

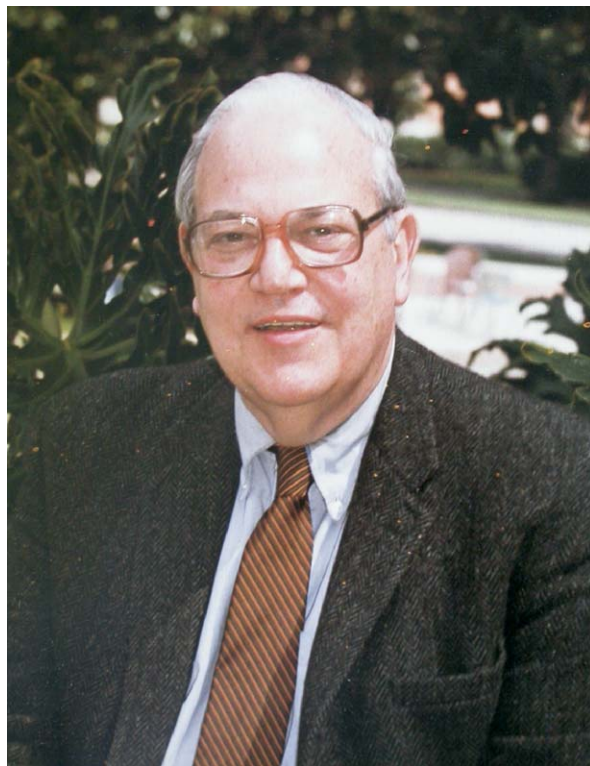
Melvin L. Moss, 1923-2006

Dr Melvin L. Moss, prolific researcher and former dean of the Columbia University College of Dental Medicine, passed away on Sunday, June 25, 2006.

He graduated from New York University with an AB degree in 1942. He entered Columbia's dental school and graduated in 1946. After service in the US Army Dental Corps and a brief period in private dental practice, he returned to Columbia to complete his PhD in anatomy. He joined the faculty of the College of Physicians and Surgeons in 1952 and was an outstanding teacher of anatomy to many generations of medical and dental students until 2006. His research in craniofacial growth and development and his introduction of the functional-matrix hypothesis received international recognition. The breadth of his work was truly amazing, cutting across the fields of anatomy, zoology, anthropology, and bioengineering with clinical applications in such diverse areas as neurology, neurosurgery, and orthodontics and dentofacial orthopedics. He wrote over 250 scientific articles, the first in 1948 and the last just recently submitted in 2006. To most, he is best known for his formulation of the functional matrix hypothesis. This was based on his original experimental work for his PhD thesis. The first full statement on the functional matrix was published by Moss and Richard Young in 1960 as "a functional approach to craniology" in the *American Journal of Physical Anthropology* and which has since become a citation classic. The term *functional matrix* was introduced in *Vistas in Orthodontics* in 1962, and his work remains known under this term.

Dr Moss lectured internationally and collaborated with many colleagues as he refined and expanded the functional matrix theory. By the early 1980s, he considered the work completed and moved on to other scientific endeavors. He once described scientific investigation as "a cyclic process which alternates between periods of hypothesis and insight, followed by periods of intensive investigation and ending in a time of summing up or synthesis." His work was enhanced by his own encyclopedic knowledge and his ability to integrate elements of that knowledge into it.

In 1967, he was appointed jointly to the medical and dental faculties at Columbia when he became professor of oral biology and the first director of the Oral Biology Division. In 1968, in a time of crisis for



Melvin L. Moss

the dental school, he assumed the deanship. He initiated significant changes to the curriculum, improved the facilities, and advocated for strengthening scholarly activity of both faculty and students. His visionary leadership paved the way for the Columbia University College of Dental Medicine as it exists today.

Dr Moss received many awards and honors, among which was the Craniofacial Biology Research Award of the International Association for Dental Research. His work was the subject of a symposium entitled "Advances in the modeling of form. Clinical and computational interfaces," which brought together researchers and practitioners from around the globe. It was presented in his honor at the 250th anniversary of Columbia University in 2003.

Although not an orthodontist himself, he was held in high regard by the orthodontic community for his work in growth and development of the craniofacial complex, which has had a significant impact on the application of orthopedics in the early treatment of

malocclusion. He also introduced certain nontraditional biomedical engineering principles such as finite element analysis in the modeling of craniofacial growth and orthodontic treatment effects. His fertile mind never rested. In recent months, he had become increasingly interested in the use and description of Bayesian probability in solving problems in medical statistics. On several occasions, I was summoned to his laboratory to discuss how we could apply this concept to some questions we were trying to answer.

Dr Moss was an imposing figure in stature but more significantly in intellect. He could be intimidating at times when making a point, but he had the utmost respect for his peers and students. He had time for everyone, from the greatest scientific investigators to the first-year dental student or orthodontic resident. Anyone who demonstrated a thirst for knowledge was welcome in Dr Moss's laboratory. He used to say, gleefully, that he taught by the method of "irritation," using what he called "Mossisms" in his lectures, such as "bone is stupid; you can fool it,"

and "there are no genes for bones." These simple statements, which contained some basic elements of truth, were provocative and stimulated lively response and discussion from his audiences.

Aside from his work, he loved Columbia University and could be seen on many a cold, windy Saturday afternoon cheering on the football team that seldom won, but he never gave up hope. Outside Columbia, his greatest passion was his beloved wife, Dr Letty Moss-Salentijn, Senior Associate Dean for Academic Affairs at the dental school, who collaborated in much of his research. They were inseparable, and their devotion to one another is legendary to all who know them.

Dr Moss will be sorely missed for his wisdom, wit, and sage counsel for all who sought it. To Letty, his sons Noel and James, and his granddaughter Kristina, we extend our deepest sympathy.

Thomas J. Cangialosi
New York, NY

TRIBUTE TO A LIFE'S WORK

It is with profound sadness that we learned of the passing of Dr Melvin L. Moss. His was the guiding intellect that took our specialty to its broadest horizons. He elevated us beyond the parts to see the integrated whole; he helped us leap beyond clinical biomechanics to the larger stage of cellular dynamics. It is fitting that, in 1 of his last papers on quantum biology, he defined the nexus of biology and infinity, where man meets God.

We will certainly miss the man; yet all men pass on, and our time too is marked by destiny. Thus, in a larger sense, those who understand will never be fully without Dr Moss or his life message: it is the journey that counts, not the destination. What's important is how we treat our fellows and what we do with our allotted time. We will all sense his presence wherever the intellect meets the soul and assiduous scholarship meets eternal truth. In his honor, we should all commit ourselves to the highest standards of intellectual excellence that he embodied and rededicate ourselves to the thrill of scientific discovery that he engendered.

On behalf of the UCLA Orthodontic Study Club.

Neal C. Murphy
Los Angeles, Calif