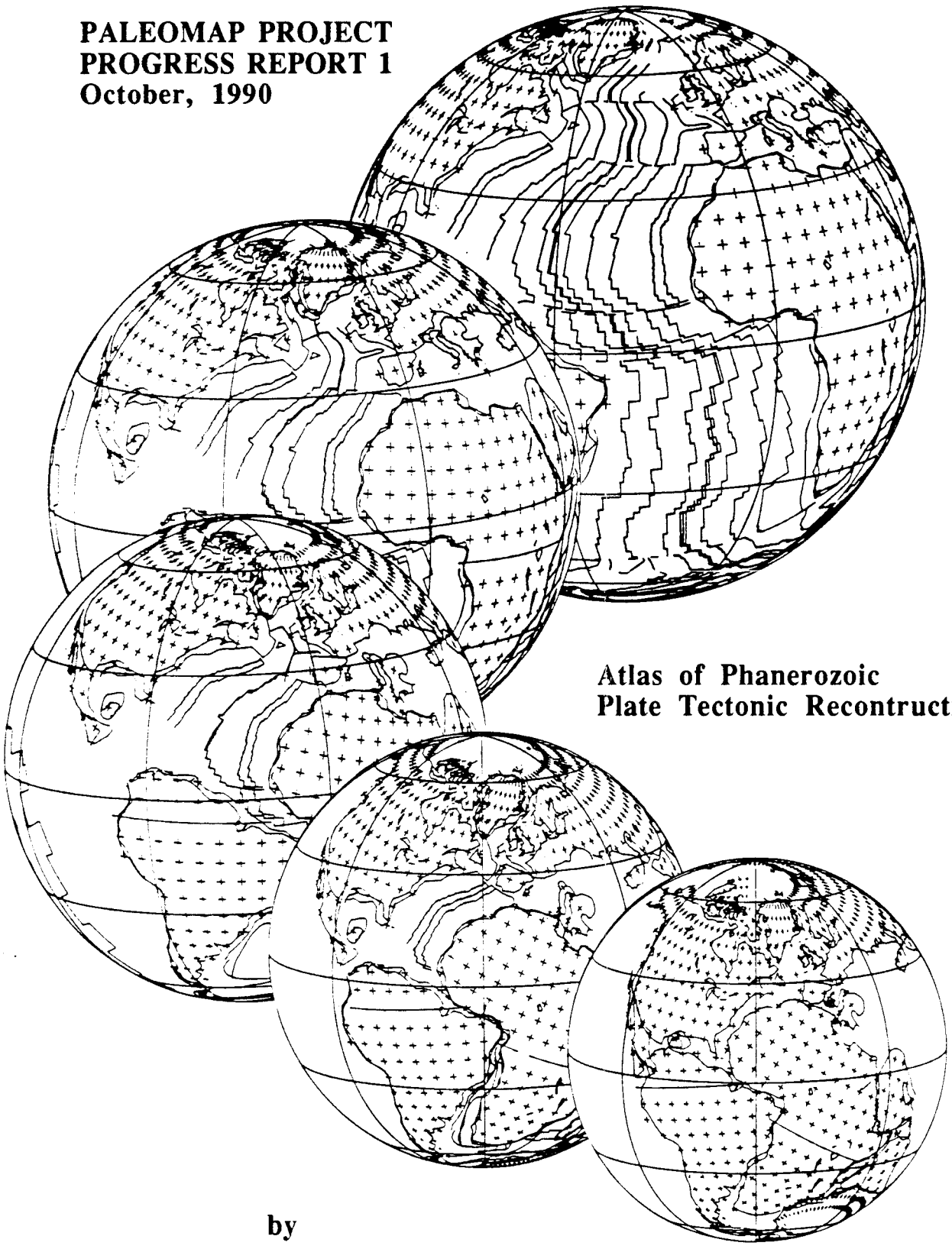
PALEOMAP PROJECT
PROGRESS REPORT 1
October, 1990



Atlas of Phanerozoic Plate Tectonic Recontructions

by

Christopher R. Scotese, editor

ATLAS OF PHANEROZOIC PLATE TECTONIC RECONSTRUCTIONS

INTERNATIONAL LITHOSPHERE PROGRAM (IUGG-IUGS)

PALEOMAP PROJECT

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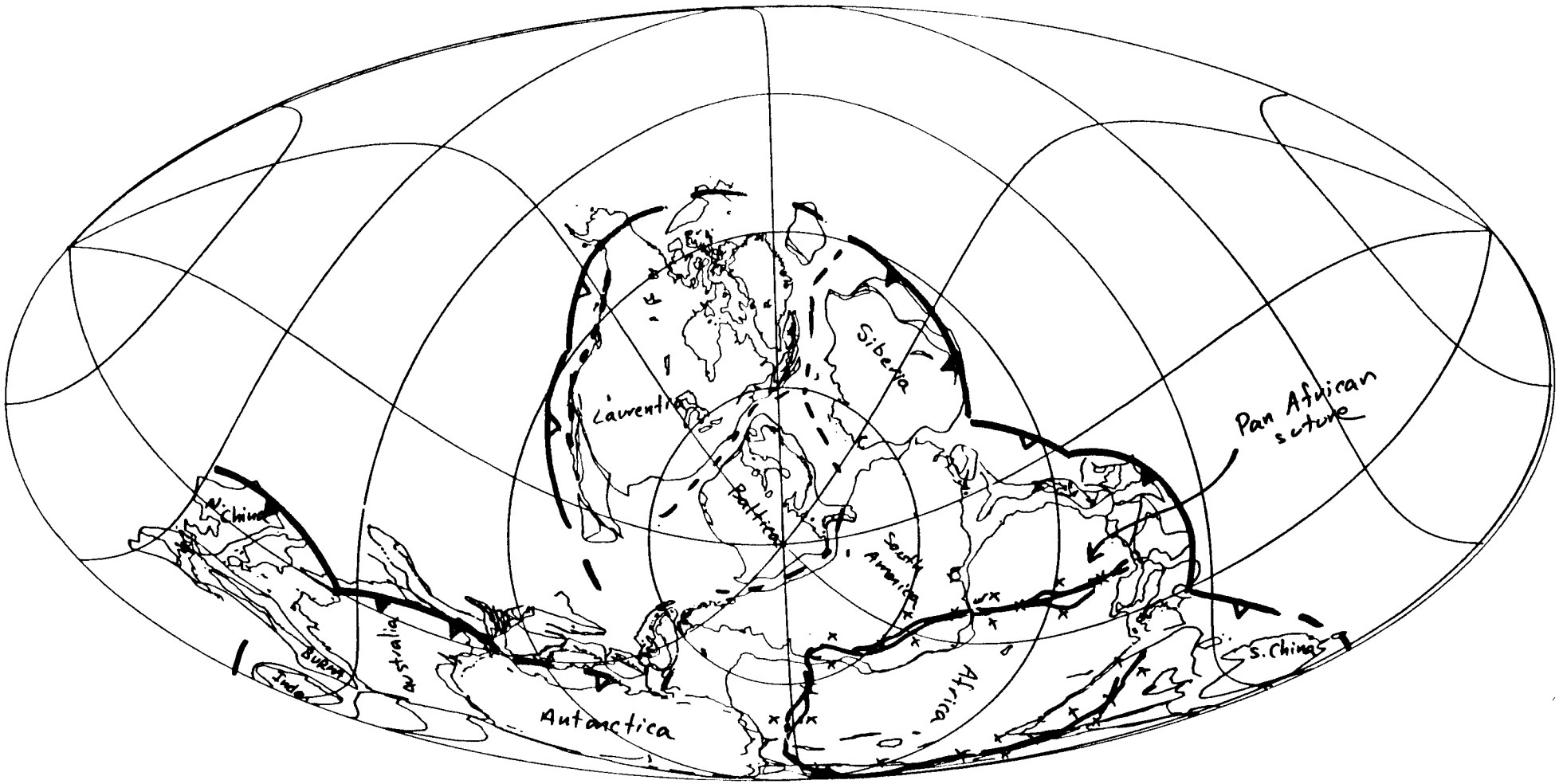
Preface

This Atlas of Phanerozoic Plate Tectonic Reconstructions is the first compilation of maps to be published by the PALEOMAP Project of the International Lithosphere Program. This atlas is a preliminary version of a large format atlas that will be published in mid 1991 by the American Geophysical Union.

The Mesozoic and Cenozoic plate tectonic reconstructions are based on the work of the Paleoceanographic Mapping Project (Univ. Texas Institute for Geophysics, Technical Report 90, 1987) in combination with the tectonic model of Asia by David Rowley (U. Chicago). The Paleozoic plate tectonic reconstructions are modified after Scotese and McKerrow (1990). These modifications included minor changes in the Ordovician reconstructions and major revisions of the Cambrian and latest Precambrian maps (Scotese et al., in prep.).

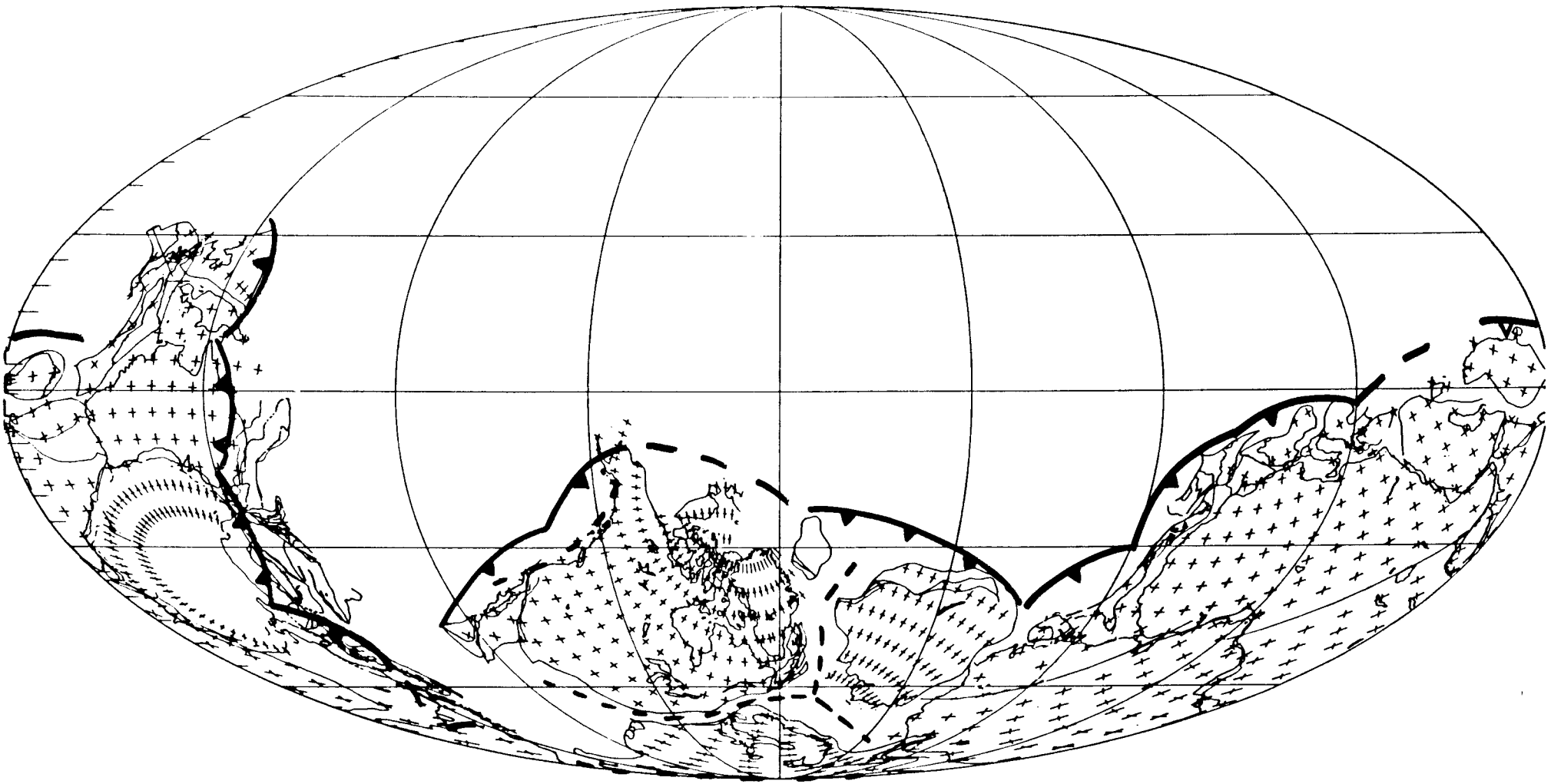
C. R. Scotese is solely responsible for the inferred location of active plate boundaries shown on the maps.

