# Siberian, Cathyesian & Antarctic Cratons

By

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# Constitution of Siberian Craton

- **Components:** It comprises the Aldan (-Stanovoy) and Anabar shields, Olenek Uplift, four restricted peripheral Precambrian fold belts in the south and west, and extensive buried interior basement and platform cover

- (1) Aldan Shield, (2) Anabar Shield, (3) Olenek Uplift, (4) Baikal Belt, (5) East Sayan Belt,

  (6) Stanovoy Belt, (7) Yenisei Ridge, (8) Turukhansk Uplift

- **Neighbouring median massifs, inliers**:
- (a) Kolyma-Omolon Massif, (b) Taigonos Block, (c) Okhotsk Massif, (d) Altai-Sayan Massif,
  (e) Taymyr Belt, (f) East Arctic Shelf

**Siberian Craton:**Two main earlier Precambrian (> 1.7 Ga) orogenies-Aldanian & Stanovoyan ~effectively stabilized the large composite craton

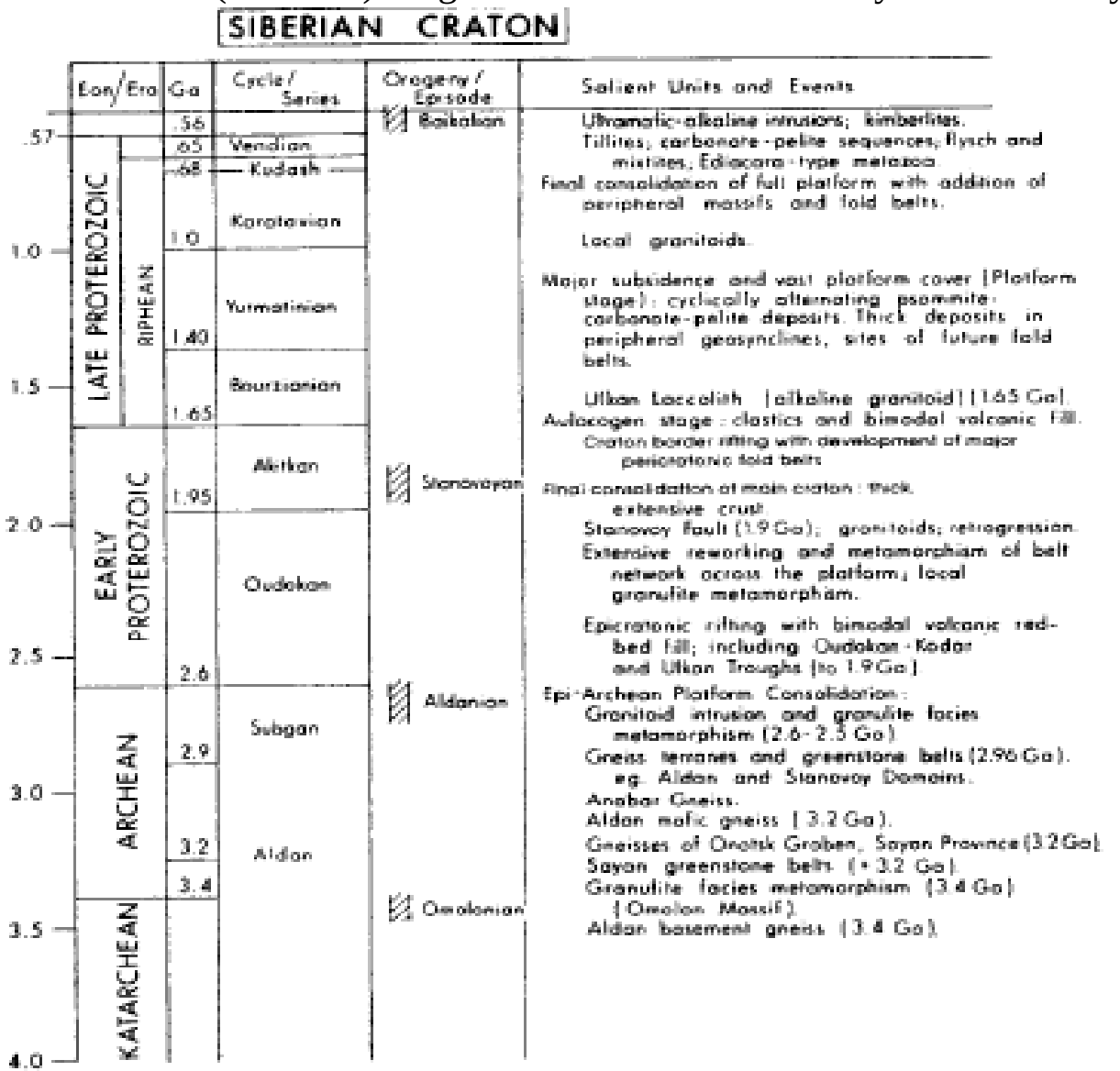


**Fig. 1-3b.** Summary chrono-stratigraphic development of Precambrian crust of the Siberian Craton. Salient crustal units and events are arranged in relation to internal orogenies and resulting tectonic cycles.

