

"Thyco Brahe" in the Geology; The Compromise Models on the Plate Tectonics Revolution.

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How the scientific revolutions begin, progress and finish? The plate tectonics (PT after below) revolution is the one of the example of the latest scientific revolutions which had occurred after the first definition of the word "scientific revolutions" by Thomas Kuhn, and to restore the processes of the changing mind of the geoscientists in the PT revolutions is to describe the process in detail of the driving mechanism of the scientific revolutions.

Tomari (2008) had described the PT revolution in detail from the viewpoint of scientific historiographers. He wrote the geoscientists in the PT revolution as the person who converted to new paradigm immediately (for example Seiya Uyeda, Kazuaki Nakamura and Arata Sugimura), continued refusing the new theory (Shoji Ijiri, Yukinori Fujita and Masao Minato) and other geologists who had been under the influential scientists as the way of thinking, but he did not described the processes of the conversion; changing impression and overcoming contradiction of the previous paradigm and new theory in the heart of the individual scientist. Actually, it was not the simple binary opposition such as the "immediate acceptance by the advanced mind" and "completely refusal because under arrested by the former paradigm (geosyncline theory)" but most of the heart of the geologists were "torn up" until finishing of the conversion. The author reports the example of the "compromise model" on the Japanese Islands tectonic development scenario and the orogenic movement which were shown by some geologists, in this presentation.

Toshio Kimura who was the Professor the second course of geology, faculty of science, University of Tokyo, refused that the orogenic movement by the trench subduction but accepted the sea-floor spreading as the formation theory of the surface structure of the earth continued adopting a geosyncline idea about the orogenic movement in the neighborhood of trench in the 1970s. Yujiro Ogawa who was a student of Kimura proposed a model explaining the formation process of the buck ark basin by geosyncline instead of the secondary upwelling current of the mantle wedge which caused by subducting slab. Akira Yao, the biostratigrapher of the Osaka City University had begun to think about the formation model of the lens and block-shaped limestone bed by the thrusting and folding without denying geosyncline theory in the late 1970s. In addition, there were the petrographical studies that showed a change of the magma composition in the crossing direction of island arc and an emplacement processes of ophiolite in island arc without denying geosyncline theory. Its were considered to the examples of the blended models of the PT and previous theory.

The word "compromise model" is giving a bad impression like the "opportunism", however it may be said that it is the wrestling to adopt a new theory to conventional observation datum carefully. I think it shown the existence of the researchers who can be compared to Tycho Brahe in the Copernicus Revolution, and not a thing indicating the geologic backwardness but it express that geological tradition such as to respect the building up the foundation of by the observation fact.

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