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The Paleozoic Avalonian terranes in Asia - the Mount Everest perspective

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Paleogeographic maps depict the continents of Gondwana, Baltica, Laurentia, Siberia, South China and North China, as well as several smaller plates and other tectonic elements present during Paleozoic times. Avalonian ribbon of terranes that broke-off Gondwana and moved north belongs to these elements (Golonka et al., 2023a, b). These Avalonian terranes included (from East to West): East Cathaysia, Kon Tum, North Qiangtang, West Kunlun, Central Pamir, Karakum, Central Caucasus, İstanbul–Zonguldak, Strandja, Moesia, Eastern-Western Carpathian terranes (Marmarosh and others), Małopolska East Avalonia, West Avalonia.

They collided during Caledonian Orogeny with (from East to West): South China. Truong Son, Qaidam, Tarim, South Kazakhstan, Baltica and Laurentia closing Prototethys Ocean. Kontum and Truong Son terranes formed Indochina composite terrane (Van Tran et al., 2020). Indochina collided with South China in Permian-Triassic. North Qiangtang, West Kunlun and Central Pamir were amalgamated with Qaidam and Tarim forming northern Tibet (Zhao et al., 2016). This amalgamation is associated with Kwangsian, Truong Son, Ailaoshan, Jinshajiang and Kunlun suture.

All above results are based on compilation of paleomagnetic, sedimentary/facies analysis and/or paleobiogeographic studies and could be correlate with the Early Paleozoic units of the Himalayan, Karakorum and Tibetan realms, including Ordovician limestones (Mt. Qomolangma Formation) of the Everest summit just above Qomolangma detachment. Therefore Silurian paleogeographic reconstruction could be useful for interpretation of eroded this age units and younger, which originally constructed the highest nappe of the Tethyan sedimentary sequence.

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References:

Golonka, J., Porębski, S. J., Waśkowska, A., 2023a. Silurian paleogeography in the framework of global plate tectonics. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 622, 111597.

Golonka, J., Hung, K.T., Du, N.K., Krobicki, M., 2023b. *Geotourism* (Geoturystyka), 20(1-2): 23–24.

Van Tran, T., Faure, M., Van Nguyen, V., Bui, H. H., Fyhn, M. B. W., Nguyen, T. Q. & Charusiri, P. 2020. Neoproterozoic to Early Triassic tectono-stratigraphic evolution of Indochina and adjacent areas: A review with new data. *Journal of Asian Earth Sciences*, 191: 104231.

Zhao, G., Wang, Y., Huang, B., Dong, Y., Li, S., Zhang, G., & Yu, S. (2018). Geological reconstructions of the East Asian blocks: From the breakup of Rodinia to the assembly of Pangea. *Earth-Science Reviews*, 186: 262–286.