Geologic Atlas of China: An Application of the Tectonic Facies Concept to the Geology of China
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China is a collage of oceanic and continental fragments of varying sizes, and was thought to have been assembled either by accretion of relatively rigid continental blocks, dispersed from southern continents such as Gondwana, or by the development of vast southward-growing accretionary complexes that were hundreds of kilometers to more than a thousand kilometers wide. In this book, Ken Hsü and his Chinese collaborators present an alternative model that Phanerozoic China was constructed mainly by collapse of complexly distributed back-arc basins behind a few long-lived frontal arcs fringing Gondwana, Cathaysia, and Laurentia. Hsü envisions three basic tectonic elements in a collapsed back-arc system: a rhaetide, expressed by rigid-basement nappes; a celtide, consisting of melange and mobilized basement nappes below the rhaetite; and an alemanide, exhibiting thin-skinned deformation underneath the celtide. His supposition is systematically shown via a tectonic facies map of China and a detailed description of individual tectonic units. The geologic discussion is intermingled with a narrative account of Hsü’s research in China since 1977 and his evolving thoughts on Chinese geology. This book represents a conceptual breakthrough in understanding the complex geologic history of China, and Hsü’s archipelago model will be tested for many years to come. Unfortunately, Hsü’s brilliant idea is overshadowed by his highly uneven writing. Those who are not familiar with Chinese geography will find the book difficult to follow, because numerous mountains and places mentioned in the text are not shown on the map. It is also difficult for a reader to appreciate the context of Hsü’s passion in condemning the establishment of Chinese geologic thinking in the book’s introduction, as most Chinese geologic literature is unknown to people outside China. A few minor errors occur in the text such as referring to the Cenozoic left-slip Altyn Tagh fault as a right-slip structure. References on geologic observations are quite out of date and some are missing from the reference list. The most critical problem of the tectonic facies map of China is its neglect of the effect of Mesozoic and Cenozoic intracontinental deformation on redistributing older tectonic elements. Despite these problems, the lasting contribution of the tectonic facies map of China lies in its power in demanding more and thorough geologic observations in vast Asia, which perhaps possesses the best record of continental-growth history on Earth. Those who are seriously interested in the geologic history of Asia should definitely read this long book with patience. You may be enlightened.

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