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HYBRID ACCRETIONARY/COLLISIONAL MECHANISM OF PALEOZOIC ASIAN CONTINENTAL GROWTH: NEW PLATE TECTONIC PERSPECTIVE

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Continental crust is formed above subduction zones by well-known process of "juvenile crust growth". This new crust is in modern Earth assembled into continents by two ways: (i) short-lived collisions of continental blocks with the Laurussian or later Eurasian continent along the "Alpine Himalayan collisional/interior orogens" in the heart of the Pangean continental plates realm; and (ii) long lived lateral accretion of ocean-floor fragments along "circum-Pacific accretionary/peripheral orogens" at the border of the Paleo-Pacific and modern Pacific oceanic plate. This configuration has existed since the late Proterozoic, when the giant accretionary Terra Australis orogen developed at periphery of an old Palaeo-Pacific ocean together with collisional Caledonian and Variscan orogens in the interior of Pangean realm. At the same time, the large (ca. 9 millions km^2) Central Asian Orogenic Belt (CAOB) developed in the NE part of the Pangea. This orogen reveals features of both peripheral and interior orogens, which implies that the generally accepted "peripheral–accretionary" and "interior– collisional" paradigm is not applicable here. To solve this conundrum a

new model of unprecedented Phanerozoic continental growth is proposed involving concept of the CAOB precursor represented by the interface of old exterior and young interior oceans. New lithospheric domain orginates along this interface show hybrid features between continental and oceanic plates and specific heat and rheology structure. We present new data from Mongolian collage to provide a new model of long lasting Pacific type accretion characterized by several advancing and retreat subduction events related to formation and outboard migration of magmatic arc and giant sedimentary wedge over period of 300 Ma. This event is supported by continuous evolution of Hf and Nd isotopic trends as well as recurrent melting of both juvenile and old continental crust.