Contents



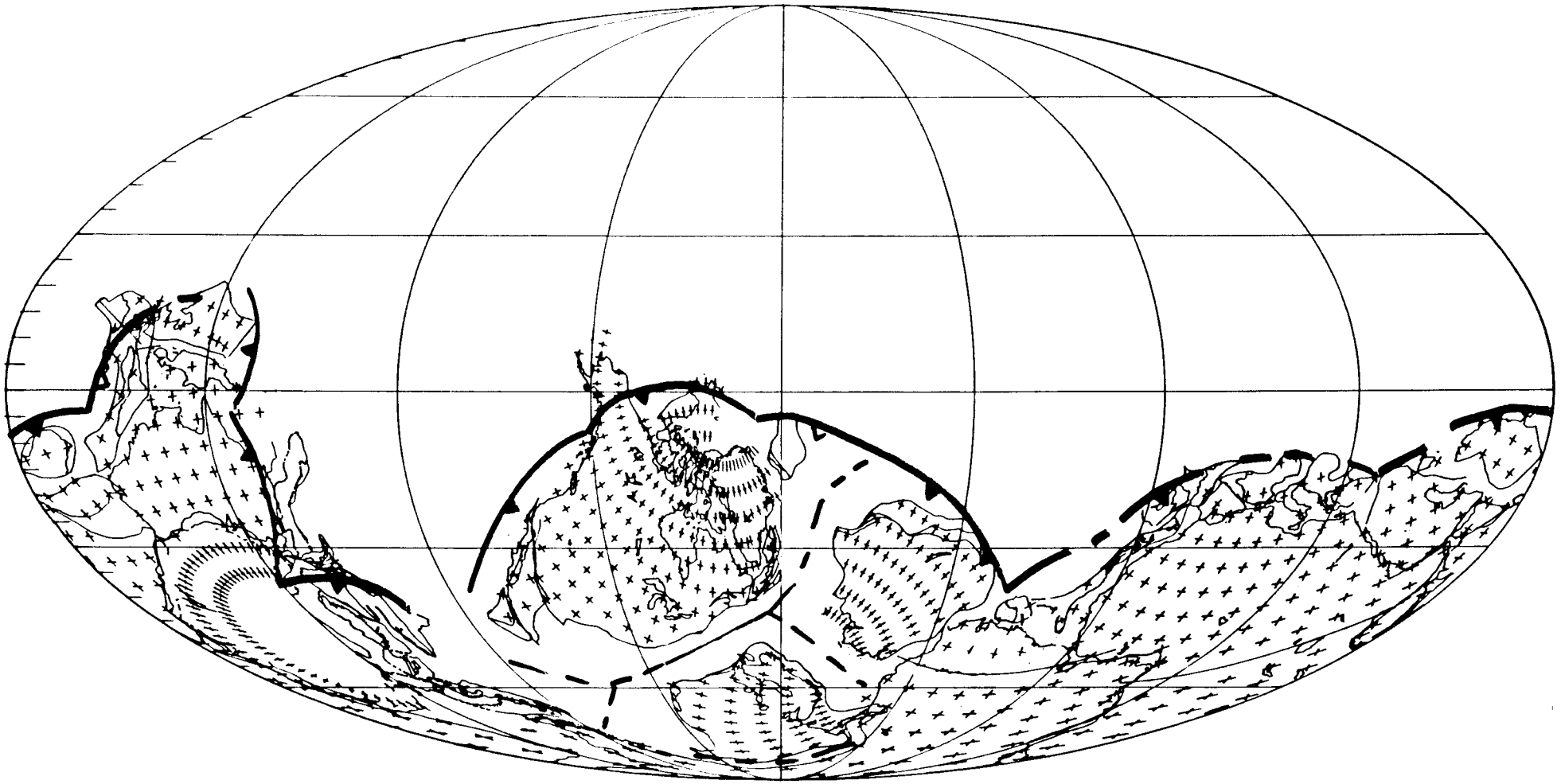
Latest PreC

Fig 53



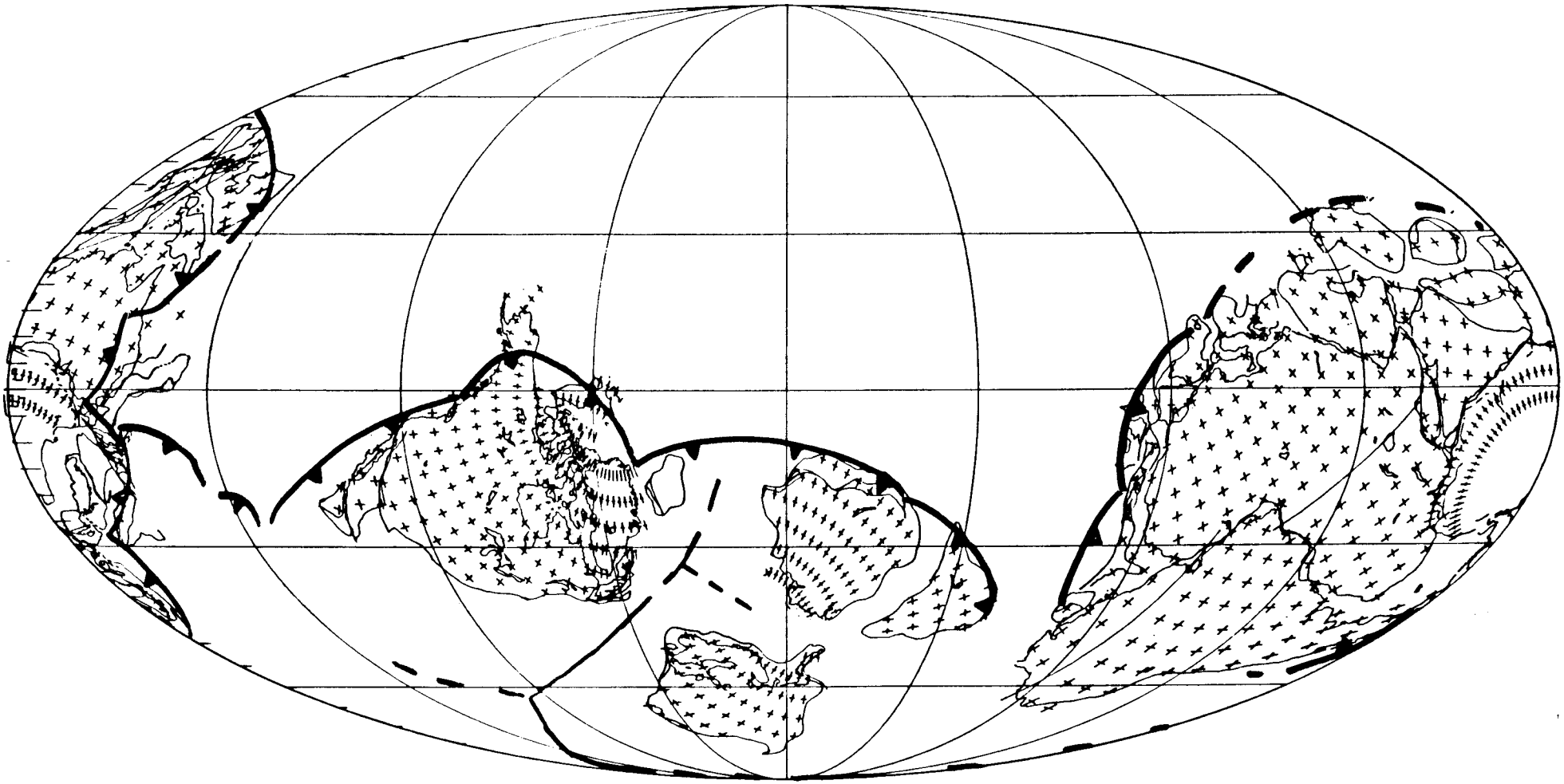
Latest Precambrian 600 ma

Fig. 52



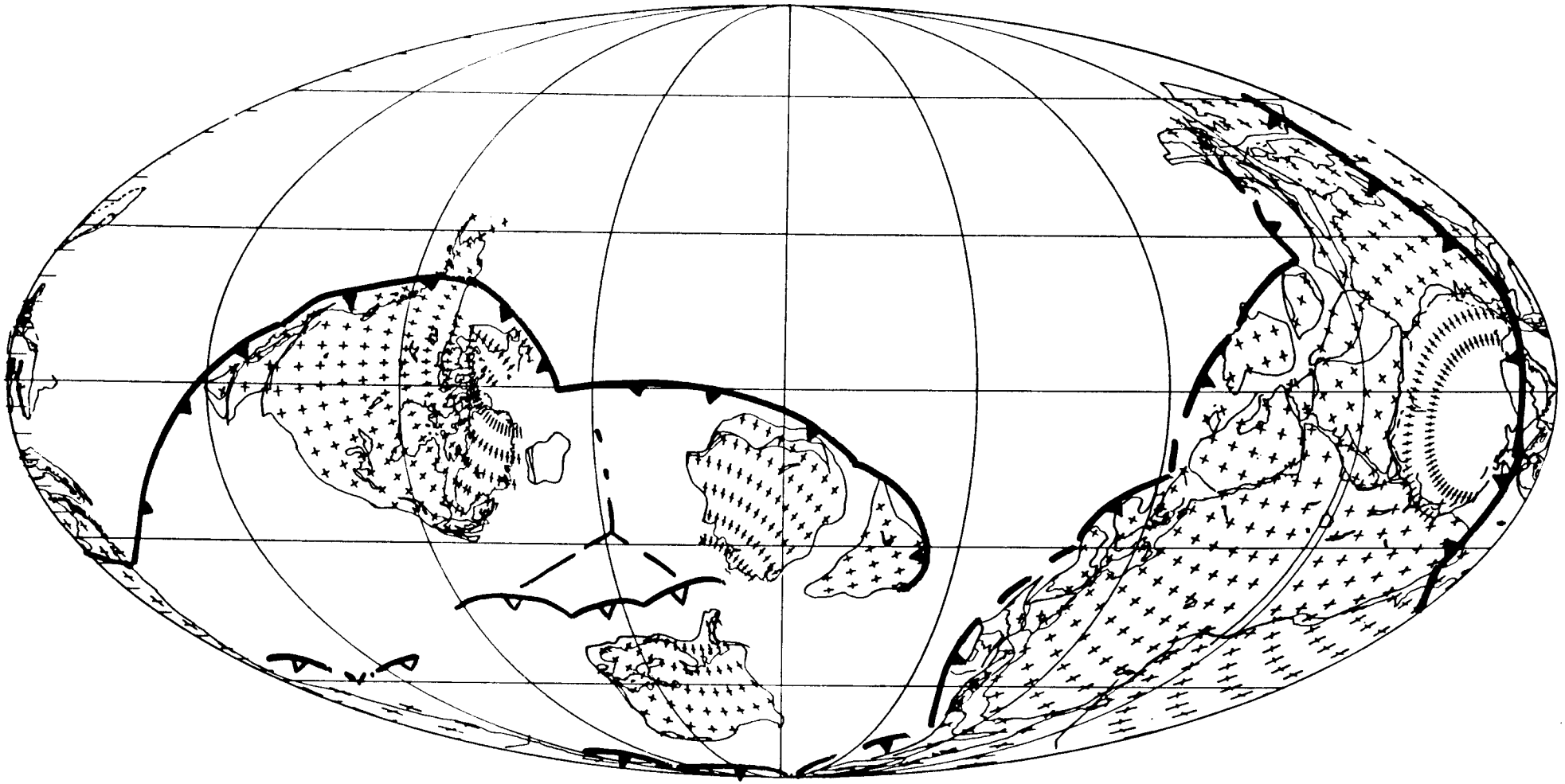
Earliest Cambrian (Tommotian) 570 Ma

Fig 5.



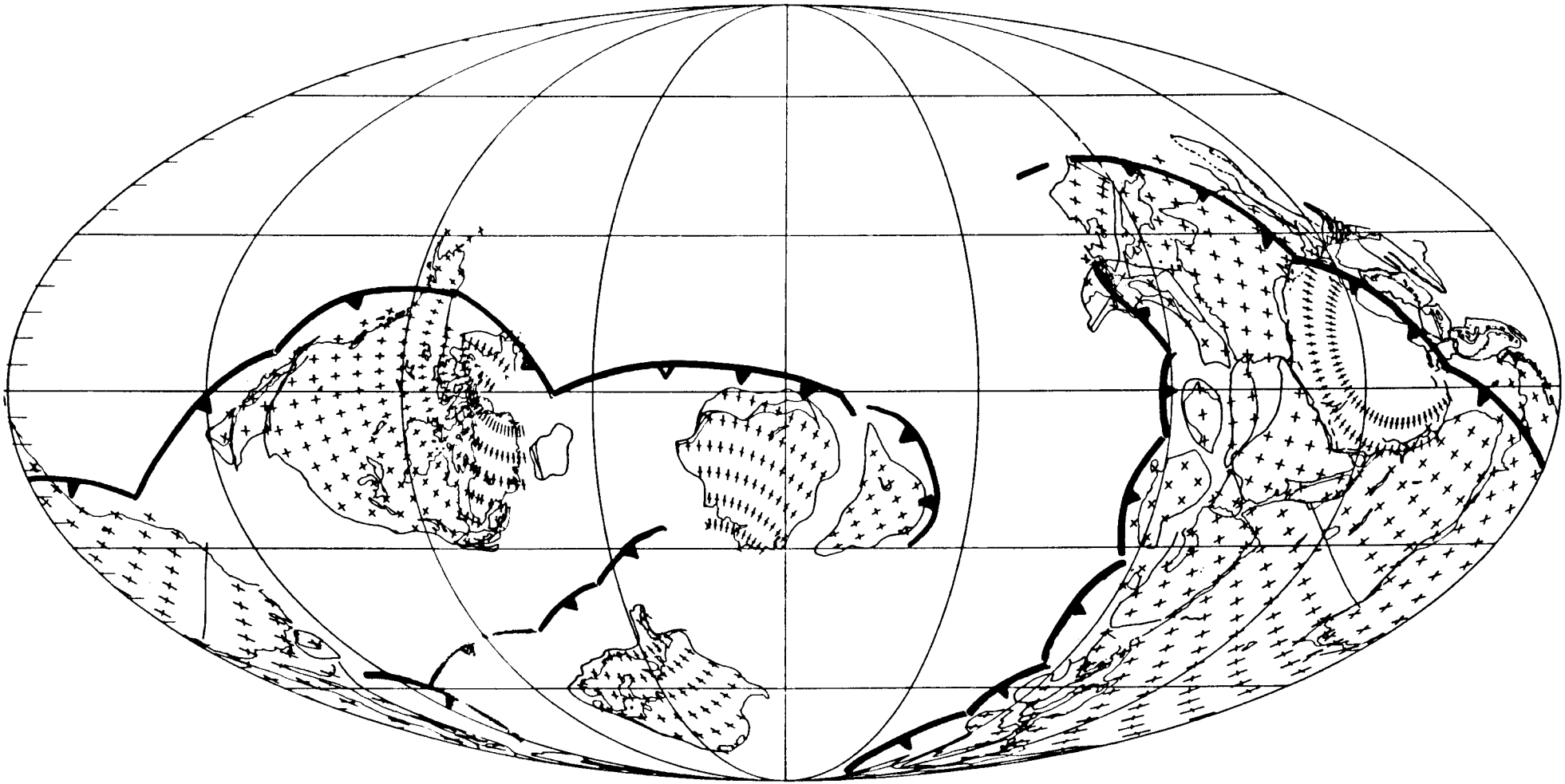
Early Cambrian 550 Ma

Fig. 50



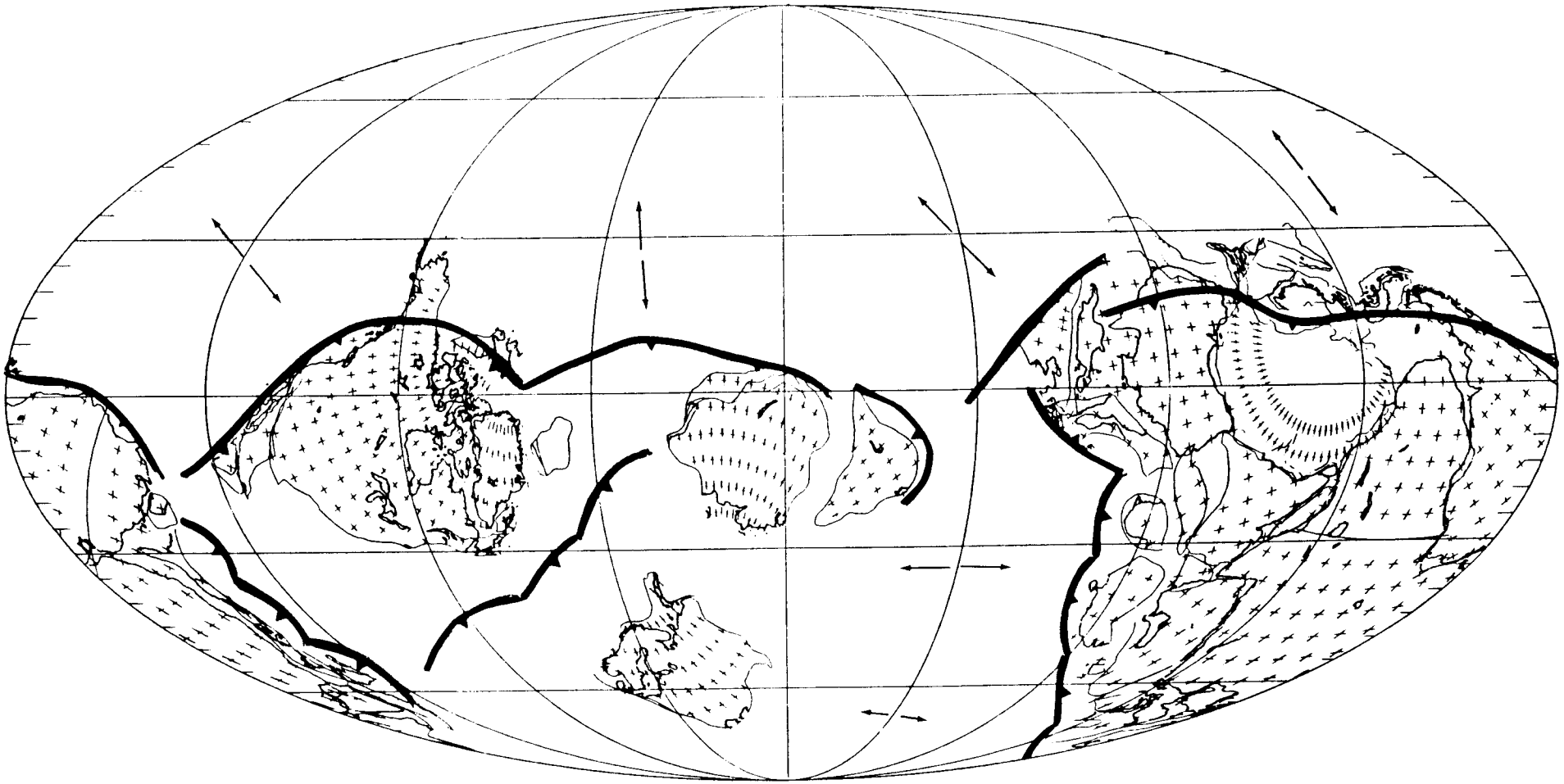
Middle Cambrian 530 Ma

Fig. 49



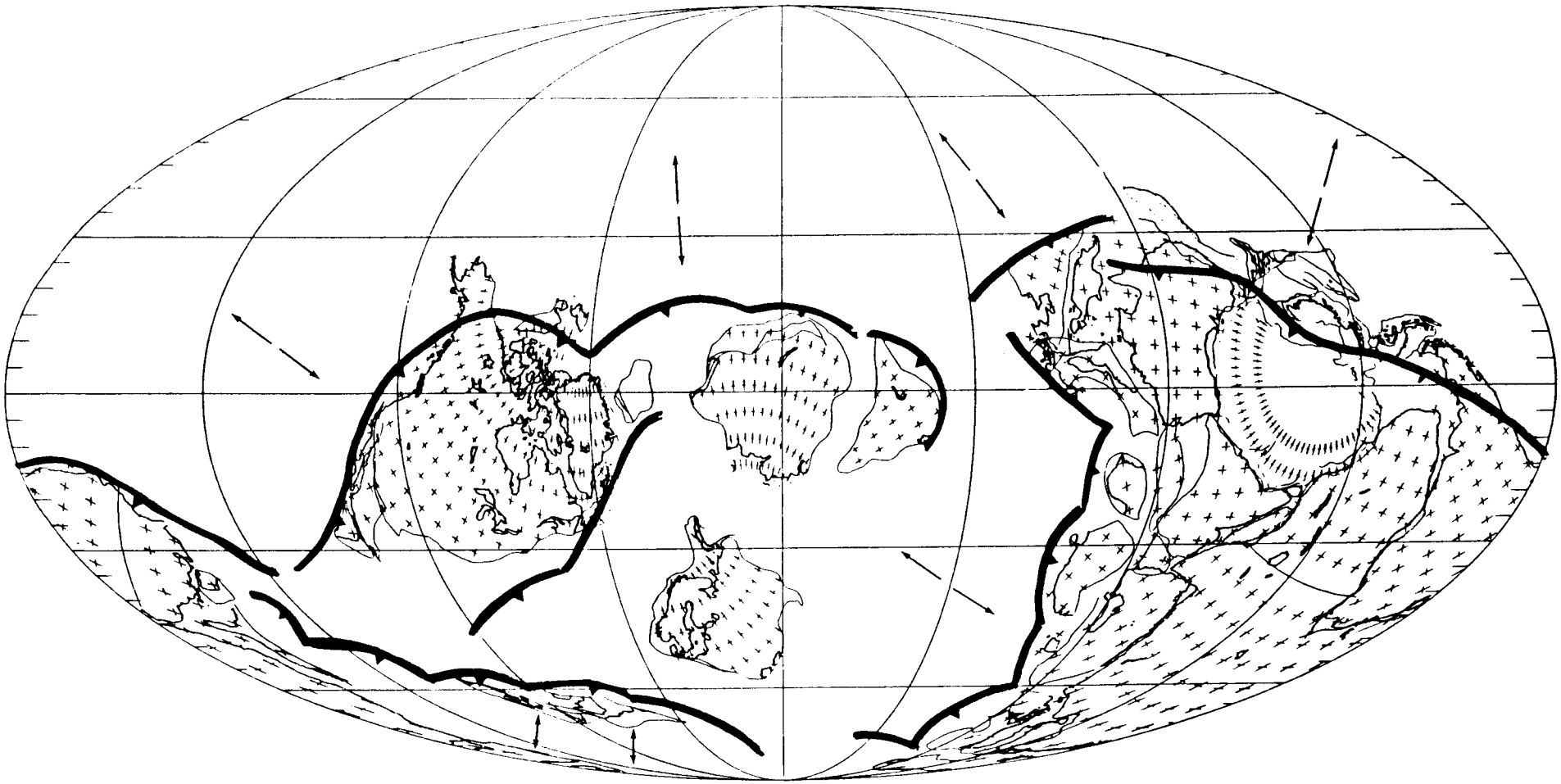
Late Cambrian 510 Ma

Fig. 48



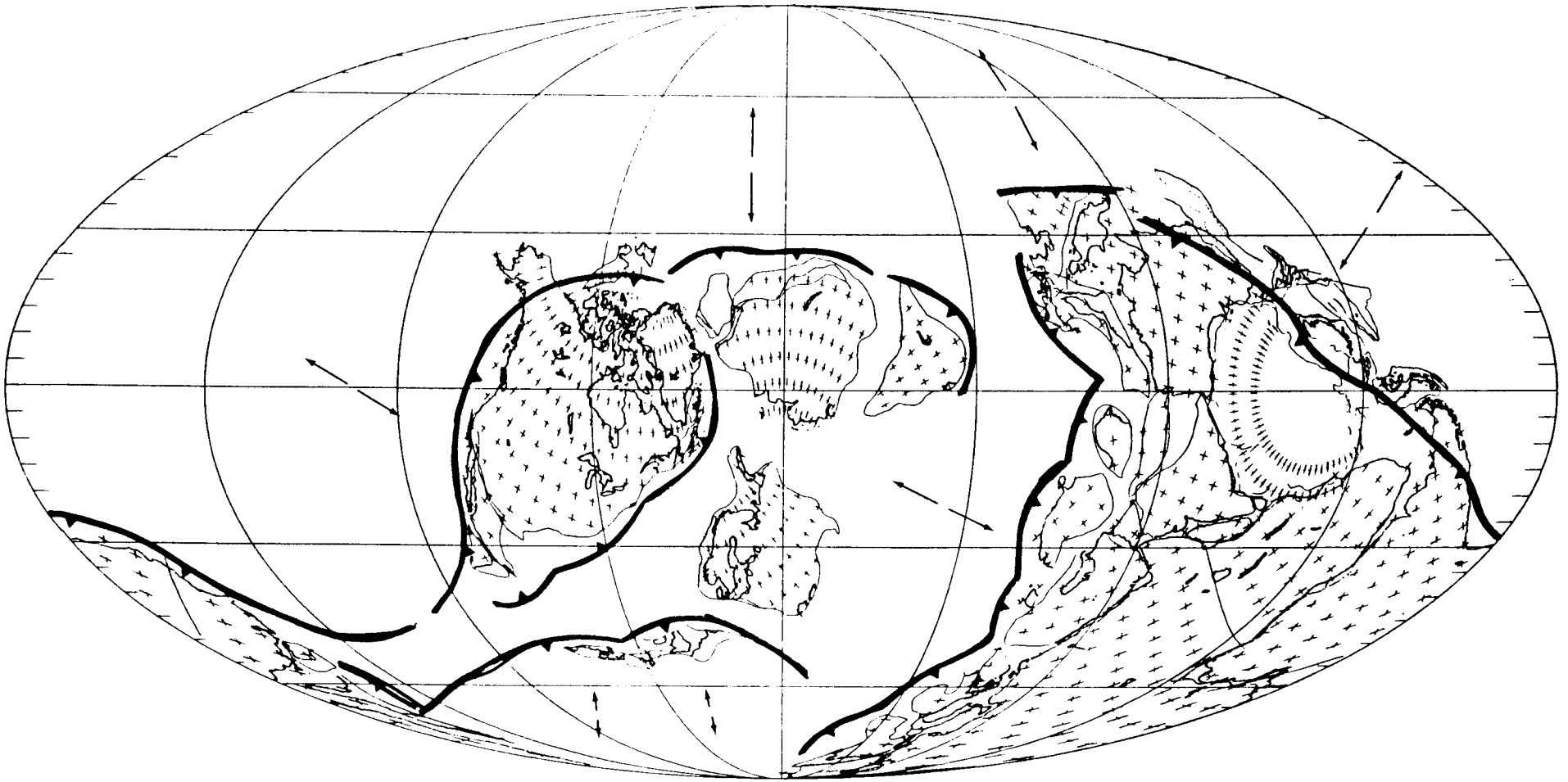
Earliest Ordovician (Tremadoc)

