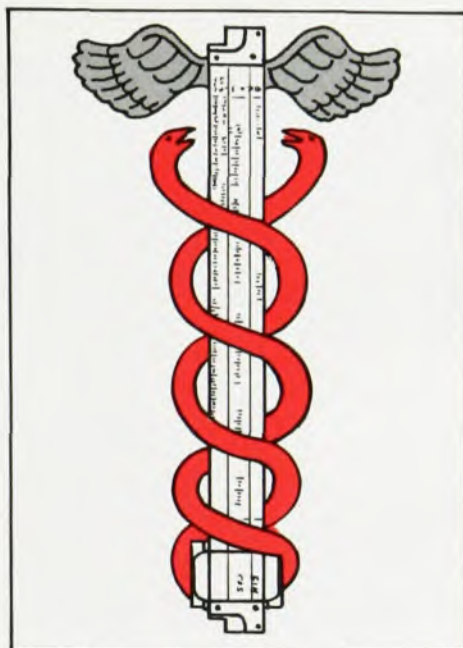
Physicists in medicine

The article by Gordon Brownell and Robert Shalek, "Nuclear Physics in Medicine," (August, page 32) was an excellent summary of some of the interesting and rewarding work being accomplished by physicists in medicine. That this article appears in the same issue with the letter from Richard L. Smith of the American Physicists Association (page 13) leads me to suggest that physicists should take a moment to consider medical physics as a career that can be rewarding scientifically and beneficial to society.

Brownell and Shalek call attention to the American Association of Physicists in Medicine toward the end of their article. Further word on the activities of this Association may be in order. The AAPM was founded in 1958 to promote the application of physics to medicine and biology, to encourage interest and training in medical physics and related fields, and to prepare and to disseminate technical information in medical physics and related fields.

The work of medical physicists described by Brownell and Shalek in the nuclear field extends into the diagnostic and therapeutic x-ray fields as well, as stated briefly in the article. Members of AAPM participate in the teaching of medical physics to associates at the professional and paraprofessional level in radiologic sciences as well as conduct independent research related to applications of physics to medicine. The purposes of AAPM reflect these diverse activities including encouraging interest and training in medical physics and related fields. Currently the association is studying the type of training necessary for scientists from other areas of physics wishing to enter this profession.

Research activities of AAPM members and others in medical physics include the types of nuclear-instrumentation techniques mentioned by Brownell and Shalek and extend into the estimation of the patient radiation dose from various diagnostic and therapeutic applications. The achievement of the desired dose delivered to the biological area of interest for therapeutic purposes is a field of continuous interest for research. The possible role of heavy particles in radiotherapy is being studied.



Obtaining the maximum diagnostic information from radiologic techniques with the lowest possible patient radiation dose is another field of direct concern. The use of computers is becoming widespread. Applications of the entire electromagnetic spectrum to medicine are of immediate interest and include the techniques of infrared detection. The use of ultrasonic radiation in medical applications is also increasing.

The American Association of Physicists in Medicine is an Affiliate Member of the American Institute of Physics, which publishes for the Association its *Quarterly Bulletin*. This publication supplements *Physics in Medicine and Biology*, the official journal of the AAPM and the Hospital Physicists' Association (of the UK) and the Canadian counterpart.

The article by Brownell and Shalek concluded with some indication of the possible future growth of medical physics. As stated, doctoral programs designed for medical physics and medical engineering are only now emerging. It may well be that currently trained physicists at the doctoral level will be interested in contributing to medical physics. Again, information on this opportunity should be available in the near future from the joint AAPM and

American College of Radiology Committee on Manpower Needs in Medical Physics. The committee is also considering the overall role of physicists in medicine including their professional responsibilities.

I would encourage readers interested in the activities of AAPM to contact the Administrative Secretary, AAPM, at the American Institute of Physics for further details.

A pamphlet, "The Medical Physicist," is available and includes a list of university programs in medical physics and biophysics.

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Beware the new left

I would like to comment on four items on closely related topics, all of which appeared in your October issue. They are: John S. Rigden's article, "Reshaping the Image of Physics" (page 48), the account of the bombings at the University of Wisconsin (page 73), the numerous letters on the present employment situation (pages 9, 11, 13) and the editorial: "The Fall Elections Need You" (page 92).

First, I shall make a few general observations. Physicists are coming to realize that the radicals of the New Left are motivated largely by fear and hatred of science and technology. It has been customary to attribute this antipathy to the presumed role of technology in the arms race, environmental pollution, and the "dehumanization" of society. Alas, even physicists are quite prepared to accept their guilt *a priori*. I suggest, however, that much of the disaffection of radicals stems from their feelings of personal inadequacy in coping with a world shaped by science and technology. On the typical US campus, one finds three categories of students: "vocational" students (for example, majors in Hotel Administration); scientists and engineers, and the others. Consider an event such as the Apollo 11 moon landing or the proposed construction of a nuclear power reactor. The hotel-administration major feels no basic obligation to himself or others to under-