

# Memorial to Teiichi Kobayashi

## 1901–1996

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Teiichi Kobayashi, honorary fellow of the Geological Society of America and member of the Japan Academy, passed away on January 13, 1996, in Tokyo, at the age of 94. His death is a great loss to the geological community, particularly to Japanese geologists, and marks the end of an epoch.

Kobayashi was born on August 31, 1901, in Osaka, Japan, to a wealthy merchant family. After schooling in Osaka and Kyoto, he studied at the Imperial University of Tokyo from 1924 to 1927. He was interested in fossils, and in 1925 he published his first paper on paleontology, on Tertiary mollusks near Tsuchiura (northeast of Tokyo). Throughout his life, he was a prolific author of scientific works—796 papers and books by 1989.

Kobayashi's professional career began with the study of older Paleozoic rocks and fossils in northern Korea and southern northeast China, a study conducted for his thesis and later during his assistant (research fellow) years at the Imperial University. To complete the determination of the paleontology of the fossils he collected, he took his collection to the U.S. National Museum in Washington, D.C., and carried out a comparative study with Walcott's collection there, from 1931 to 1933. Until his last days, Kobayashi continued to publish papers on the Cambrian and Ordovician stratigraphy and paleontology of East Asia. He was awarded the Leopold von Buch Prize by the German Geological Society in 1956 for his great contribution to the knowledge of the geology of East Asia.

Kobayashi's wide-ranging geologic interests included the Mesozoic geology of Japan, motivated by a visit to the Mesozoic in the Sakawa basin, south of Shikoku, during a field trip in 1925. His interest was strengthened by a field training course on the Mesozoic of Nagato Province, in west Honshu. Because the Mesozoic is the epoch during which the present framework of the Japanese islands came into being through a series of crustal movements, his studies were soon noted for their tectonic significance. He established the stratigraphy in detail, systematically described the fossils, and formulated a tectonic interpretation in clarifying Japan's position in the Mesozoic. His main conclusion appeared in a brilliant work, "The Sakawa Orogenic Cycle and Its Bearing on the Genesis of the Japanese Islands," published in 1941, for which he was awarded the Japan Academy Prize in 1951. In this milestone work on the tectonic synthesis of the Japanese islands, Kobayashi clarified that the framework of Japan was constructed through successive orogenic movements, not in one step but in at least three. Before the introduction of the concept of plate tectonics, this was the leading principle of Japanese tectonics. Brisk debate (mostly about the timing of the orogenic movements) indicated that his theory had an overwhelming influence on the Japanese community of geologists.

Kobayashi held a view that was ahead of his time. He argued for horizontal transport of northeast Japan toward the Pacific as one of the results of Cenozoic tectonic movements that took place after the Mesozoic evolution. Although he did not explicitly state that the Japan Sea opened in Tertiary time, by analogy of the basement between Japan and Shikote Alin, for instance, he demonstrated that Japan should have occupied a position next to the Chinese continent in Mesozoic time, and later shifted toward the Pacific in Cenozoic time.



Another of Kobayashi's projects was realized after his retirement from the University of Tokyo. With his colleagues and students, he conducted surveys in the lesser studied Southeast Asian countries. Results of these surveys were published in a series, *Geology and Palaeontology of Southeast Asia*, 25 volumes, by the University of Tokyo Press, from 1964 through 1984. These augmented greatly the knowledge about the faunas, stratigraphy, and local tectonics of the region, and they provided incentive for further systematic studies by the native geologists and geological agencies.

Kobayashi was also a well-known speaker and activist in international geology circles. In 1952 he was nominated vice-president of the newly founded International Paleontological Union (now Association). In 1960 he was a founding member of the International Union of Geological Sciences and served as its first vice-president. He was president of the Paleontological Society of Japan from 1959 through 1965 and was a member of the Science Council of Japan for the 1962-1968 term. He was elected a member of the Japan Academy in 1970.

It was my greatest fortune that I was able to study under Kobayashi's guidance and advice at the University of Tokyo. He guided me throughout my work on the Jurassic stratigraphy and ammonite paleontology of northeast Japan, from selection of the subject matter through field and laboratory work to the preparation of the paper. He did not give me much direct advice, but showed me by his example how a true scientist examines nature.

Kobayashi retired from the University of Tokyo in 1962, delighted to be absorbed in writing, freed from teaching duties and miscellaneous university business. His enormous library—monographs, old plates, and descriptions of fossils from all over the world—gave him ample material for his research for more than 30 years after he retired. He never gave up scientific work.

Tales are endless. Memories come and go. The Giant has faded away. I can only express my deepest condolences to Teiichi Kobayashi's family, friends, and colleagues, and pray for him to sleep in Zen Buddhist peace.

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