Fig. 47



Early Ordovician (Arenig)

Fig. 4.6



Middle–Late Ordovician (Llandeilo–Caradoc)

Figure 45

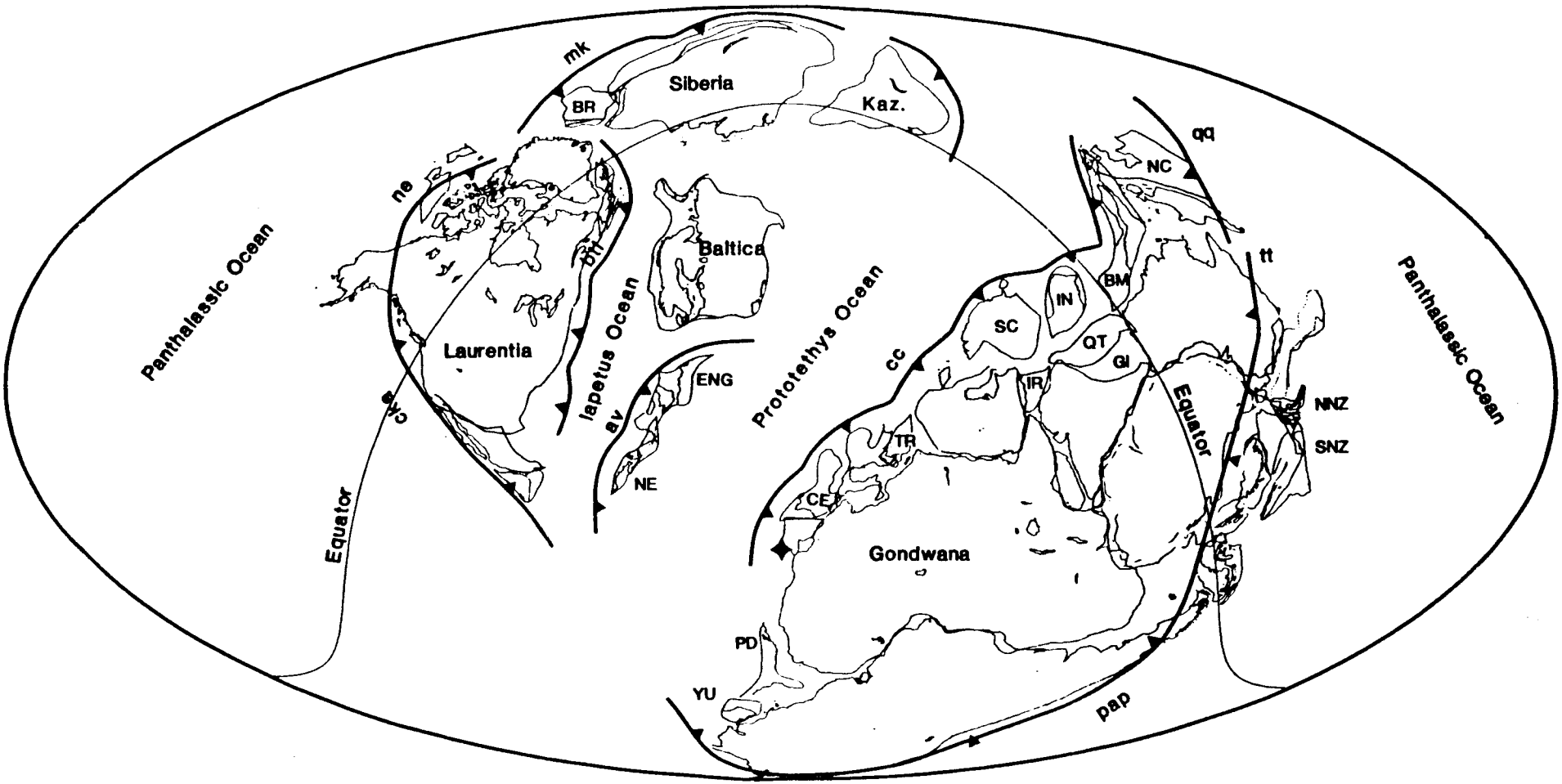
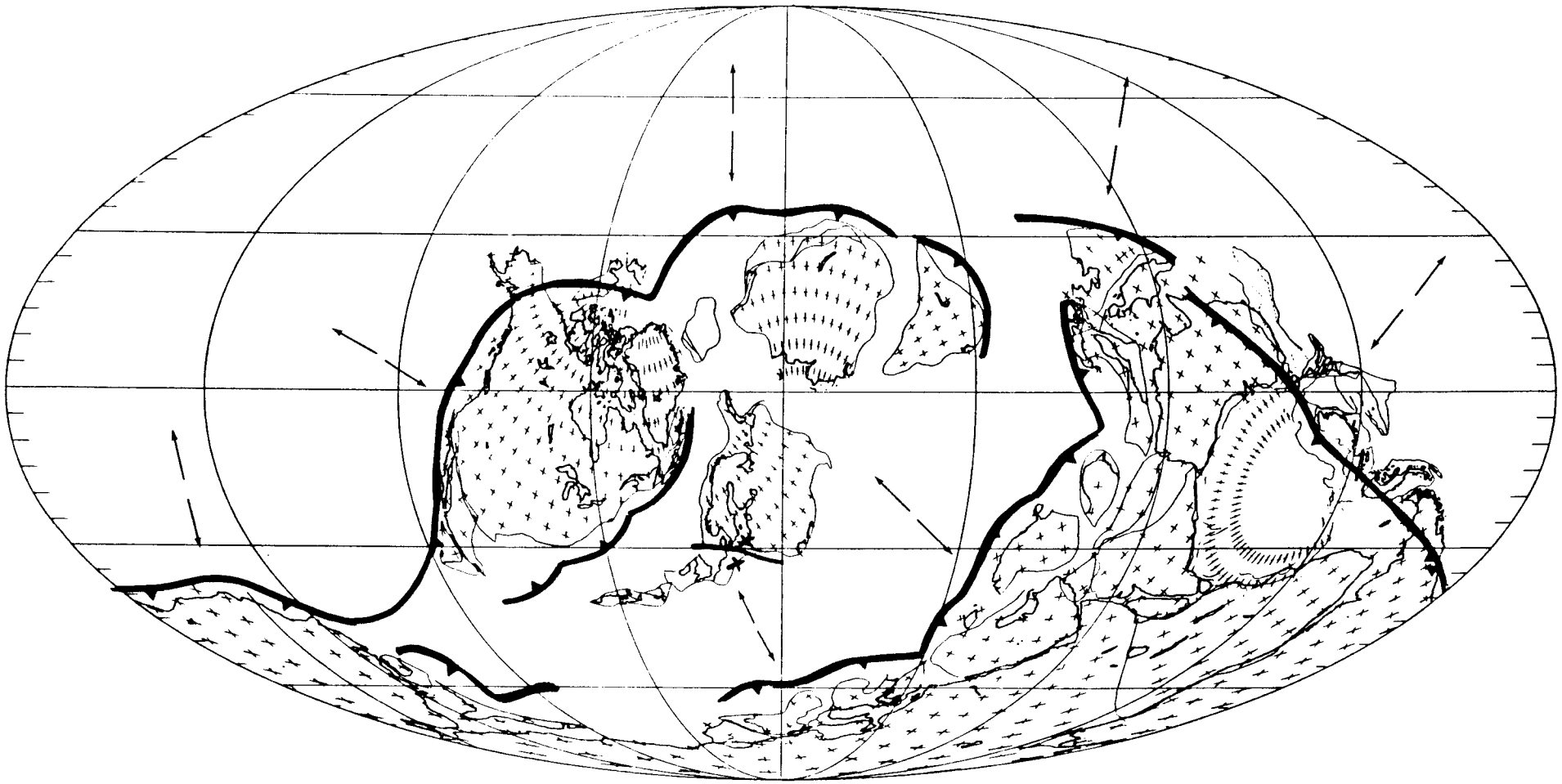
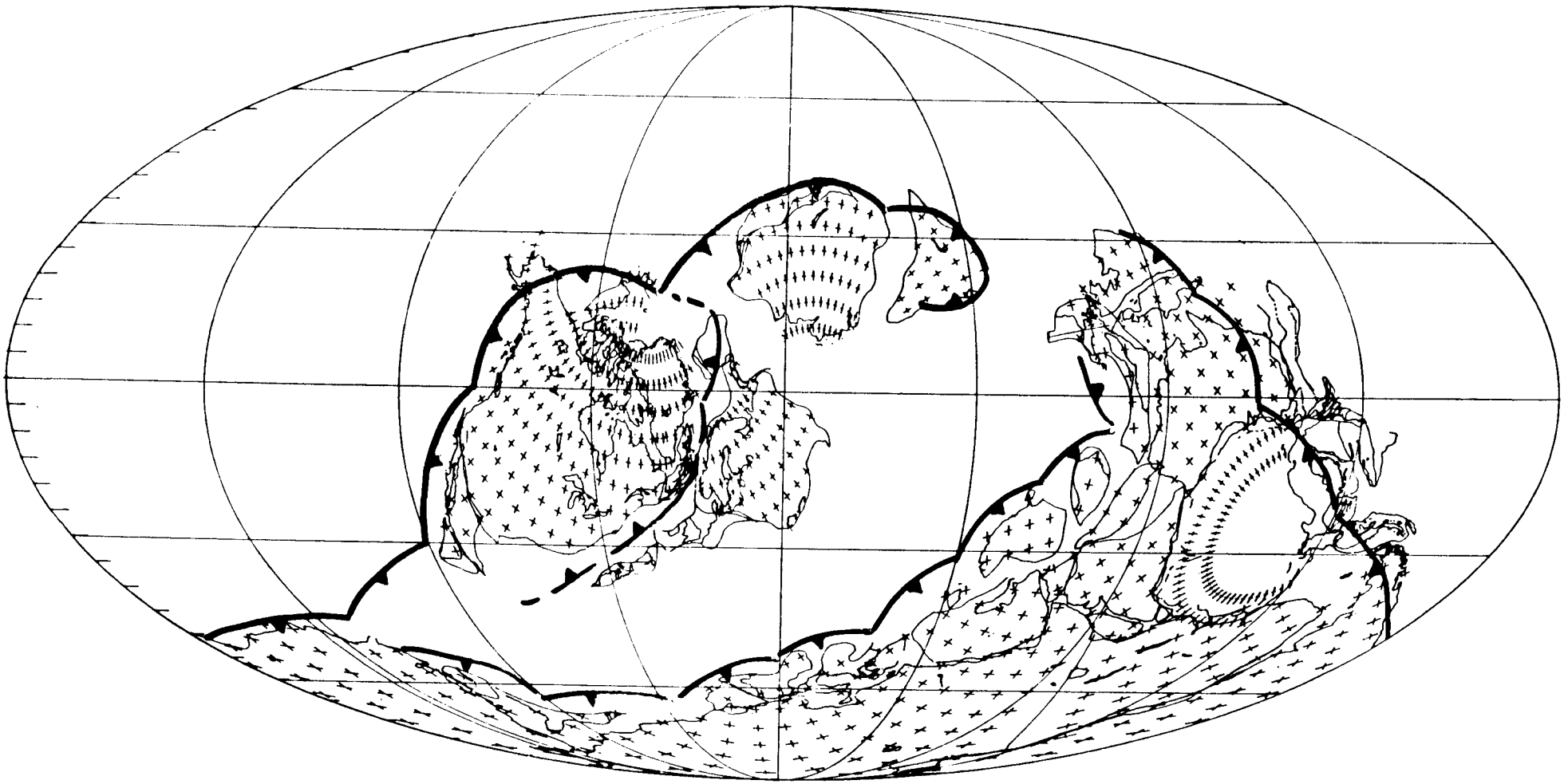

Panthalassic Ocean
mk
BR
Siberia
Kaz.
ne
Laurentia
Baltica
ou
Iapetus Ocean
ov
ENG
NE
Prototethys Ocean
cc
Equator
cv
Equator
qq
NC
tt
Panthalassic Ocean
BM
IN
SC
QT
GI
IR
TR
CE
Gondwana
NNZ
SNZ
PD
YU
pap

Fig. 44



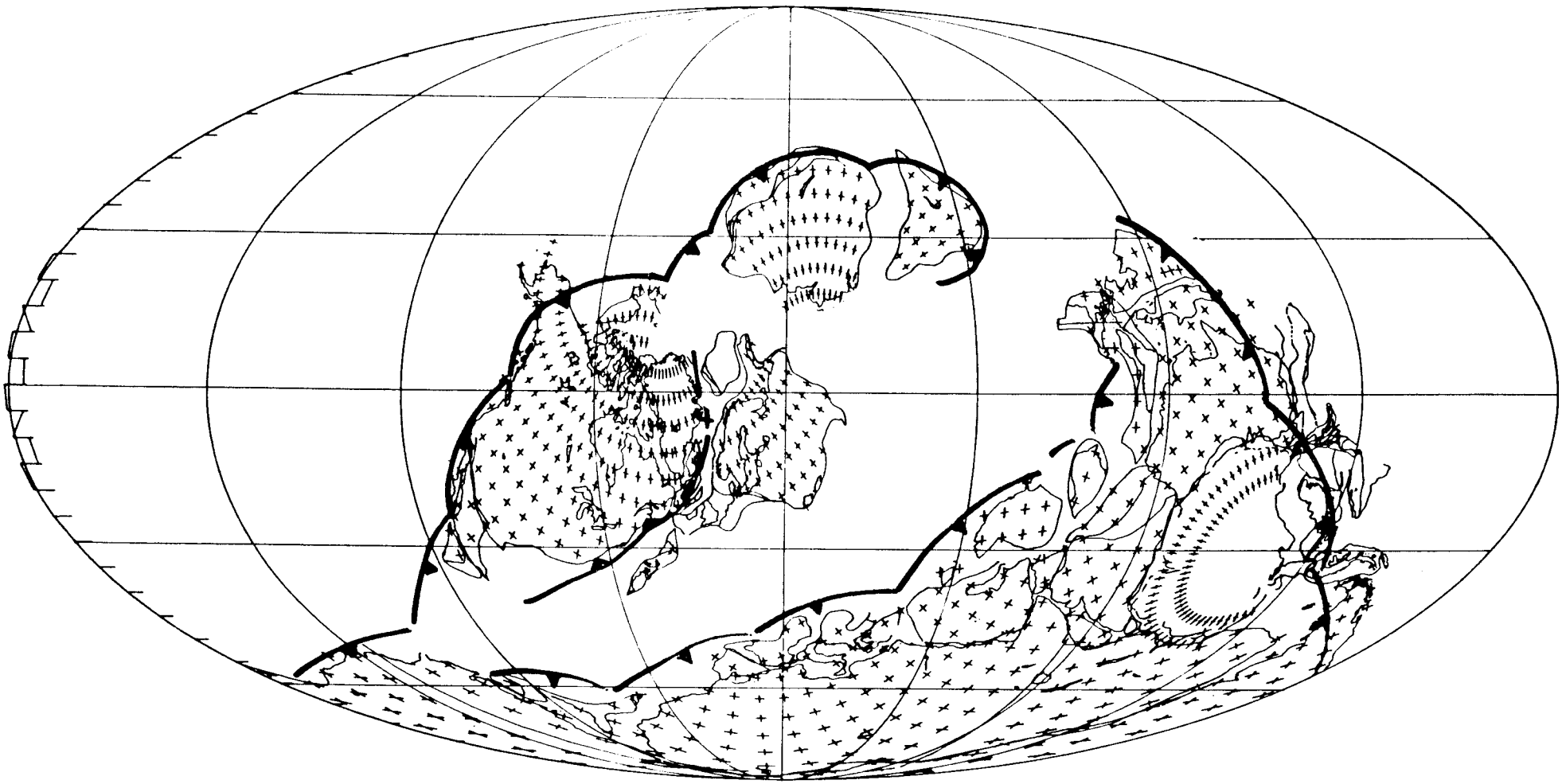
Late Ordovician (Ashgill)

