frog muscles treated with 1,2,4-fluorodinitrobenzene. This significant observation, if confirmed in other laboratories, should settle the doubts that have persisted for several years about the role of adenosinetriphosphate as the immediate source of energy for contraction.

The last session of the conference dealt with theories of muscle contraction and with some problems related to excitation coupling. The chairman, R. J. Podolsky, ably outlined theories based essentially on the double-filament model. Two alternative schemes were examined: one involved simple sliding of filaments without changes in the structure during contraction; the other was based on the possibility of shortening in the thin filaments. A. G. Szent-Györgyi and W. Johnson proposed a new theory derived from the fluorescent antibody results, in which connections were postulated between the myosin and the actin filaments in opposing halves of the sarcomere. According to their hypothesis, some reorganization or folding within the myosin filaments would pull in the opposing actin filaments during contraction. In the discussion that followed it was noted that no evidence for structural changes in the thick filaments during contraction has as yet been demonstrated.

The participants felt that this had been a useful and stimulating conference, enabling workers in various fields to focus on critical and unresolved problems in the structure and function of muscle.

C. COHEN
Children's Cancer Research Foundation, Children's Hospital Medical Center, and *Harvard Medical School, Boston, Massachusetts*

J. GERGELY
Retina Foundation, Massachusetts General Hospital, and *Harvard Medical School, Boston*

A. MARTONOSI
Retina Foundation

Acarology

For the first time in the Western Hemisphere, acarologists from the diverse disciplines of taxonomy, physiology, biochemistry, genetics, disease transmission, behavior, and economic control met together to share their research and to focus upon their mutual concern—acarology. Observers have noted that this historic meeting pushed

the discipline of acarology ahead several years and provided the stimulus needed for planning an annual symposium on acarology. Among the 168 participants were acarologists from Germany, France, the Congo, South Africa, Canada, New Zealand, and the Canal Zone. Notable among these acarologists from other countries was Marc André, editor of *Acarologia*.

Financial support for the meeting was provided by several chemical companies, and considerable interest was evidenced in the 23 papers dealing with bionomics and control of acarine pests. These discussions centered about such diverse subjects as acaricidal activity and chemical structure and the control and bionomics of acarine pests of cotton, florists crops, citrus, woody ornamentals, and poultry and other livestock. Attention also centered upon the predatory activity of certain mite species with respect to housefly eggs and eggs of other mite species. New techniques for mounting, rearing, and testing chemical and biological responses in acarine forms were reported.

Of special interest was the strong program in the areas of physiology, biochemistry, and nutrition of acarine forms. Attention was focused upon carbohydrate metabolism; esterases and the biochemistry of nerve function in the two-spotted spider mite; water balance and equilibrium humidity; population dynamics; genetics of resistance and cross resistance of acarine forms; and nutrition.

Transmission of disease by the Acarina was also considered as the relationship between mites and ticks and their role in disease transmission in plants and animals were reviewed. Recent discoveries on the intricate role mites play in the transmission of plant diseases were discussed in detail.

Current problems in acarine systematics were carefully examined, particular attention being paid to the increasingly important role of numerical taxonomy and the current complexity of spider-mite taxonomy, genetics, and morphology. A thorough discussion of the systematics of endoparasitic acarines and some novel approaches to the measurements of microacarines were included. The behavior of mites and ticks in response to light, humidity, and hosts and their sex behavior also received attention.

The symposium was characterized by a spirit of fraternity which led to the formation of a Committee on Acarology comprised of all those in attendance, with the following elected officers: Dean Furman, chairman; Tyler Wooley, program chairman for 1963; Donald Chant, secretary; and John Naegele, treasurer. Under the leadership of these officers the committee members will decide whether to become an autonomous society or a subgroup of some larger society.

Plans for the publication of the papers presented at the symposium are being made. It is anticipated that they will be published in a bound volume, the first of a series of yearly symposium volumes to be entitled "Recent Advances in Acarology."

JOHN A. NAEGELE
New York State College of Agriculture, Cornell University, Ithaca

Treatment of Irradiated Primates

From 15 to 18 August 1962 an international symposium on bone marrow therapy and chemical protection in irradiated primates was held in Rijswijk, the Netherlands. The main objective of the symposium was to exchange ideas as to the causes of difficulties in the treatment of irradiated primates, including human patients, and to discuss future research plans for overcoming these difficulties.

There were sessions on bone marrow transplantation in monkeys, on the immunological activity of the primate fetus, on human applications of bone marrow transplantation, on chemical protection of primates, and on monkey-colony management.

The symposium was sponsored by the Organization for Health Research, T.N.O. The Radiobiological Institute, T.N.O., acted as host for the meetings. There were 32 participants, from France, the Netherlands, the United Kingdom, and the United States; 22 of the participants presented papers.

The proceedings of the conference, including transcripts of the discussions, are expected to be available by 1 November from the Radiobiological Institute, T.N.O., 151 Lange Kleiweg, Rijswijk (Z.H.), Netherlands, or from Dr. R. R. Overman, University of Tennessee College of Medicine, Memphis ($4).

D. W. VAN BEKKUM
Radiobiological Institute, National Health Research Council, Rijswijk, Netherlands