Contributions of Tatsuro Matsumoto (1913-2009) to plate tectonics, a signifcant paradigm shift in earth sicence

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Tasturo Matsumoto (1913-2009), the professor of stratigraphy of Kyushu University, was a leader of the community of geology, especially that of stratigraphy, in Japan from 1960's to 1970's, when the seafloor spreading hypothesis was proposed at first then the plate tectonics theory was established at the end. The paradigm shift of earth science related to plate tectonics in Japan is represented by that from the geosyncline hypothesis to the accretional prism hypothesis. Matsumoto volunteered to be the chair of international and domestic symposiums, a committeeman of an international association, the organizer of a comprehensive research program and an editor of proceedings relating to the paradigm shift in this period, which significantly encouraged Japanese earth scientists. The accretional prism model for the Shimanto Belt was proposed by Sakai, supervised by Matsumoto, and Kammera (1975) from the viewpoint of structural geology. It was the Japanese paleontological society, which Matsumoto had leverage in for a long period, that recognized the importance of studies of foraminifera by Nakaseko and his colleagues. The founding of the accretional prism model for the Shimanto, therefore, was started in the vicinity of Matsumoto. These contributions of Matsumoto were passed into silence since he didn't like to be applauded (Mashima, 2018). His contributions therefore were not referred in recent studies of history of Japanese geology (Tomari, 2008). In this presentation, I present activities of Matsumoto relating to plate tectonics. His activities reveal that Matsumoto is the person who exerted to realize mutual understanding and collaborative alliance between researchers belonging to different disciplines of earth science.

Keywords: plate tectonics, Tatsuro Matsumoto, paradigm shift, geosyncline, accretional prism