Fig. 43



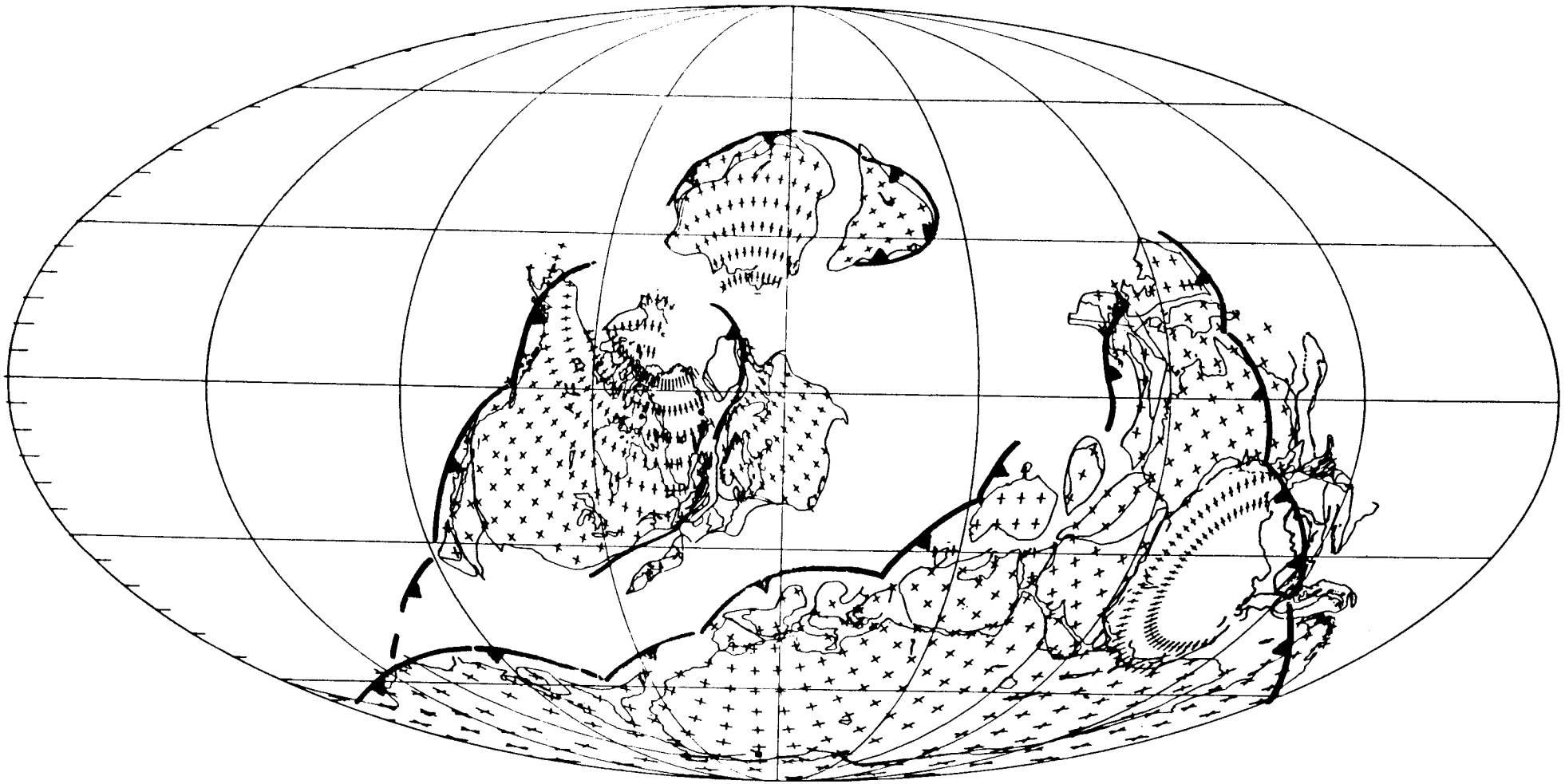
Early Silurian (Landovery) 433 Ma

Fig. 42



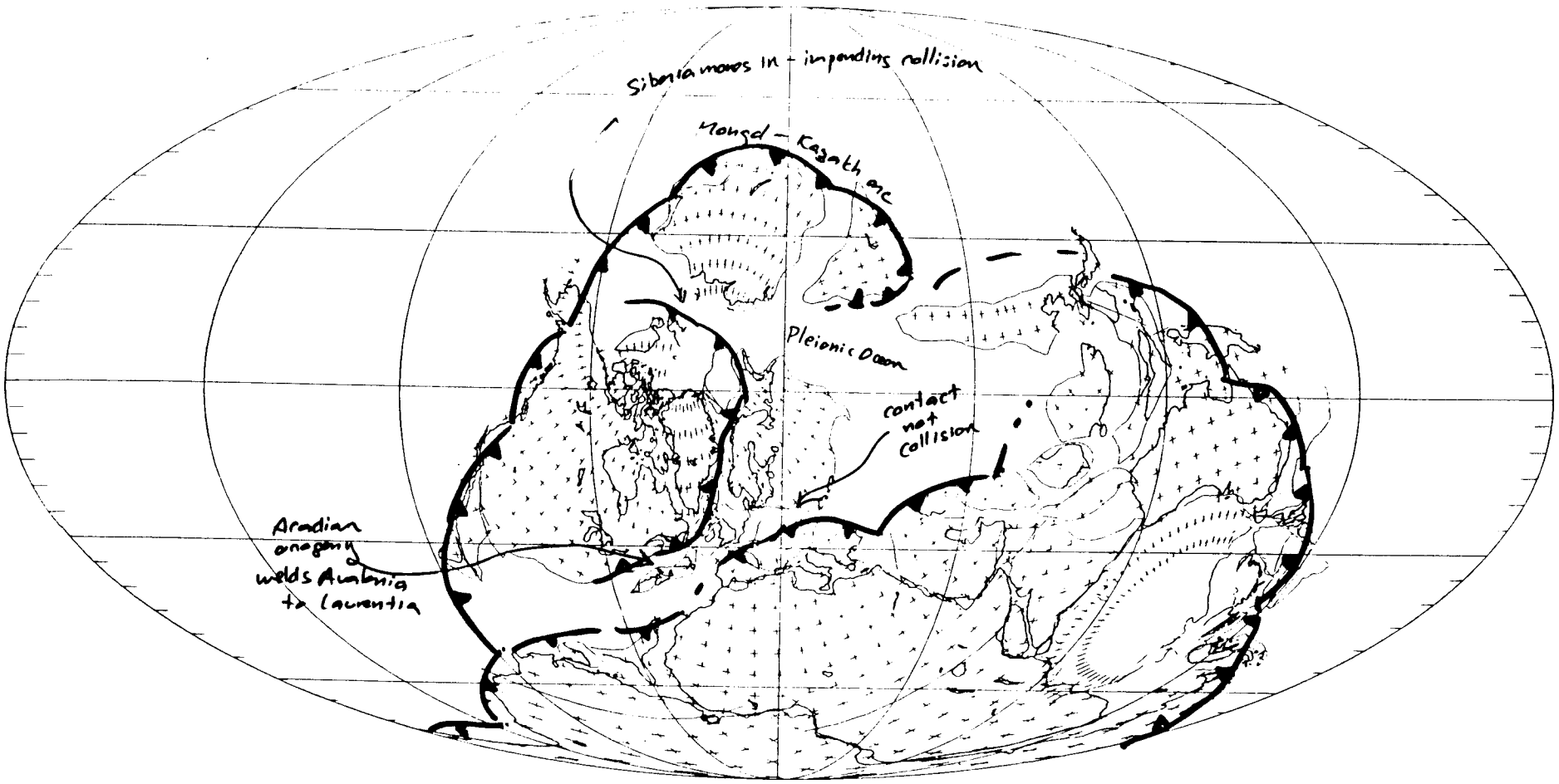
Middle Silurian (Wenlock) 425 Ma

Fig-41



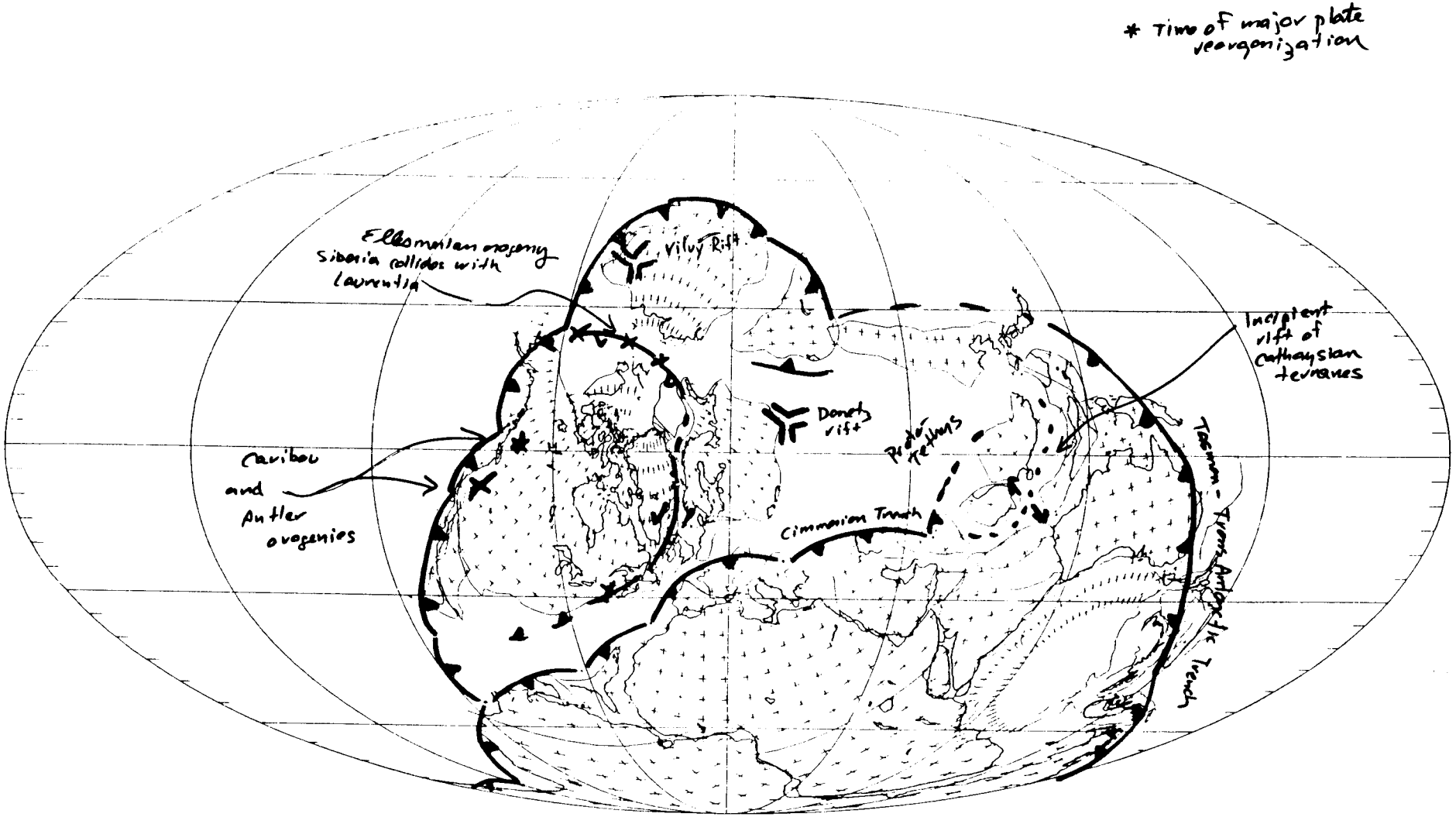
Late Silurian (Ludlovian) 418 Ma

Fig. 40



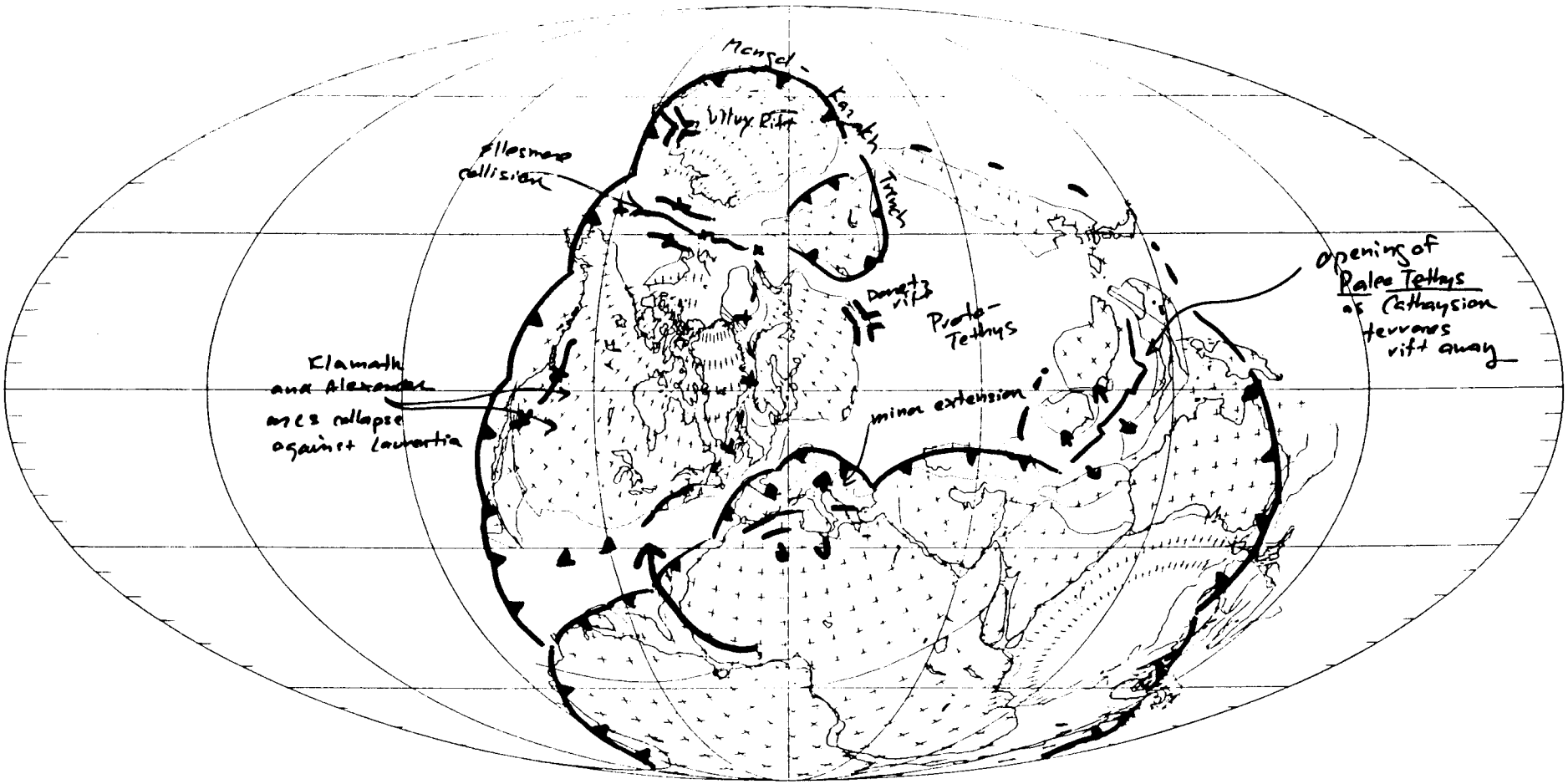
Early Devonian (Gedinnian)

Fig. 39



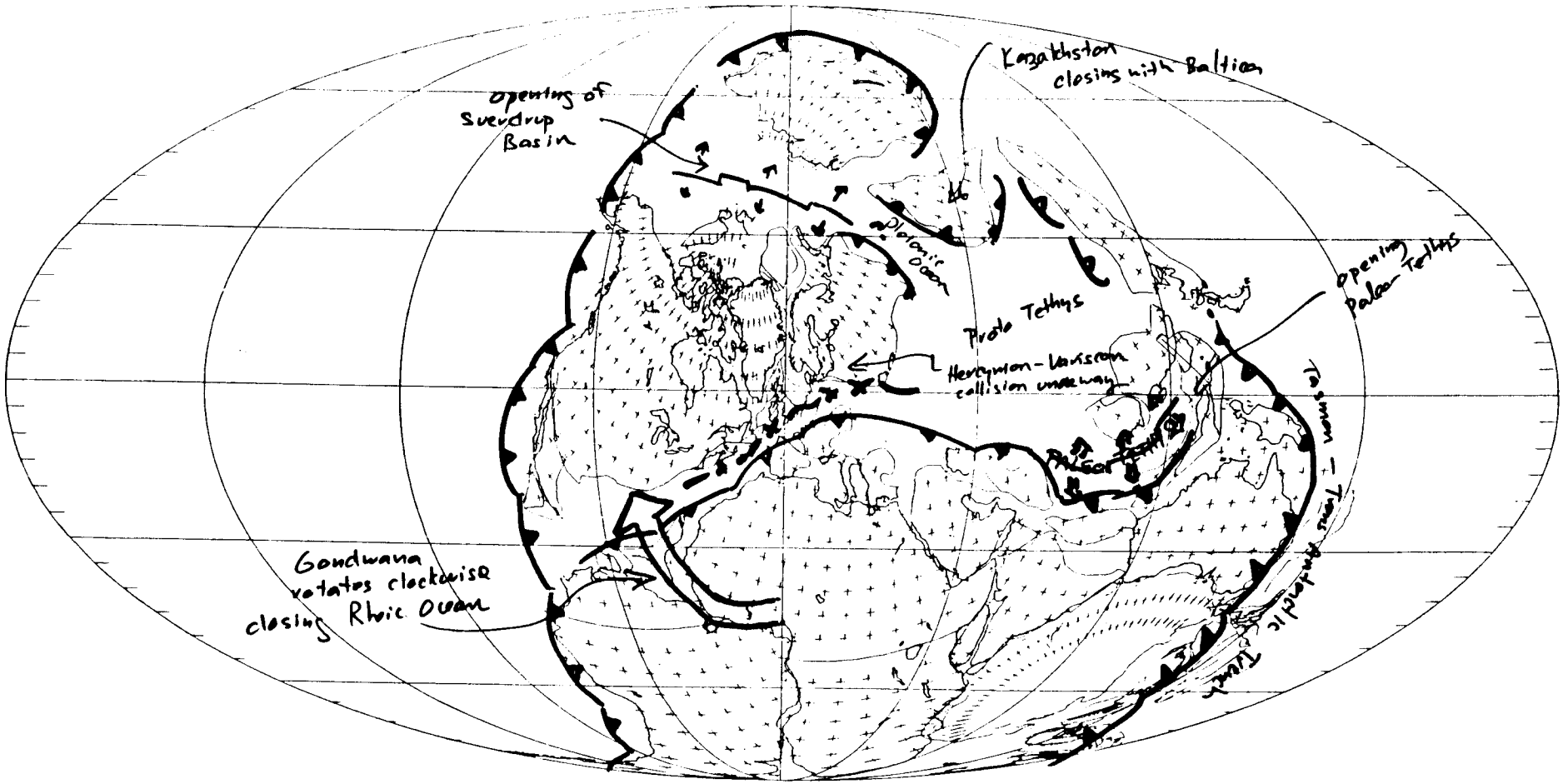
Late Early Devonian (Emsian)

