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Reconstruction of middle-west Pangaea in and around Mediterranean Sea : A proposal of Pangaea model A3

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In this study, we examined the formation process of Pangaea during the period from mid-Paleozoic to early Mesozoic (300myr-200myr), and reconstructed the Pangaea from a new point of view. The reconstruction of Pangaea on the globe was performed in more elaborate way using the software G-plate than the related, previous study, by trying to put the landmass pieces together with accuracy in and around the Mediterranean Sea: We shall refer to this as Pangaea A3 model. Following the A3 model, the Pangaea seems to have been formed by the collision of Laurasia and the Gondwana. At that time the Pangaea existed as a huge landmass exclusive of the Siberia without any inland sea. However, the Laurasia broke out of the Gondwana soon after the formation. During the separation process it made an anticlockwise rotation with respect to the Gondwana. At this time, the South America also separated from the Africa, which made anticlockwise rotation, too. Until now, the Pangaea has been known to be represented as so-called C-shape. In this model the gap between the Gondwana and Laurasia becomes broader toward the east and the Tethys sea existed between them. While being in good agreement with the C-shape model, the present Pangaea model explains its formation process. One distinction between the two models is that the Tethys sea in the present model is narrower than that in the C-shape model, and it consists of a long waterway and large circular inland-sea (marine crust). The Pangaea did not undergo significant change between 300 myr and 200 myr except that the Cimmeria blocks, which were originally located in the northern edge of the continent, broke away and finally collided to the Laurasia in the course of northward drifting. New findings in the present study are believed to have improved the understanding of the Pangaea over the previous studies.
The results may be summarized as follows.
Firstly, the Pangaea A3 model exhibits almost complete fit of continents and landmasses, which looks better than that presented by Bullard who succeeded in fitting almost seamlessly the west and east coastal lines of the Atlantic ocean. Such an elaborate fit was also done for most of middle-west part of Pangaea including Mediterranean Sea.
Secondly, the Pangaea A3 appeared to be in strong support of the paleomagnetism observation. Though not perfect agreement with the paleomagnetism, the present model seems to be in better agreement than any other previous models.
Thirdly, the Pangaea A3 model has brought a settlement to several unsolved problems such as overlapping of north- and south- America continent and the Europe and northern edge of the Africa.
Fourthly, the Pangaea A3 model is also in good agreement with the paleo-geological survey, because it shows almost perfect match in the climate, biological distribution, and position of glaciers at those times.
Fifthly, the Pangaea model clearly explains why the gap between the Gondwana and Laurasia becomes broader toward the east.
Lastly, the present study was performed using an elaborate software, G-plate, to produce accurate and reliable results.