EDITORIAL

1978

We are honored that one of our colleagues, Dr. Rosalyn Yalow, has received the most prestigious acknowledgment of accomplishment in medicine, the Nobel Prize for 1977. Her work, which began about 20 years ago, developed slowly and methodically as she and her coworkers established the scientific basis for the exquisite measurements of small quantities of insulin. Once the basic and clinical science foundations had been substantiated by Dr. Yalow and her colleagues, radioimmunoassay expanded rapidly, providing the techniques for measuring biological and nonbiological substances previously difficult or impossible to quantitate. The history of the development of radioimmunoassay is a microcosm of the entire field of nuclear medicine.

Nuclear medicine is entering a new era, one that emphasizes the strengths of the tracer technique; one that provides information on dynamic processes. Following de Hevesy's original application of radioactive tracers in 1923, our specialty grew very slowly over the next 25 years and was limited almost entirely to studies of the thyroid gland and its metabolism. Between 1950 and 1965, however, the medical application of radioisotopes increased rapidly, and the new advances encompassed both the dynamic and static methods. Then in 1965, the generalized availability of a short-lived radionuclide—technetium-99m from a molybdenum-99 generator—ushered in an explosive growth period for the next 10 years. In many institutions expansion was limited only by the availability of instrumentation time. An analysis of the procedures performed, however, revealed that almost universally static imaging dominated our efforts. When competitive diagnostic imaging modalities such as transmission computerized tomography and ultrasonography had been established, the growth rate of nuclear medicine decreased. The emphasis in static imaging shifted to bone and tumor localization studies, underscoring the application of tracer technique to a physiological or physicochemical mechanism.

We now have the tools to provide investigative and clinical information on complex problems in physiology and metabolism. The introduction of emission tomography, the availability of short-lived radionuclides, and the application of sophisticated computer techniques will make possible the study of basic processes such as the measurement of regional glucose metabolism in the brain. Only by means of the radiotracer method can such diagnostic information be obtained on a clinical basis.

As in the case of radioimmunoassay, advances in the diagnostic tracer methodologies are a team challenge, requiring the expertise of basic and clinical scientists. The successful developments in radionuclide cardioangiography within a few short years provide an insight to our future. The ability to visually evaluate ventricular wall motion, to measure ventricular ejection fraction, and to acquire data on ventricular filling and emptying, all by means of a safe, noninvasive technique, exemplifies what can be accomplished by the coordinated efforts of basic and clinical scientists.

We in nuclear medicine must not direct our efforts so extensively to imaging as an end unto itself, but rather our potential dictates that we apply our expertise toward the solution of functional problems. In this context the basic sciences will play an important role in the future of nuclear medicine, providing quantitative data in a variety of formats as the thrusts of our efforts are directed toward dynamic phenomena. To accomplish our goals that require complex radiopharmaceuticals, sophisticated instrumentation, and comprehensive diagnostic interpretation, an integrated basic science–clinical science relationship must prevail. *The Journal of Nuclear Medicine* will play a significant role in the continuous interaction of scientists and clinicians and in the continuous dissemination of information, and can act as a stimulus for advancements that will result in improved patient care.

To this end fundamental changes have been made in the structure of the *Journal* and the scientific editorial staff. Two sections of the *Journal* have been clearly defined: clinical sciences and basic sciences.

Clinical Sciences	Basic Sciences
Diagnostic Nuclear Medicine	Radiopharmaceuticals and Chemistry
Investigative Nuclear Medicine	Instrumentation
Therapeutic Nuclear Medicine	Radiation Physics
In Vitro Nuclear Medicine	Radiobiology
Emission Tomography	Computer Sciences
Ultrasonography	

The editorial staff has been reorganized to clearly define the role of the scientists in each area and to delegate responsibilities for scientific content.

The high tribute awarded to Dr. Yalow underscores the validity of the radiotracer process. The thrust to coordinate the contributions of the basic and clinical scientists underscores our confidence in the future. We begin 1978 with great promise and expectations.

FRANK H. DELAND
Editor

TECHNOLOGIST SECTION
SOCIETY OF NUCLEAR MEDICINE
FIFTH ANNUAL WINTER MEETING

Feb. 2-4, 1978 **Sheraton Towers Hotel** **Orlando, Florida**

The Technologist Section Winter Meeting will be held Feb. 2-4, 1978, at the Sheraton Towers Hotel in Orlando, Florida. The meeting, which will last for two and one-half days, will feature in-depth, simultaneous sessions on cardiovascular nuclear medicine, camera imaging including a workshop (registration limited), current clinical nuclear medicine techniques, education, management, and psychology, radioassay, and scientific papers and exhibits.

A new lecture-workshop format is planned for all day Saturday to present and discuss all aspects of RIA method evaluation. Included in this presentation will be protocol perusal, methods to study accuracy precision, reaction variables, pipet assurance, and normal range estimation.

Continuing education credits through the VOICE program will be available for all sessions. Registration information and meeting programs are available from the Society of Nuclear Medicine, 475 Park Avenue South, New York, NY 10016.