Fig. 38



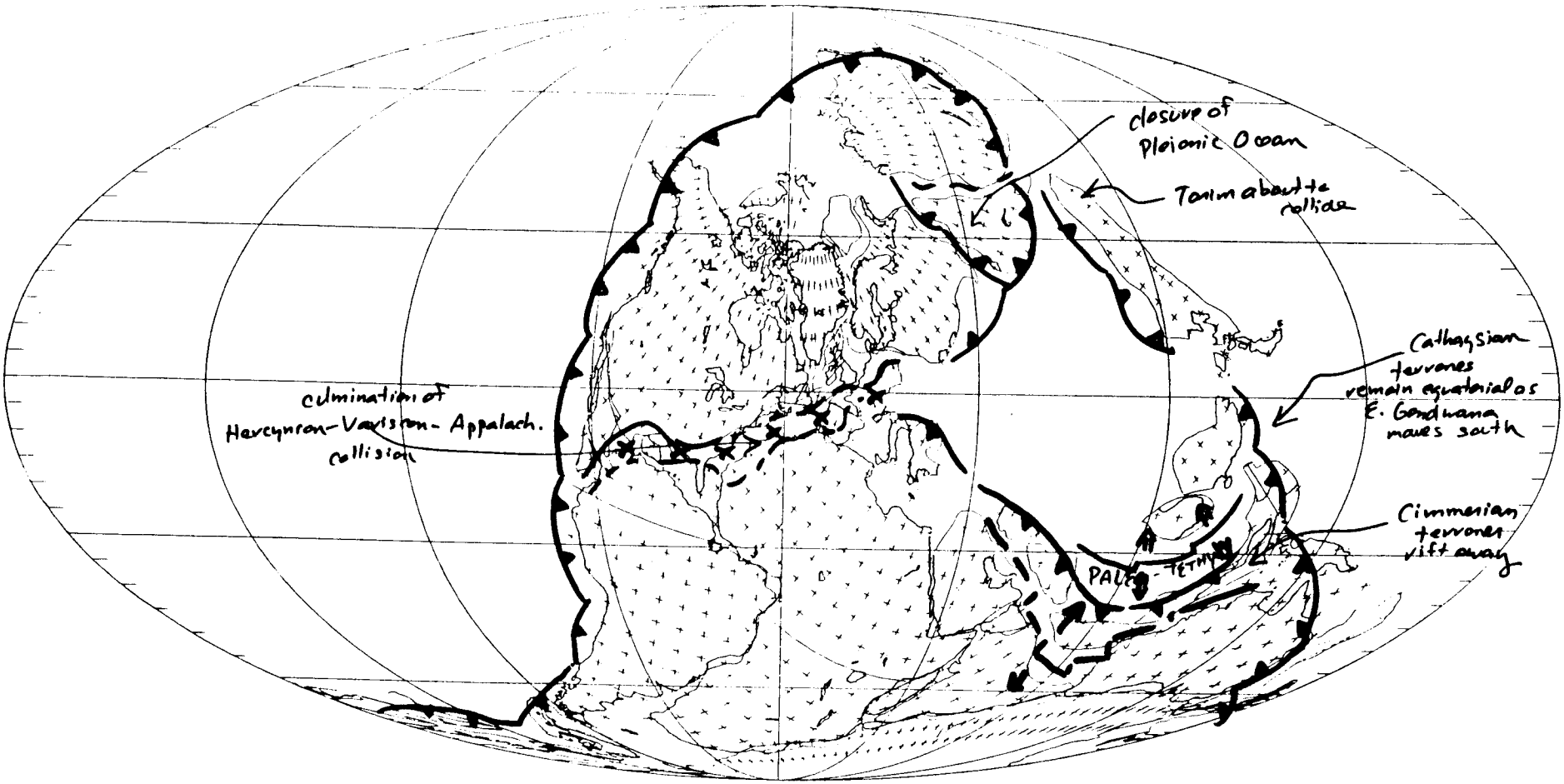
Late Devonian (Famennian)

Fig. 37



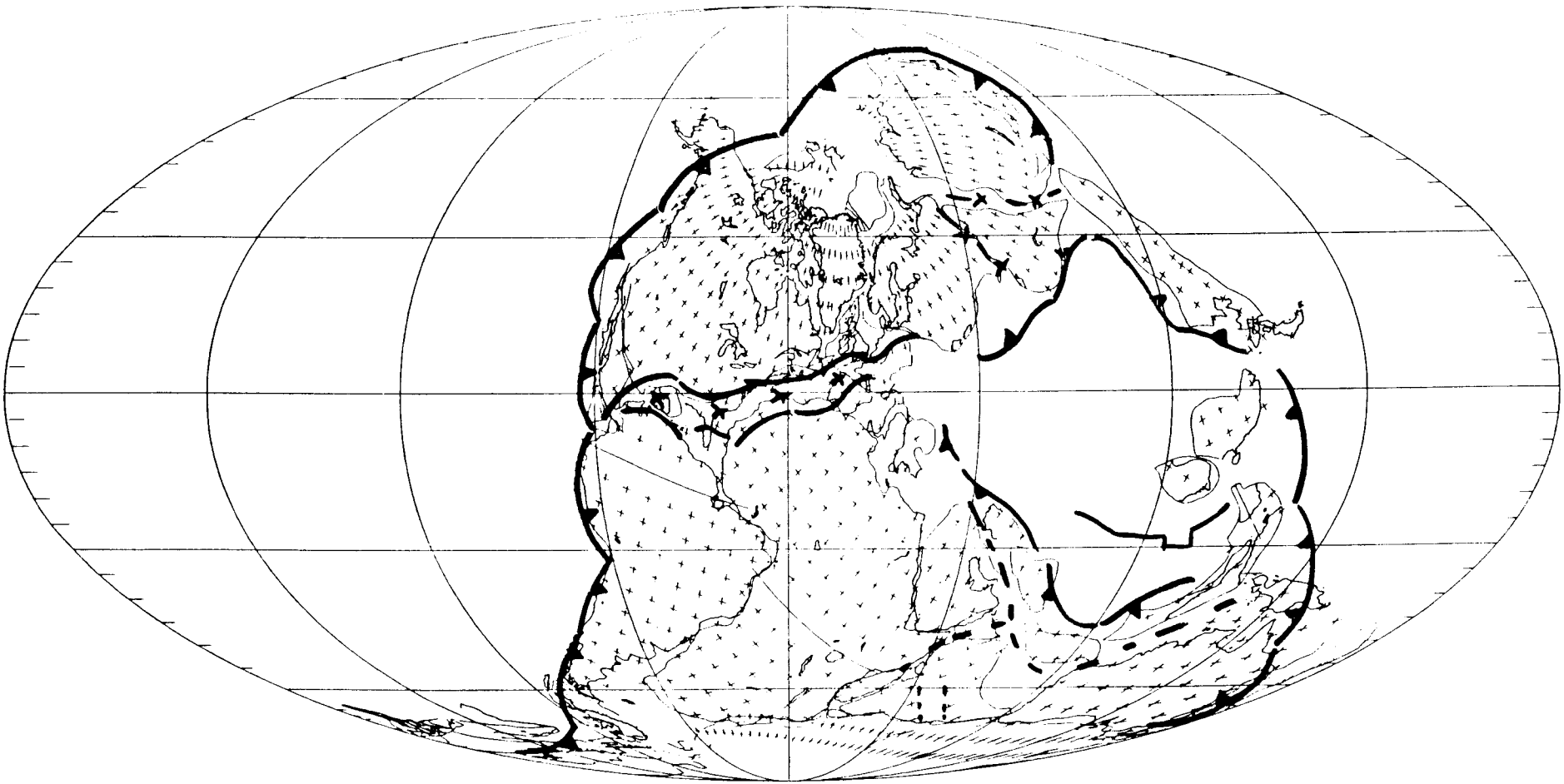
Early Carboniferous (Visean)

Fig. 36



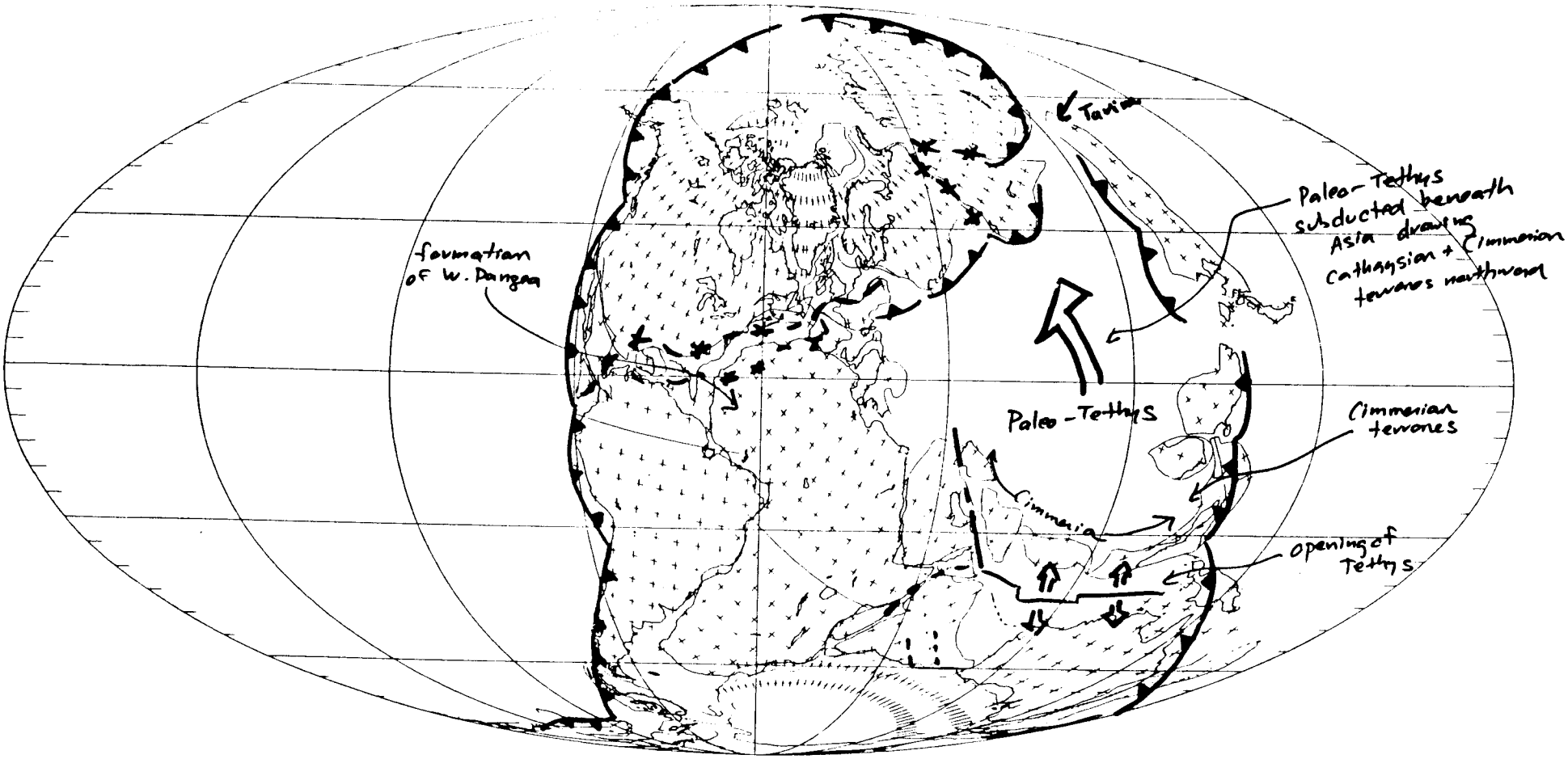
Late Carboniferous (Westphalian)

Fig. 35



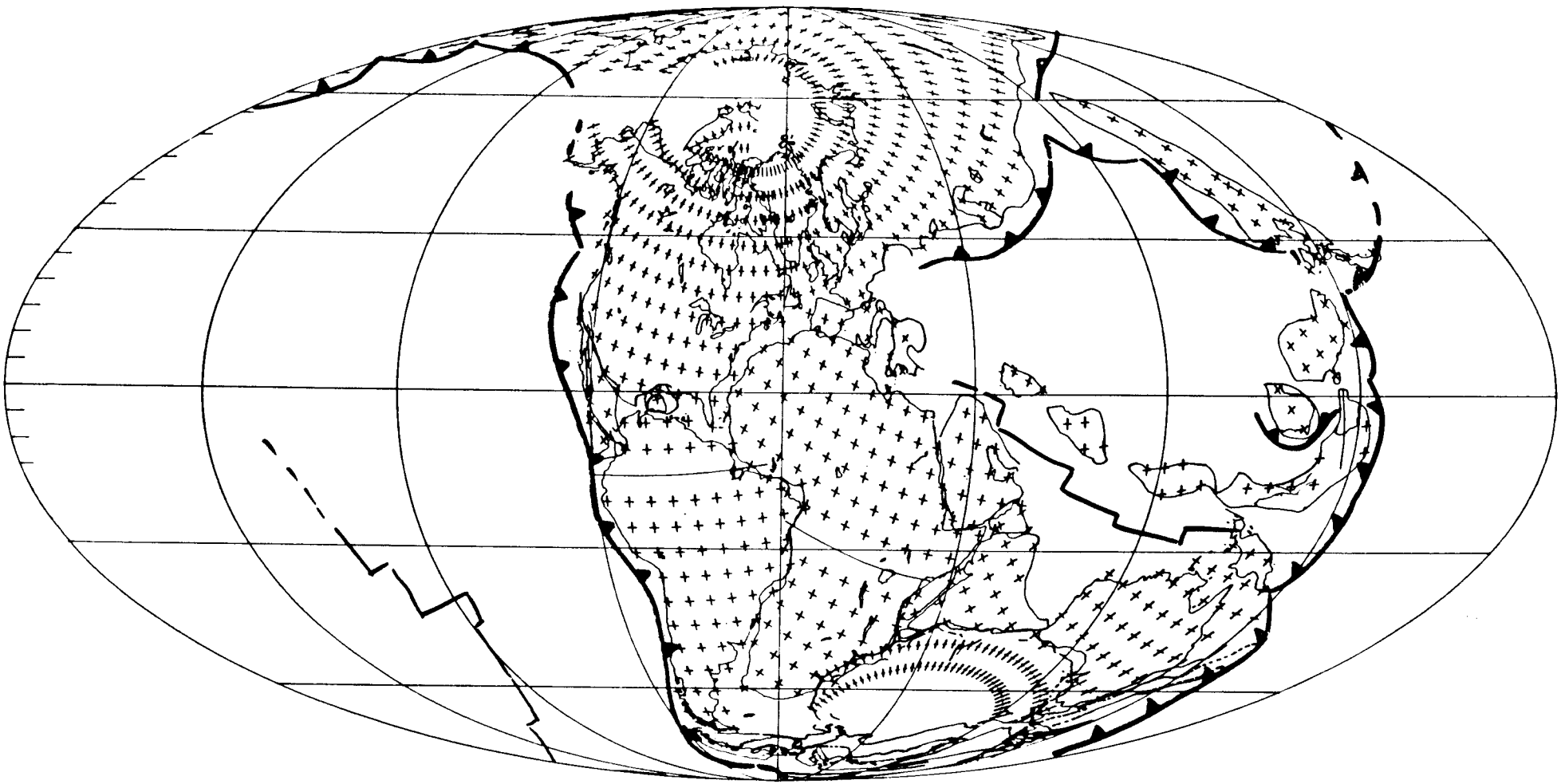
Early Permian (Artinskian)

Figure 34



Late Permian (Kazanian)