# Constitution of Cathyesian Craton

- ***Cathyesian Craton*** includes three component cratons~ Sino-Korean, Tarim and Yangtze---each characterized by restricted Precambrian exposure and correspondingly widespread buried basement. Additional peri-cratonic Precambrian crust lies in numerous median massifs enclosed in closely compressed Caledonian, Variscan and Tanshanian fold belts.

- Component cratons, shields, blocks, belts, etc.
- (1) Sino-Korean Craton, (2) Tarim Craton, (3) Yangtze Craton
- Neighbouring median massifs, inliers, etc.
- (a) Himalayan Massifs, (b) Pamirs, (c) South Tien Shah Massif

## Cathyesian Craton

Four main orogenies are widely recognized in older Precambrians (> 1.85 Ga) of the Sino-Korean Craton: Qianxi, Fupingian, Wutaian, Luliangian Three orogenies in younger Precambrian rocks~Dongan, Sibaoan and Jinningian (Yangtze).

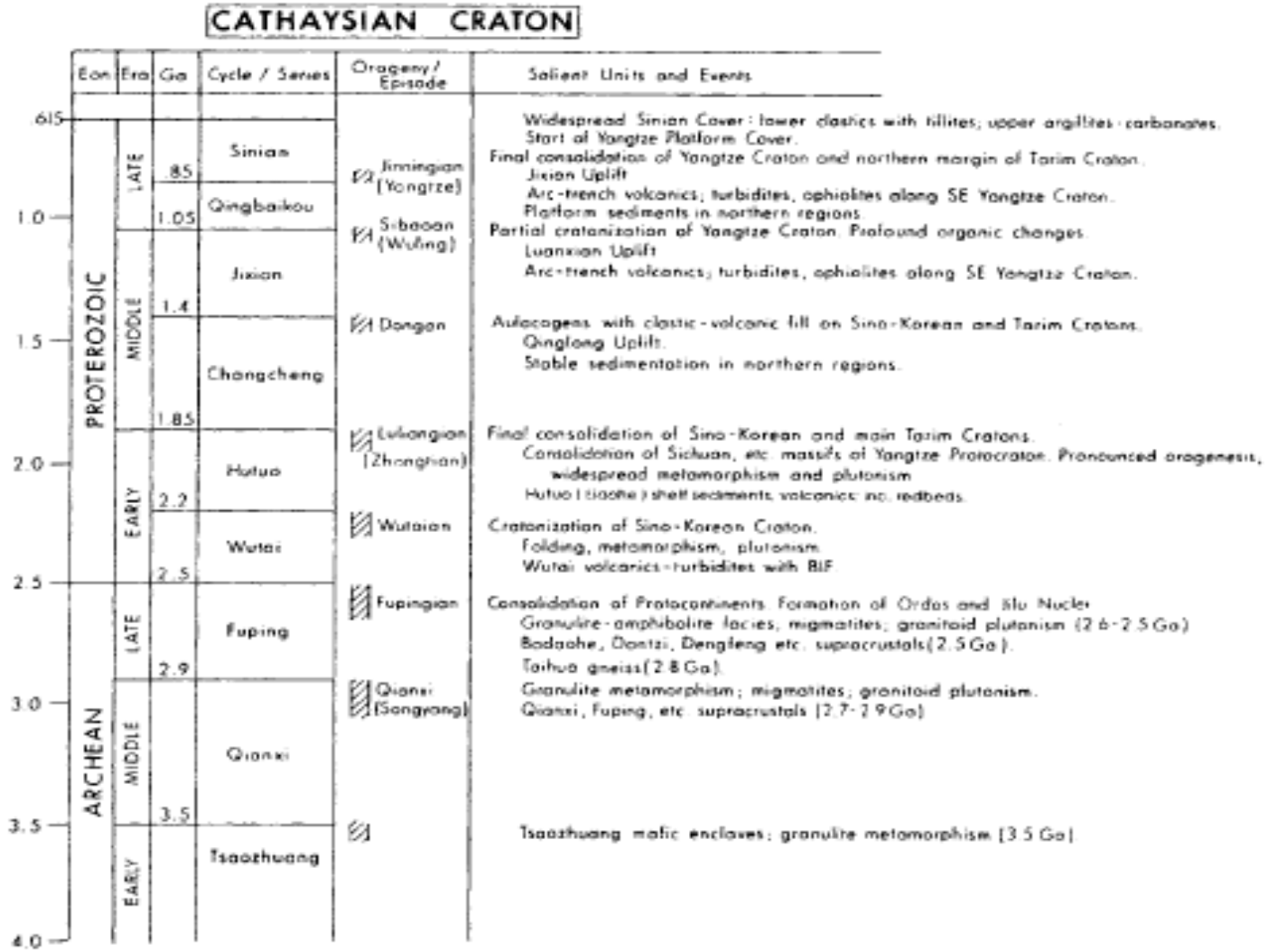


**Fig. 1-3a.** Summary chrono-stratigraphic development of Precambrian crust of the Cathaysian Craton. Salient crustal units and events are arranged in relation to internal orogenies and resulting tectonic cycles.

