in which the forces inducing beta-decay (that is, interaction through the electron-neutrino field) were assumed to be the forces of nucleon-nucleon interaction. These forces were shown to be very small in comparison with nuclear forces. Several years later Hidekl Yukawa developing Tamm's ideas made the next important step and showed that nuclear forces are due to mesons, not to electrons and neutrinos. However all the later theories of nuclear forces were developing according to the same scheme as Tamm's theory. Tamm himself thought this theory to be one of his greatest achievements. For, as he said about his theory of the Cerenkov effect, "This is not the work for which I would like to get the Nobel Prize."

In his later years Tamm worked on the formulation of the quantum field theory in curved momentum space.

TAMM

His aim was to develop a consistent theory of elementary particles free of divergencies and of other difficulties.

This list of Tamm's achievements, though short and incomplete, indicates the range of Tamm's contributions to theoretical physics. But his scientific accomplishments alone do not fully explain his authority in physics and the love that all his friends and numerous disciples felt toward him. Tamm always met any new idea in physics with enthusiasm and he was unselfishly joyful at every success. His teaching was always inspiring, the discussion of any physical problem with him was fruitful and the use of it went far beyond the framework of the particular problem. He was always kind and friendly and his most critical remarks were taken without offense and stimulated a desire to work.

He hated injustice, and if he ran into any examples of undeserved praise or undeserved blame he fought actively for the restoration of the truth. He devoted much of his time and efforts to the fight against a dogmatic approach to biology, and he was enthusiastic about the success in molecular biology (particularly about the deciphering of the genetic code).

During his last years Tamm paid much attention to the problem of peaceful coexistence. He was a member of the Pugwash movement in defense of peace. This activity helped to increase confidence and mutual understanding among scientists from different countries. Tamm had many friends both in the USSR and beyond its borders. In 1928 Tamm visited Paul Ehrenfest in Leyden. Ehrenfest later wrote in a letter to Abram F. Joffe, "I cannot think of anyone better than Igor Tamm as a successor in Leyden when it is time for me to pass away." This phrase expresses the feeling of love and respect felt for Tamm by all who knew him.

B. Bolotovsky
P. N. Lebedev Physical Institute

Arthur Bramley

Arthur Bramley, theoretical and experimental physicist, died 3 June of cancer. He was 70.

Born in the UK, he came to the US in 1919, attended the University of Oregon and received the PhD degree from Princeton in 1924. He held the Jacobus Fellowship there, which is accorded to the highest standing graduate student in the university. For eleven years he then did research in problems of pure physics at the Bartol Research Foundation at Swarthmore.

After a period of collaboration with the Fixed Nitrogen Laboratory and the war department, he worked consecutively at the National Union Radio Corp, Du Mont Laboratories and Republic Aviation. In consulting and other work he subsequently headed his own firm in Falls Church, Va.

Bramley's research, as reported in over 60 papers and demonstrated by 15 patents, dealt with relativity theory, electrodynamics, beta particles, optical characteristics of water, radioactive tracers, thermal diffusion, photoconductive response, electro-luminescent displays and interaction of light with nonlinear media. Certain of his papers were written in collaboration with others, including his physicist wife, the former Jenny E. Rosenthal.

Although he did not engage in formal teaching, a large number of fellow students, colleagues, laboratory associates and others will testify to the invaluable clarification, guidance and stimulation he gave them in understanding and overcoming the physical and technological problems they faced in their own careers.

Henry A. Barton
Greensboro, Vermont□