Fig. 33



Early Triassic (Induan) 242

Figure 32

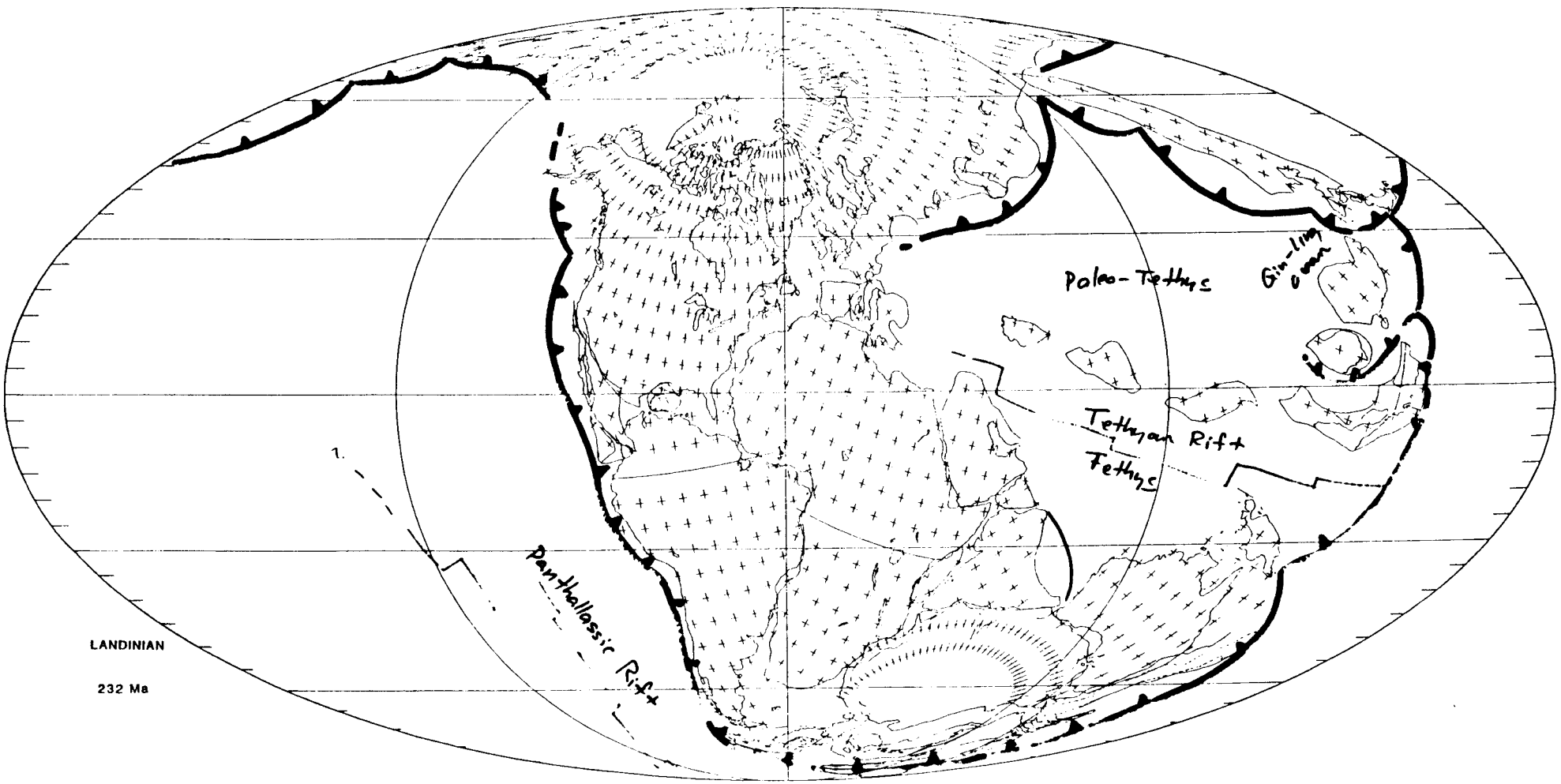

Paleo-Tethys
Tethyan Rift
Tethys
Panthallassic Rift
LANDINIAN
232 Ma

Figure 31

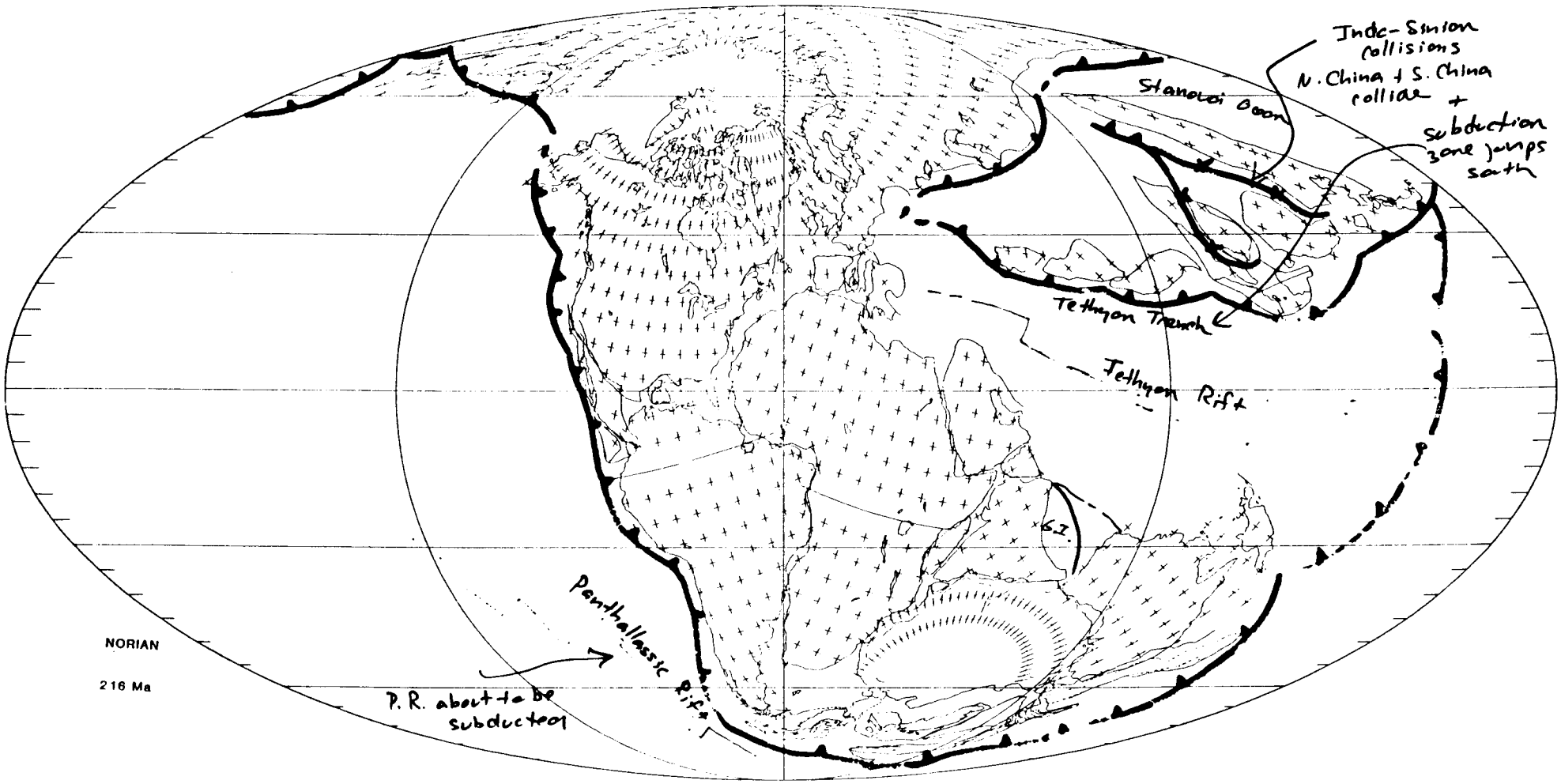

Indo-Sinian collisions
N. China + S. China collide +
subduction zone jumps south
Stanovoi Coon
Tethyan Trench
Tethyan Rift
G.I.
Panthallassic Rift
P. R. about to be subducted
NORIAN
216 Ma

Fig. 36

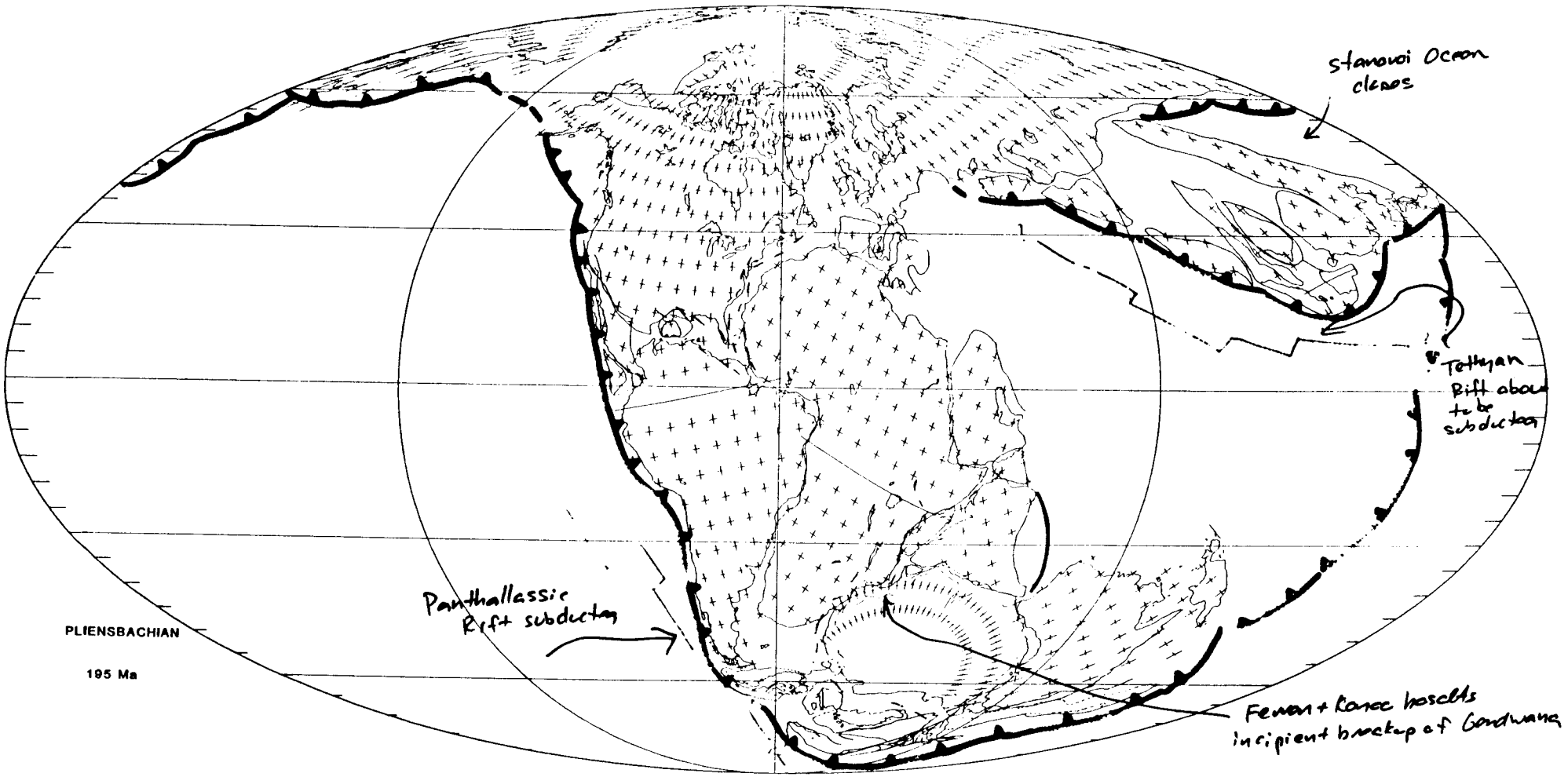

Stanovoi Ocean closes
Tethyan Rift about to be subducted
Panthallassic Rift subducting
PLIENSBACHIAN
195 Ma
Fenan + Karoo basalts incipient breakup of Gondwana

Fig. 29

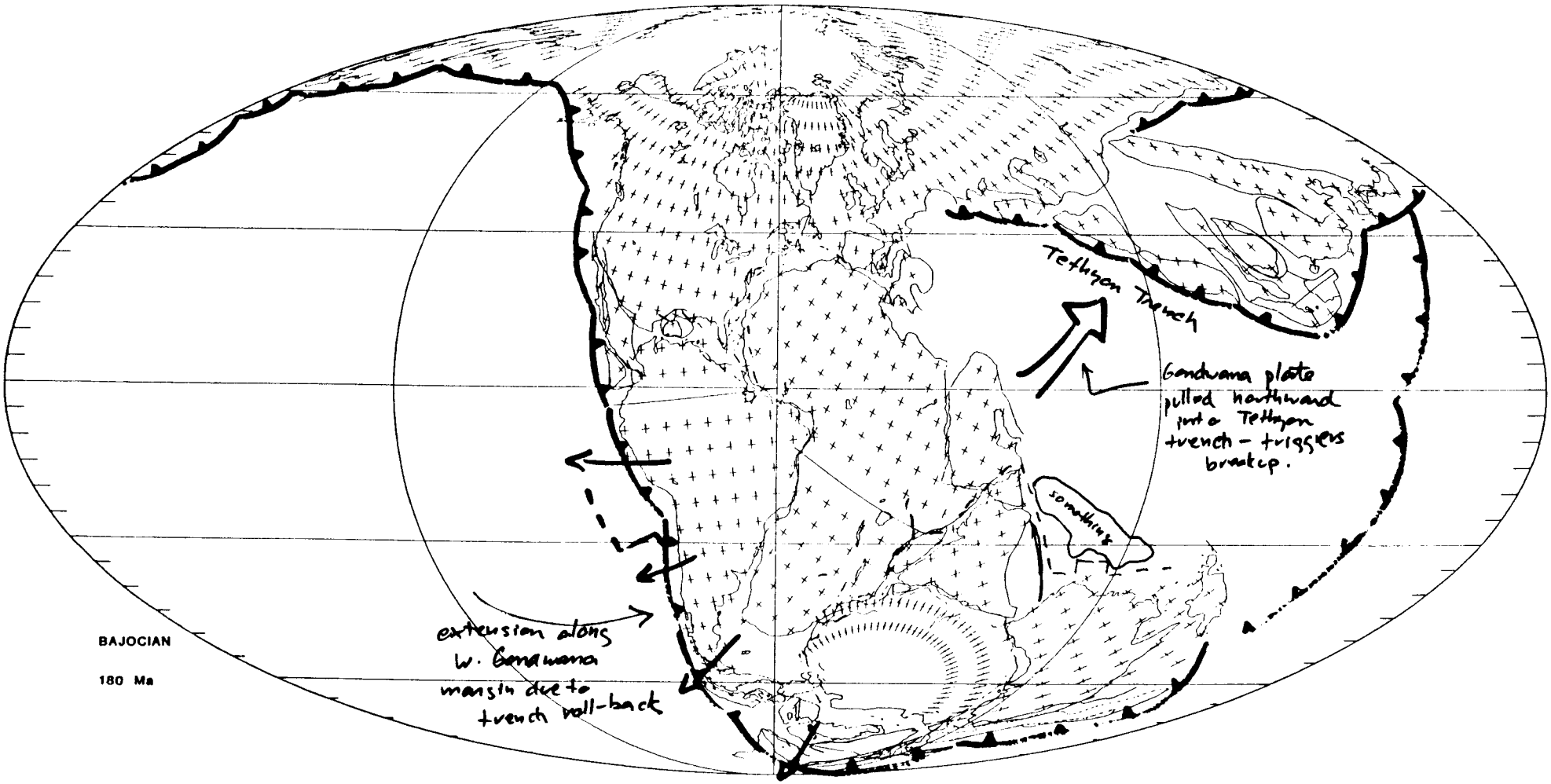

Tethyan Trench
Gondwana plate pulled northward into a Tethyan trench – triggers breakup.
extension along W. Gondwana margin due to trench roll-back
BAJOCIAN
180 Ma

Fig 28

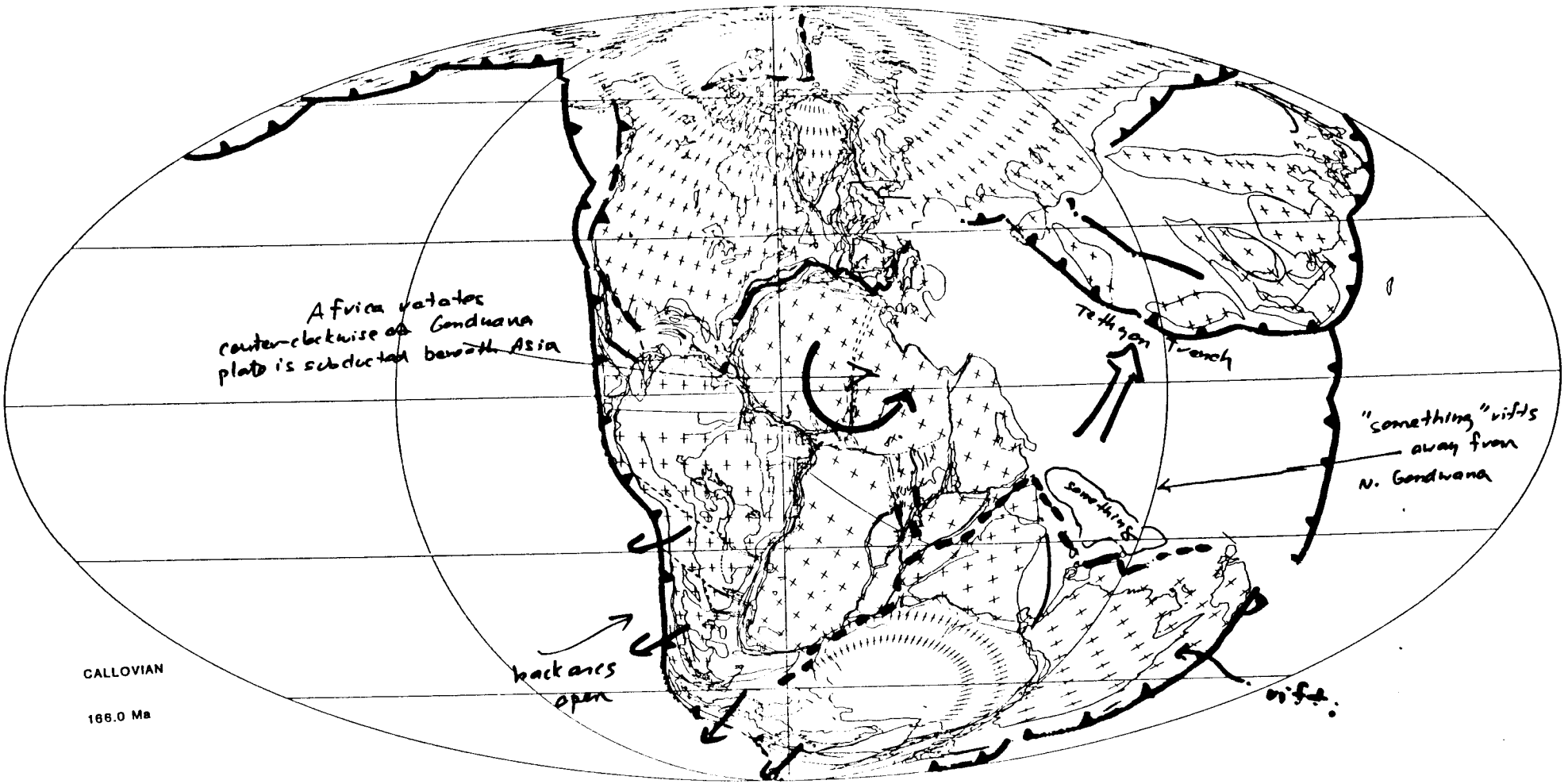

Africa rotates counter-clockwise as Gondwana plate is subducted beneath Asia
Tethyan trench
"something" rifts away from N. Gondwana
something
backarcs open
rifts
CALLOVIAN
166.0 Ma

