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**Title: LATE PHANEROZOIC TECTONICS OF THE NORTH CHINA
"CRATON"**

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Abstract: The Archean-floored North China “craton” (NCC) is a major component of the east Asian tectonic collage - an amalgamated assemblage of continental plates and accreted oceanic terranes formed during the past 250 Ma. The term “craton” is somewhat of a misnomer, given the NCC’s complicated post-Permian history of crustal contraction, extension, magmatism and lithospheric mantle modification. The triangular NCC is bordered by three inward-dipping convergent zones that dramatically influenced its late Phanerozoic history. These include a southern Permo-Triassic collisional zone (Qinling) with the continental Yangtze plate, a northern late Permian suture (Suolun) with a Mongolian accretionary complex of oceanic terranes, and an eastern Pacific subduction zone initiated in the Early Jurassic. Mesozoic contraction within the NCC characterized all three convergent zones, most notably the northern, east-west-trending Yinshan(W)-Yanshan(E) fold-thrust belt(s).

An Andean-type magmatic arc developed across the northern NCC by at least Late Paleozoic time and prior to terrane amalgamation accompanying suturing. The author believes that by the Late Triassic the NCC was an Altiplano-like plateau atop a tectonically thickened crust resulting from convergence and collisions along its northern and southern boundaries. Adakitic igneous rocks within the NCC range in age from ca 324 Ma (Daguanding batholith) to ca 125 Ma (Yixian Fm.), and are best explained by the partial high pressure melting of mafic protoliths in deep levels of a thick crust (Davis, 2003). Major south-directed thrust faulting involving Archean crystalline basement occurred within the Yanshan prior to Jurassic volcanism (ca 190-180 Ma), which appears to herald the onset of magmatism related to Pacific plate subduction beneath eastern Asia. Yanshan episodes of both north- and south-directed thrusting occurred within the evolving arc from Middle Jurassic to Early Cretaceous time.

Much of eastern Asia between southern Siberia and the Yangtze River in eastern China experienced regional NW-SE extension beginning in the Early Cretaceous (ca 130-120 Ma) that was accompanied by voluminous silicic alkalic magmatism (non-adakitic) and, locally, major gold mineralization. In China, isolated Cordilleran-style metamorphic core complexes (mccs) developed preferentially within fold-thrust belts (Yanshan, Yinshan, Beishan, Qinling) that lay within the northern and southern margins of the NCC. Localized gravitational collapse of these contractional belts, accompanied or

triggered by voluminous silicic magmatism, characterizes the mcs, but the broad regionality and surprising contemporaneity of Cretaceous extension in eastern Asia remains unexplained. Unlike most workers, this author believes that the extensive loss (or transformation) of eastern portions of China's lithospheric subcontinental mantle was unrelated to, and younger than, Early Cretaceous regional crustal extension.