# Antarctic Craton

- It is dominated by the East Antarctic Metamorphic Shield, which adjoins the Transantarctic Mountains (Fold Belt) which itself contains numerous Precambrian inliers.
- The great bulk of the Precambrian Craton lies beneath the continental ice sheet, with exposures mainly restricted to the coastline including those in Dronning Maud Land and Enderby Land, Prince Charles Mountains, Princess Elizabeth, Queen Mary and Wilkes lands and Terre Adelie.
- Precambrian composite cratons and shields, include, East Antarctic Metamorphic Shield and Inlier includes Transantarctic Mountains inliers

# Tectonic framework

In East Antarctica, where bedrock exposure is extremely limited, access difficult and detailed studies rare, a number of high grade metamorphic events (at least six) have been locally identified, together with late Proterozoic-early Paleozoic greenschist facies metamorphism

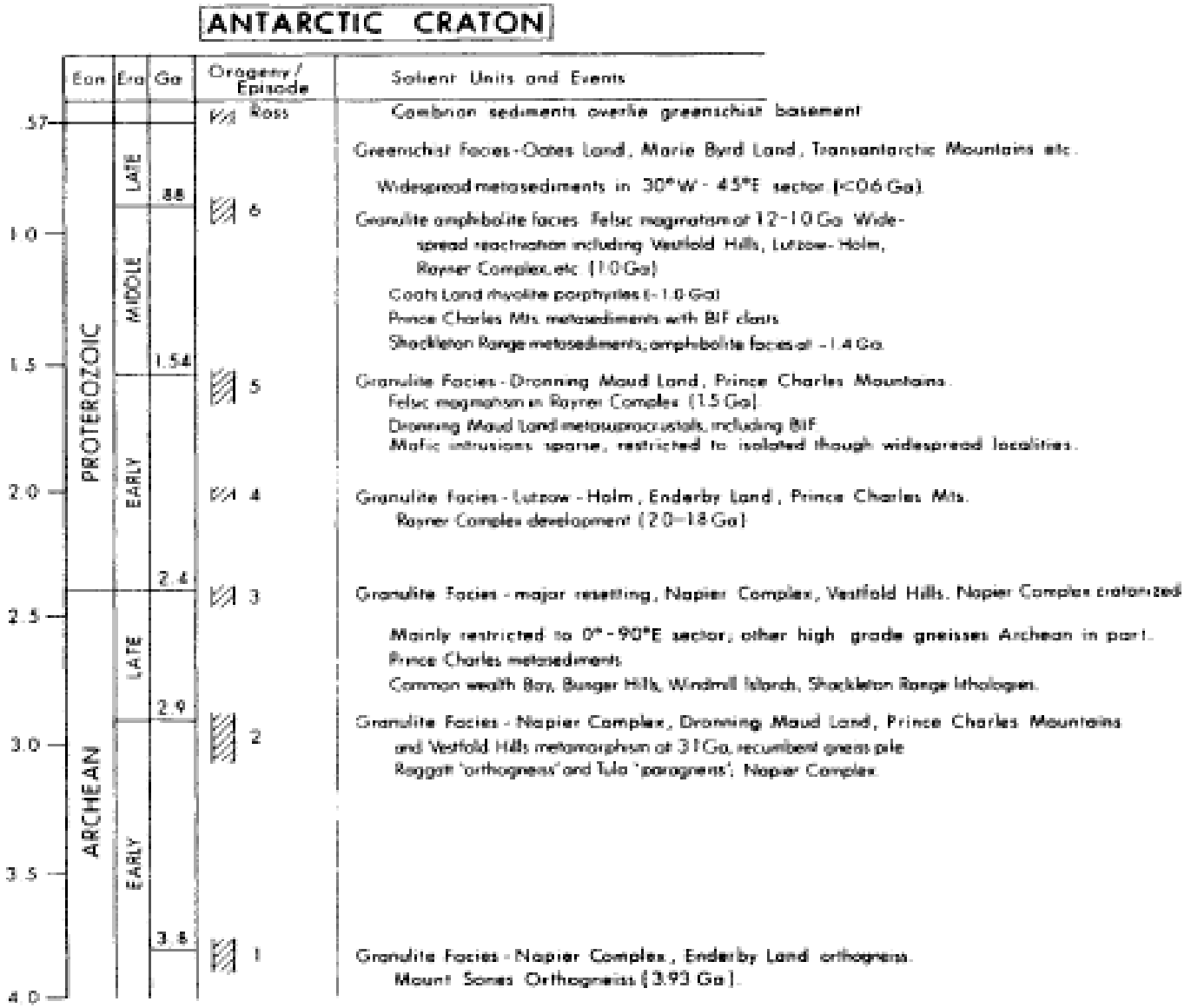


**Fig. 1-3i.** Summary chrono-stratigraphic development of Precambrian crust of the Antarctic Craton. Salient crustal units and events are arranged in relation to internal orogenies and resulting tectonic cycles.