Fig. 27

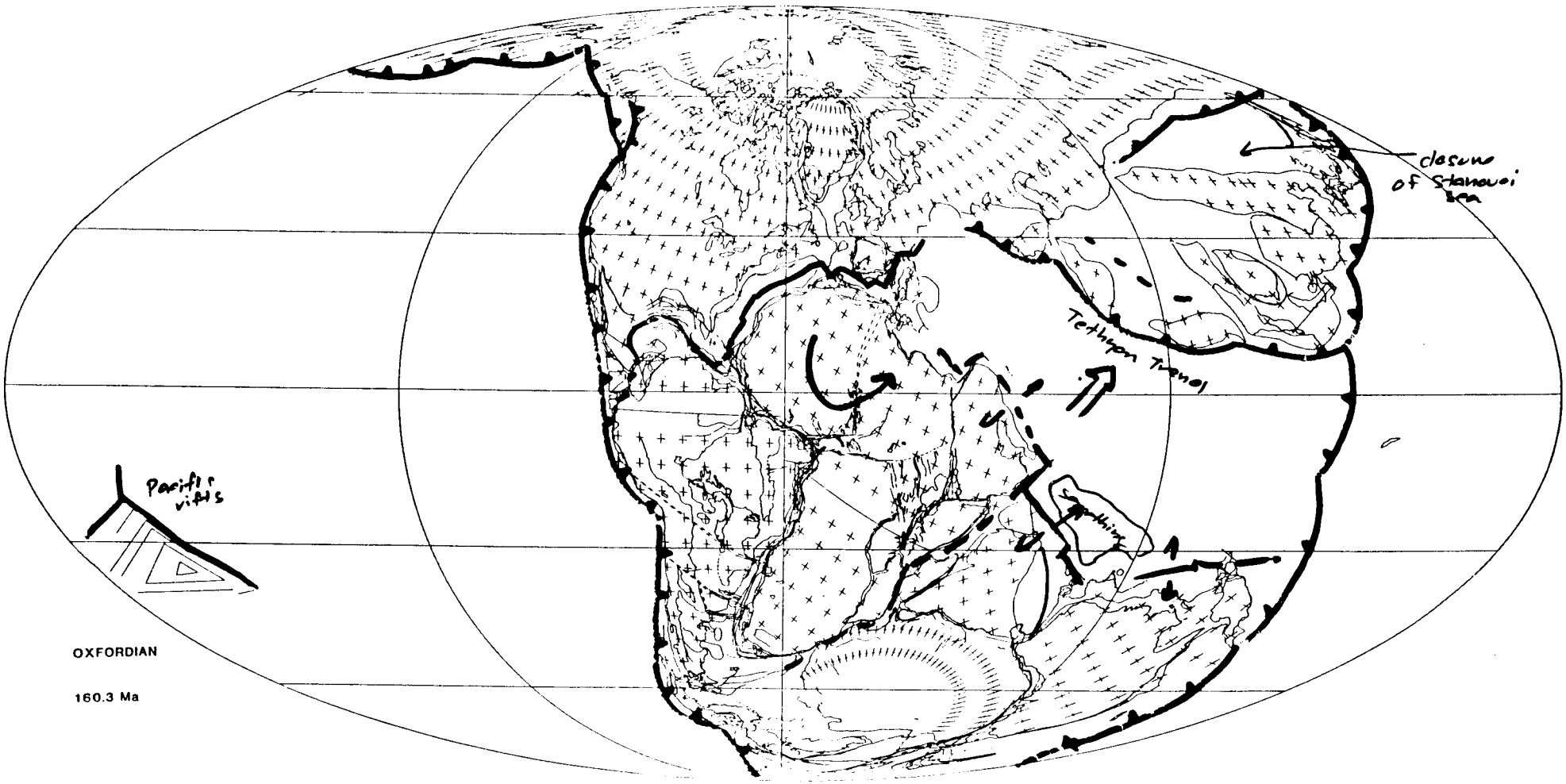

closure of Mongol-Okhotsk
Tethyan Trench
Pacific Plate
OXFORDIAN
160.3 Ma

Fig. 26

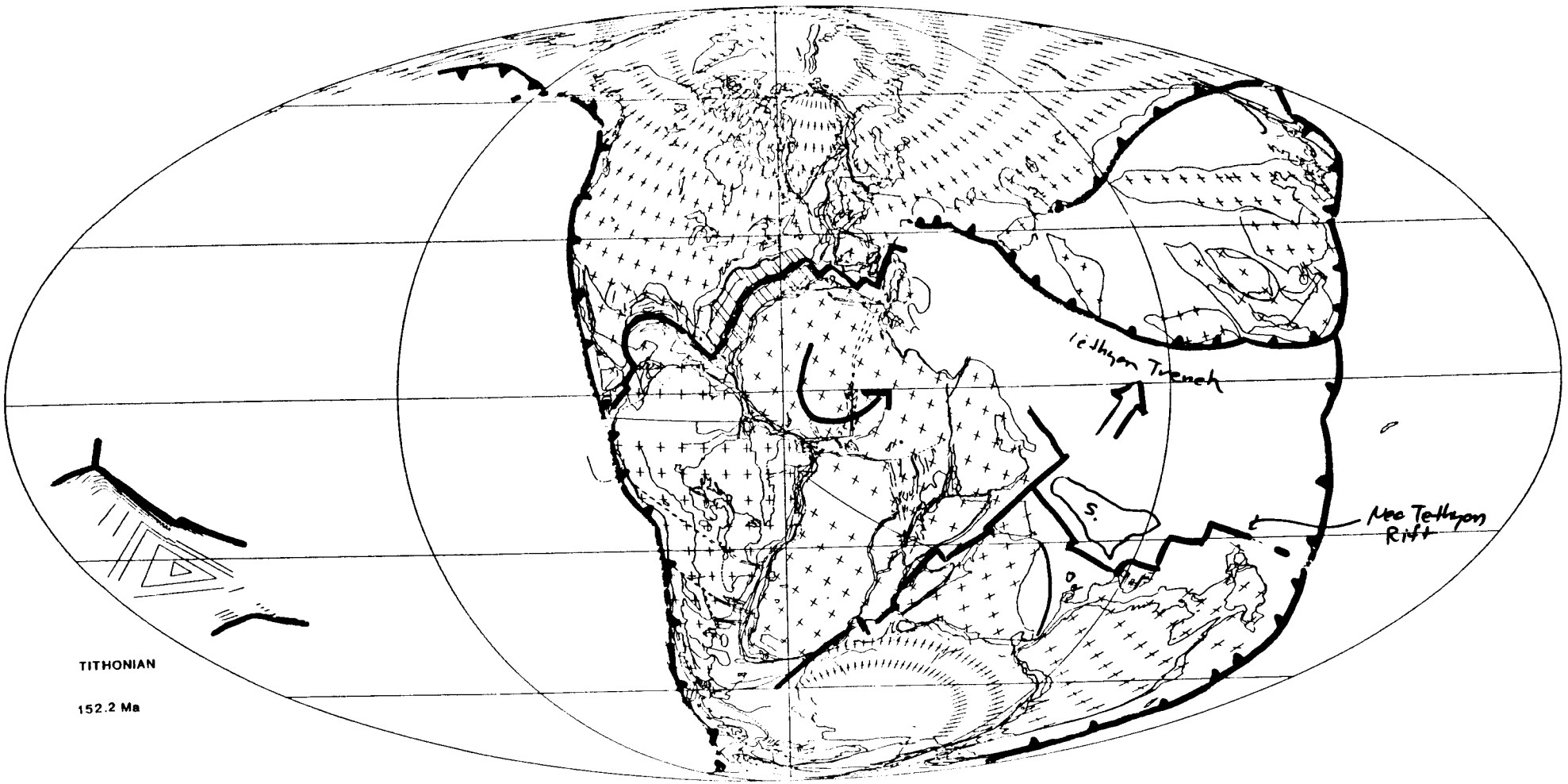
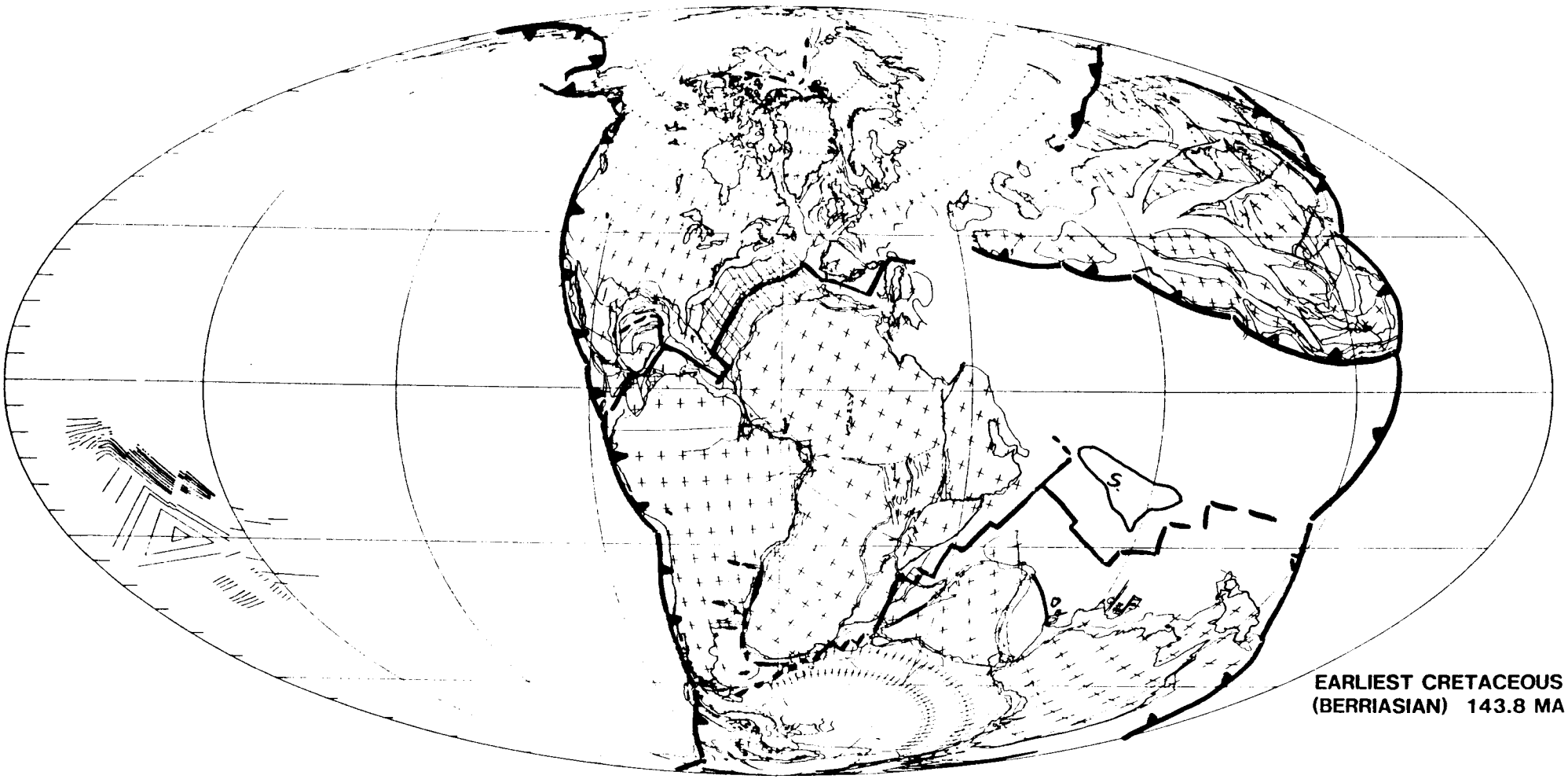


