

Diran Hagopos Tomboulian

November 1, 1902 — December 7, 1964

The untimely and unexpected death of Diran H. Tomboulian brought to an abrupt end an association with the Department of Physics that had continued for more than thirty years. Professor Tomboulian came to Cornell as a graduate student assistant in 1931 and received his professorship in 1951. His death, at the age of sixty-two, terminated a fruitful and devoted career in both research and undergraduate teaching, the contributions of which have had broad recognition.

Born near Istanbul, Turkey, of Armenian ancestry, he became an ardent American citizen in 1939. Little is known of his youth except that he had hazardous experiences, with scars to attest them, in escaping from the Turks in the difficult years at the end of the First World War. He completed three years' work at Roberts College, Istanbul, before coming to this country in 1924. Working his way by tutoring, he earned the B.A. degree from the University of Rochester in 1927. He graduated second in his class, with work largely in chemistry and mathematics.

It was relatively late in his undergraduate years that his interest in physics was aroused and his profession decided. In 1929, the year he was married, he earned the M.A. degree in physics at the University of Rochester, while holding a position as teaching assistant. Reports of his unusual energies, ability, and enthusiasm for teaching are noted in letters of others dating from his Rochester days, along with the suggestion that "his research will also be noteworthy." And so they were.

He came to Cornell as a teaching assistant in 1931 as he began work for his Ph.D. Thereafter, except for two years during which he held scholarships, he was connected with "Physics for Sophomore Engineers" until his death. Eventually, he directed the entire operation, giving the lectures, holding recitations and laboratories himself, and managing the assistants and innumerable clerical matters associated with such a large course. His last lecture was given an hour or so before he died, and he was in better spirits than usual. But he well knew the frustrations of leading recalcitrants through difficult material, of coping with administrative directives and restraints, with the not-always-so-reliable staff of assistants, and with substandard equipment and quarters. Some nine thousand students going through engineering at Cornell during his tenure knew him as a rigorous teacher who brooked no horseplay, and as a stern, but always fair taskmaster. He had little sympathy with the able boy who frittered away his time, wasting opportunity, or who was negligent in observing the rules of the game; the chap who tried

but could not master the material would, however, find Professor Tomboulian a helpful and willing counselor, generous with his time.

He rebelled at details that subtracted from his effectiveness as a teacher, and he constantly tried to hold strict standards of quality performance against what he felt was a general trend in the opposite direction. His recitations and lecture demonstrations were well prepared. He stayed in command of any situation; on one occasion he was nearly killed during a lecture when he contacted a high-voltage X-ray tube in the darkened lecture room. It jolted him severely and burned through the soles of his shoes, but he went on—carefully—and the audience was not aware of the incident.

Over the years he initiated several changes, both in content and approach, in the physics course for engineers and was engaged at the last in preparing copy for a book at the sophomore level, *Electric and Magnetic Fields*, which has been published posthumously.

Devoted and significant as his teaching was, touching and leaving an imprint on so many students, his own research was not eclipsed. From his Rochester days, his research interest was in spectroscopy. His Ph.D. degree, earned in 1935, was based on study of the spectrum of triply ionized sodium and on the iso-electronic sequence of triply ionized rubidium. His interest then turned to fine details revealed in interferometric spectroscopy, the so-called hyperfine structure in atomic spectra giving information on nuclear spins and quadrupole moments. But his chief contributions were to come later when his interest turned to the spectroscopy of the extreme ultraviolet and soft X-rays.

A steady procession of graduate students went through his laboratory. There were always two or three students quietly working away in his corner of Rockefeller Hall, a corner which he jealously guarded against encroachment. A paper by him and his students were annual events at the winter and spring meetings of the American Physical Society. More than a hundred papers, oral and written, were given by his group. The results were evidenced in the continued improvements and advancing sophistication of his instrumentation, as well as in increasing understanding of atomic and indeed, of solid state physics, although this last area was not his chief interest. With the advent of space astronomy and the desire for investigations at very short wave-lengths with rockets, and with the generation of such radiation as a waste by-product in circular high-energy electron accelerators, he had come to be in demand as a consultant to several major projects, and several of his students also went on to serve in these operations.

His article on soft X-rays in the renowned *Handbuch der Physik* will be the definitive work for people in the field for many years.

In a way, recognition came late to him. He was always fiercely independent, somewhat contemptuous of administrators, something of a lone wolf, and a watchful guardian of what he considered to be his rights. He was disdainful of group activity and, very much the individual, cared little what was thought of him. His standards were high, and his work was good. It was, nonetheless, obviously a source of pleasure and satisfaction to him to have his work recognized for its worth and to be called on by others for his help. A trip by invitation to an international conference in Tokyo late last summer was indeed a happy occasion for him and his wife, and the paper he delivered there provided an easy, informal, yet somehow fitting farewell, not recognized as such at the time. At the 1965 Physical Society meeting in Hawaii, jointly sponsored by American and Japanese societies, a special session on vacuum spectroscopy was arranged in his memory and honor.

Without a doubt, Diran H. Tomboulian was one of those who marched to a different drummer. Difficult though such individualists may be, the University would be a poorer place without their presence. He will be sorely missed by his colleagues and by his family, to whom his devotion was constant. He is survived by his wife, Ruth, and four sons.

Joseph B. Piatt, a teaching assistant with Professor Tomboulian while a graduate student at Cornell and now President of Harvey Mudd College of the Claremont group in California, has, perhaps, penned the most fitting eulogy for Professor Tomboulian: "He had a very real influence on a great many of us, and we are better physicists, better teachers, better people for it. I hope that we in our time are able to pass on to our students some of the high standards, the integrity, and the drive which we learned from him."

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