Kazuro Hanihara
1927–2004

Kazuro Hanihara, born in Fukuoka Prefecture on the southernmost Japanese island of Kyushu, was one of the major figures in biological anthropology in Japan. He was especially prominent among Japanese anthropologists for his work in dental anthropology, and he regularly voiced his gratitude to that legendary embodiment of dental anthropology, Albert A. Dahlberg of Chicago, for contacts, encouragement, and access to dental collections. Among his many contributions was his construction of a measuring device that allowed the researcher to give precise figures for the depth of the lingual fossa in a shovel-shaped incisor.

Hanihara gained both his undergraduate, 1948-1951, and his graduate, 1951-1956, training in anthropology at the School of Science of the University of Tokyo. Early in his graduate career, he worked for the American military forces at Kokura Camp in Fukuoka Prefecture at the task of identification of American soldiers who had died during the Korean War. This not only gave him practical experience in forensic anthropology and in the recognition of anatomical features of people of largely European ancestry but, at least as important, it made him comfortable with communicating in the English language. Not only was he able to discuss matters in effective English, he could lecture in the language with comfort and ease. Much of his anthropological work was published in English, and much of the writing was primarily done by himself and needed only minor editing by a native English speaker. This quickly earned him international recognition that he was to retain for the rest of his life.

Fig. 1. Kazuro Hanihara (*right*); his wife, Kazuko (*center*); and Keiichi Omoto (*left*) at a dinner gathering in the Hanihara home following the end of a workshop titled "The Origin and Past of *Homo sapiens sapiens* as Viewed from DNA—Theoretical Approach" that took place on December 14-17, 1993, in the International Institute for Advanced Studies, Kyoto, Japan. Dr. Hanihara was the workshop convenor and IIAS Vice-Director. (Photograph courtesy of Christy G. Turner II.)

Fig. 2. Kazuro Hanihara: 1924–2004.

In 1956, he became an assistant professor in the Department of Legal Medicine at the Sapporo Medical College on the northern island of Hokkaido. His use of Mahalanobis D^2 distances, discriminant functions, and Q-mode correlation coefficients gave the cachet of statistical sophistication to his work, and in 1958, the year he earned his Doctor of Science degree from the University of Tokyo, he was promoted to Associate Professor at the Sapporo Medical College. The very next year, as a Fulbright Exchange Scholar, he served as a Visiting Professor at the University of Chicago, a role he filled again in 1968. In 1969, aided by a Leverhulme Visiting Fellowship, he was a Visiting Professor at the University of Adelaide in Australia where he studied the dentition of the northern Australian Aborigines. He also served as a Visiting Professor at Arizona State University in 1984.

Because of his initial professional location on Hokkaido, he became involved in questions concerning the identity of the Ainu and their relations to the prehistoric inhabitants of Japan and to the majority of the non-Ainu Japanese. He clearly recognized the similarity

of the Ainu to the prehistoric Jōmon. Despite his use of sophisticated statistics, however, his conclusions savored more of preconceived notions than of anything that derived from the actual metric data. Without actually using odontometric data to test the idea, he debunked the old suggestion that there was a "Caucasoid" element in the Ainu. As with so many Japanese who want to believe that they are descended from the prehistoric inhabitants of the archipelago, he tried to push the idea that the Jōmon played a role in the ancestry of the Japanese which they did to a varying extent. He recognized the fact that most Japanese looked more like mainland East Asians than Jōmon-Ainu people, and he suggested, in the absence of archaeological support, that massive population movements from that mainland had been responsible. His estimate was that more than a million people moved from Northeast Asia to Japan during the time between 300 BCE and 700 CE, a guess that has made more than a few prehistorians uneasy and doubtful.

In 1972 he returned to the University of Tokyo as Professor of Anthropology in the School of Science where he remained until reaching the mandatory retirement age of 60. Starting in 1987, he began what was to be a lifelong affiliation with the International Research Center for Japanese Studies in Kyoto. Actually, he was one of the major figures involved in setting up that Research Center in the first place. In order to make the case to Japanese Prime Minister Nakasone for the establishment of that Center, Hanihara traveled to America in the spring of 1985 and visited a series of Universities to gather expressions of support for the project. His efforts were highly successful, and this points out one of the most prominent aspects of Kazuro Hanihara. He was a marvelous organizer and administrator and was a successful chairman of a Museum and Department as well as a long series of committees. Not only was he admirably well-organized, but he exuded a manifestation of graciousness and charm that clearly nurtured his success.

Hanihara was probably most known for his proposal of a "Dual structure model for the population history of the Japanese" first published in 1991. In this, he proposed that the prehistoric Jōmon of Japan were derived from Southeast Asia which he sometimes referred to as "South Asia" although this did not mean the Indian sub-continent as that designation has usually implied. He suggested that a mixture of Jōmon and Northeast Asians gave rise to the Ainu on the one hand and the modern Japanese on the other. The difference between the two, he proposed, was the result of microevolution in situ. The Jōmon themselves he regarded as qualifying as perfectly good "Mongoloids" although this was not supported by any kind of metric demonstration. The idea that the Ainu represent the continuity of the Jōmon with a bit of input from eastern Asia is indeed supported by an analysis of common variance, and the idea that the Japanese largely represent the morphology of eastern Asia tempered by a trace of Jōmon form in increasing amounts the farther east one goes in the archipelago is also supported by the variance figures. However, the role of microevolution in leading to the Ainu/Japanese differentiation has no basis, and there is no evidence supporting a Southeast Asian locus of origin for the Jōmon themselves.

Last but not least, Kazuro Hanihara was enormously helpful to visiting scholars who knew little or no Japanese. Whether he agreed with the interpretation of the results of their work or not, he was unfailingly gracious and supportive. He figured out bus and train schedules, helped people get to the right stations, he met planes, and made hotel reservations, and many more much appreciated acts of generosity and assistance. For those of us who counted him as a friend, his passing leaves a real sense of loss.

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Book Review

DENTAL FUNCTIONAL MORPHOLOGY: HOW TEETH WORK. By Peter W. Lucas. New York: Cambridge University Press, 2004. 372 pages, 7 chapters, 2 appendices. $130.00 £75.00

Occasionally in science a novel treatment of a familiar subject opens new vistas for exploration and thought. This is the case with *Dental Functional Morphology* by Peter W. Lucas. Part dental anthropology and part physics, this book challenges long held paradigms regarding the morphology of mammalian teeth. Viewed from the perspective that physical characteristics of food drive selection of tooth form, Lucas presents a well thought argument revolving around how dental morphology has evolved in response to the fracture properties of food.

The adage "if you don't eat, you die" can be altered using Lucas' view to "if your teeth don't efficiently fracture foods and reduce particle size to that which is