Fig. 25



EARLIEST CRETACEOUS
(BERRIASIAN) 143.8 MA

Fig. 24

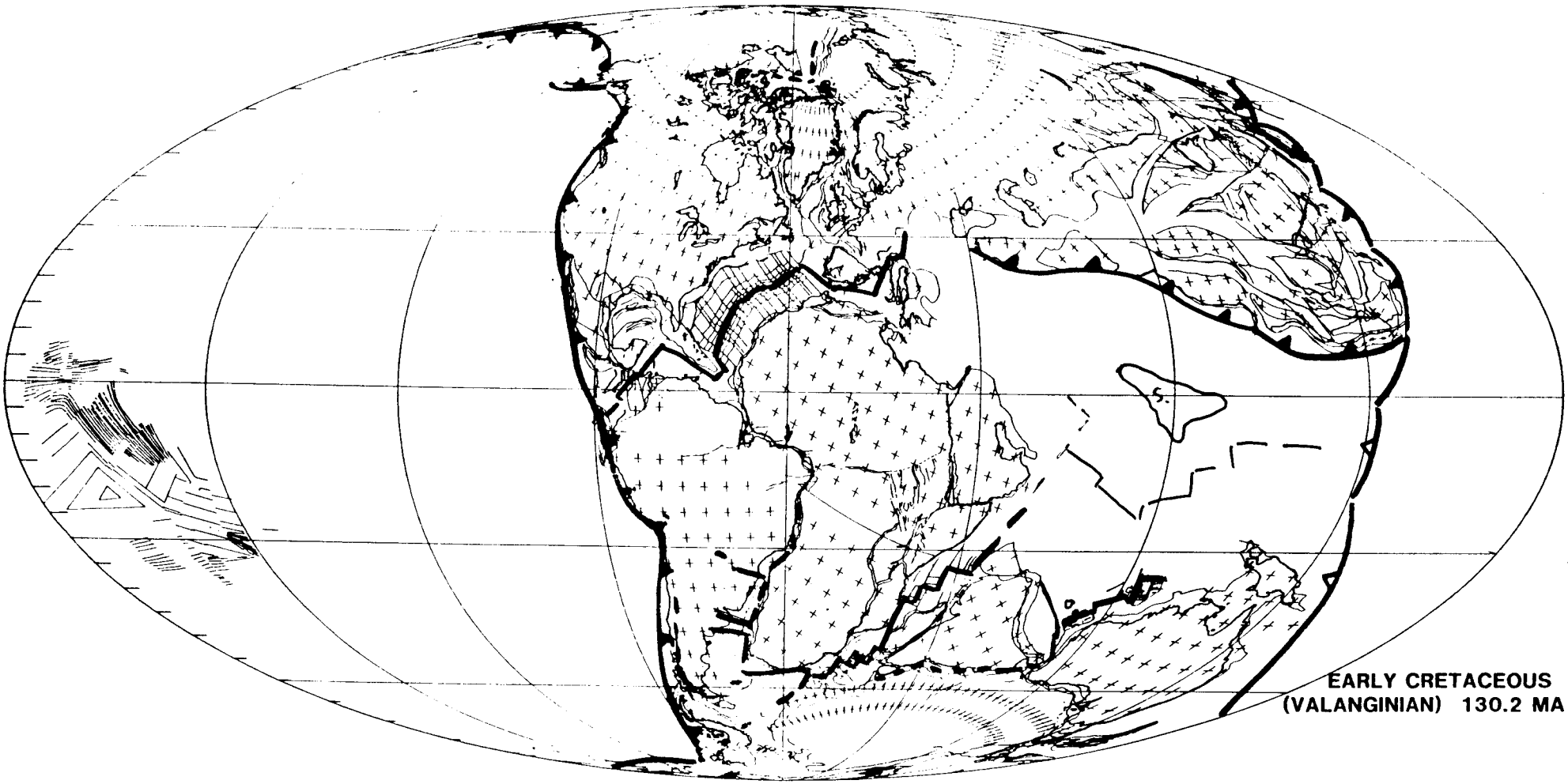


Fig. 23

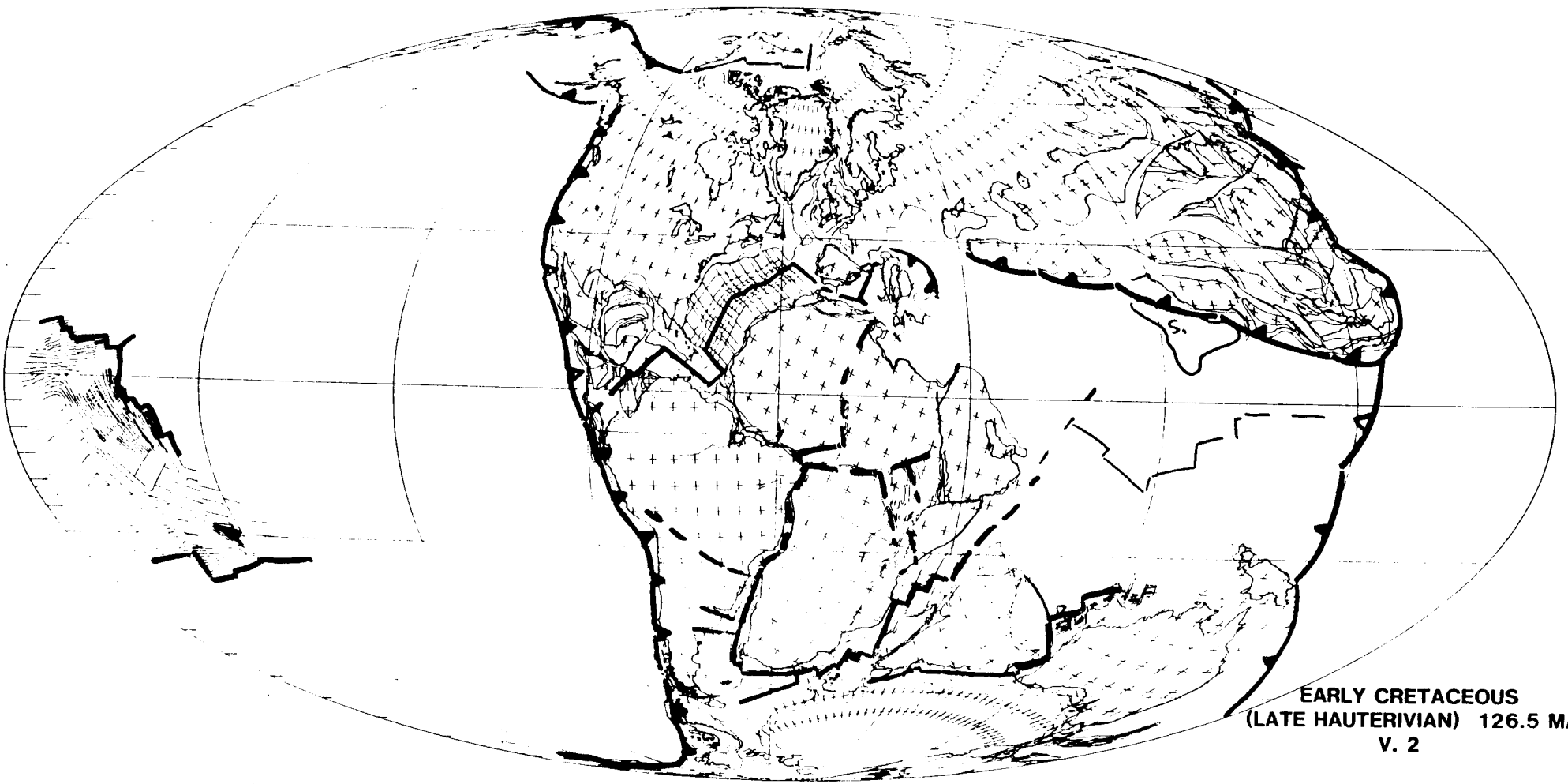


Fig. 22

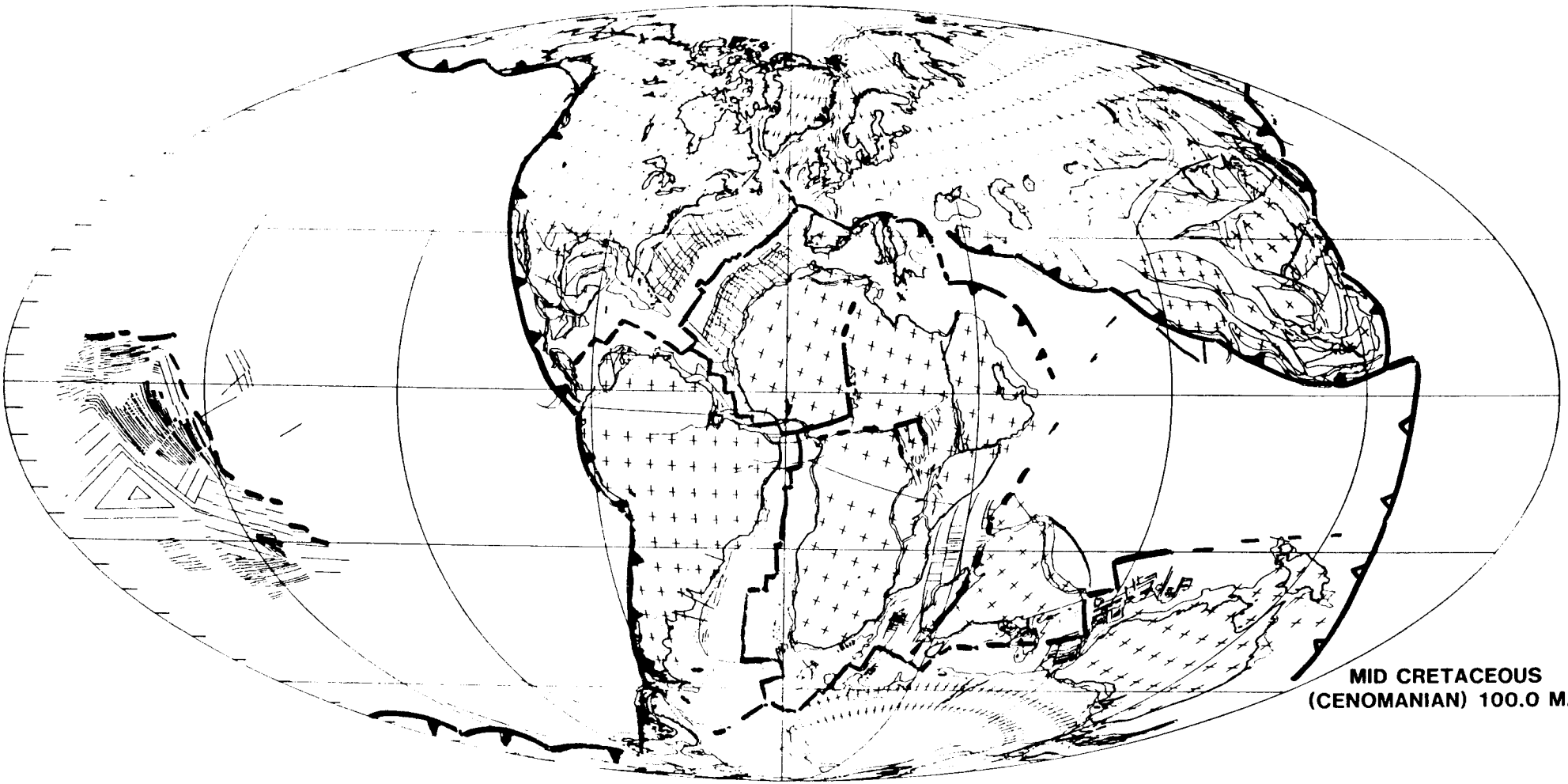


Figure 21

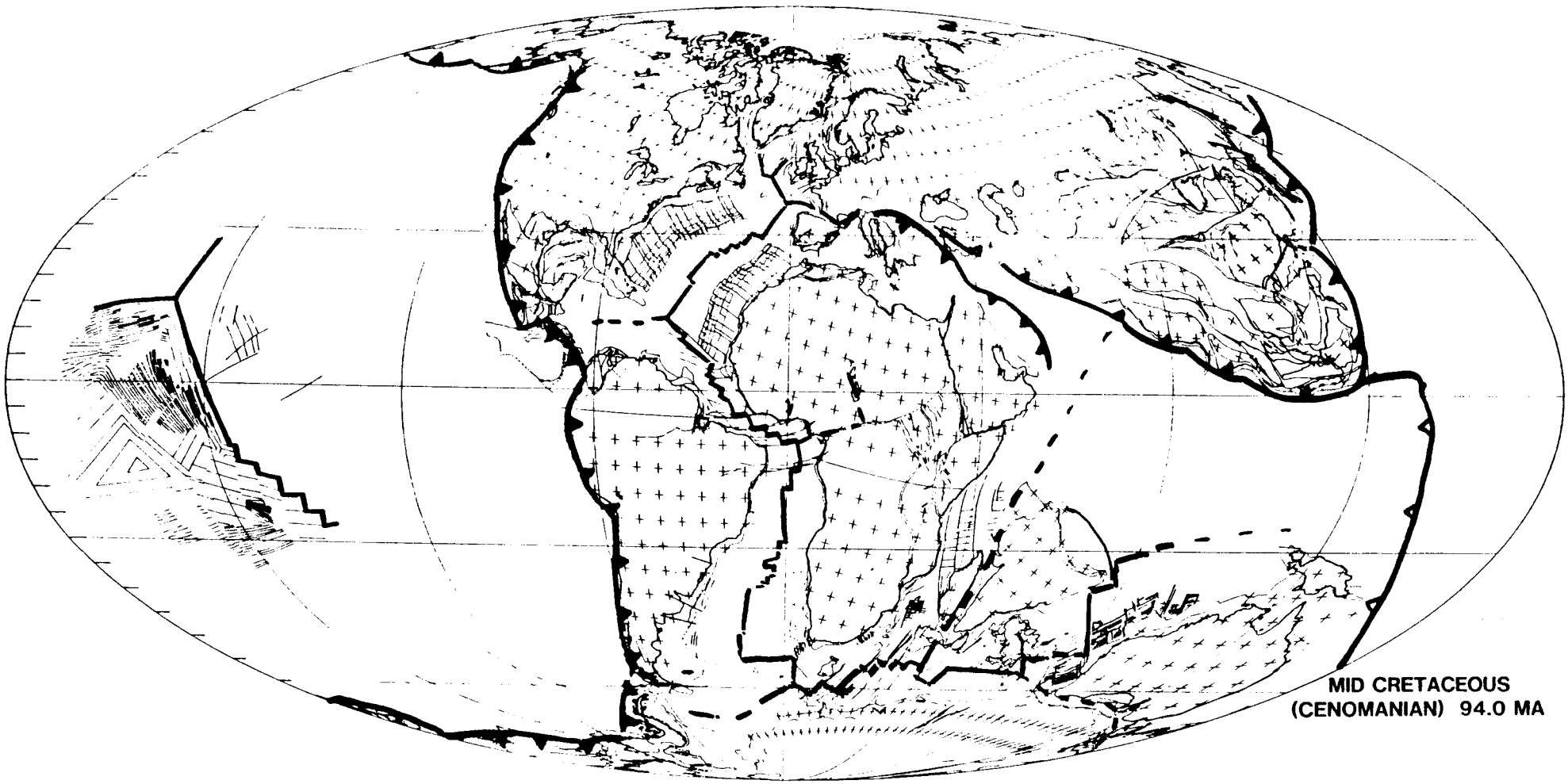
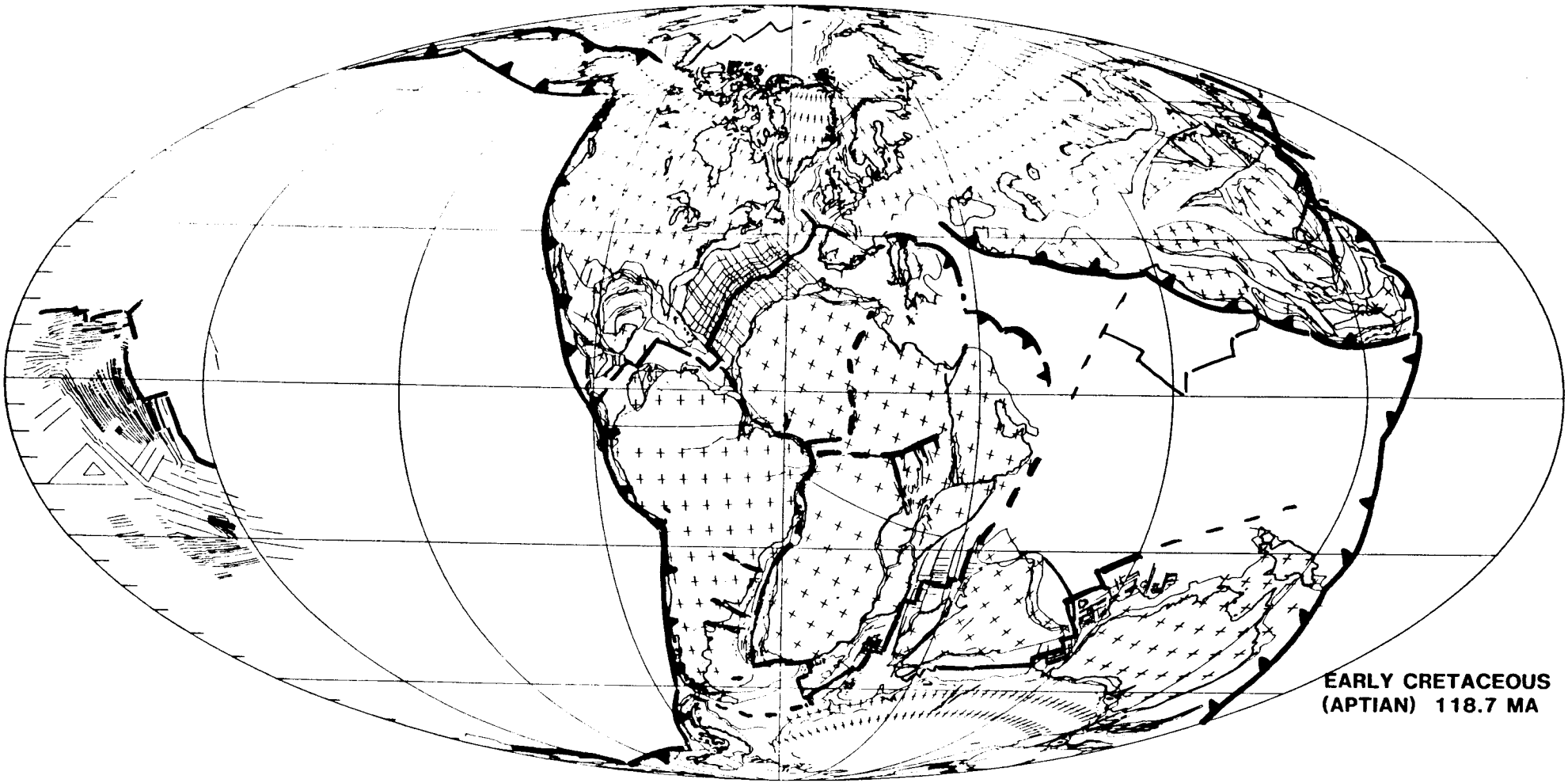


Fig. 19



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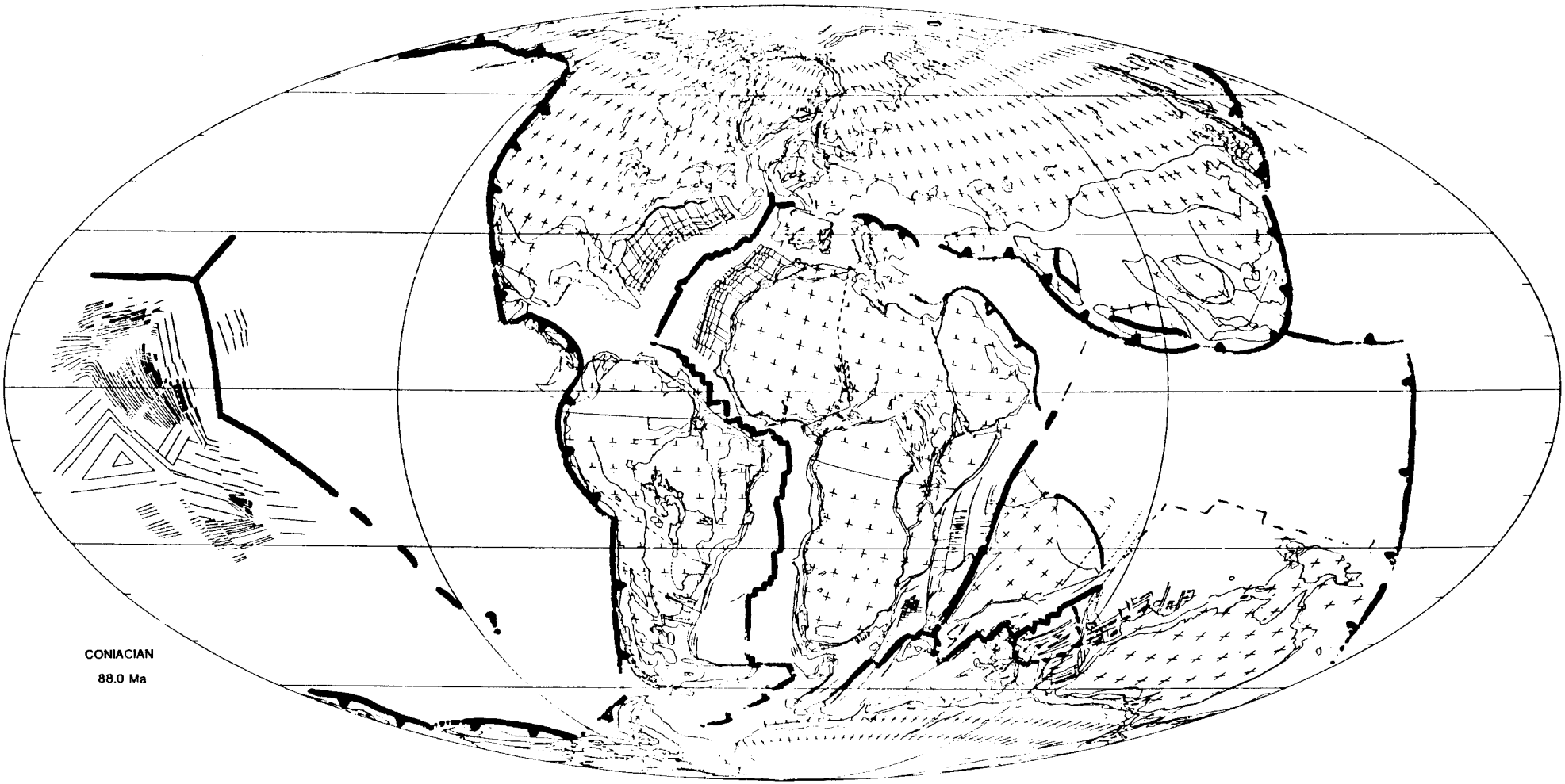


Fig. 18

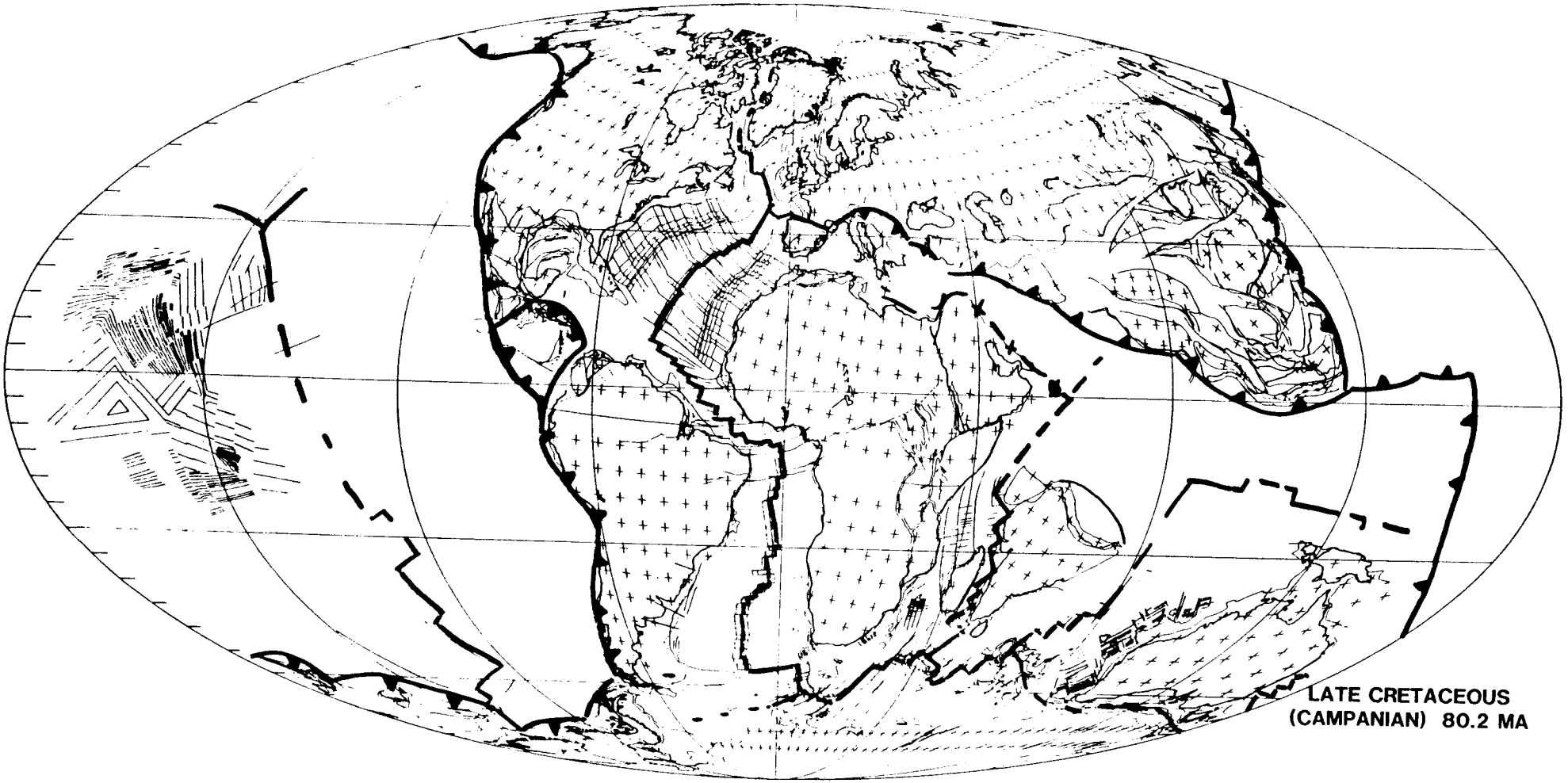


Fig. 17

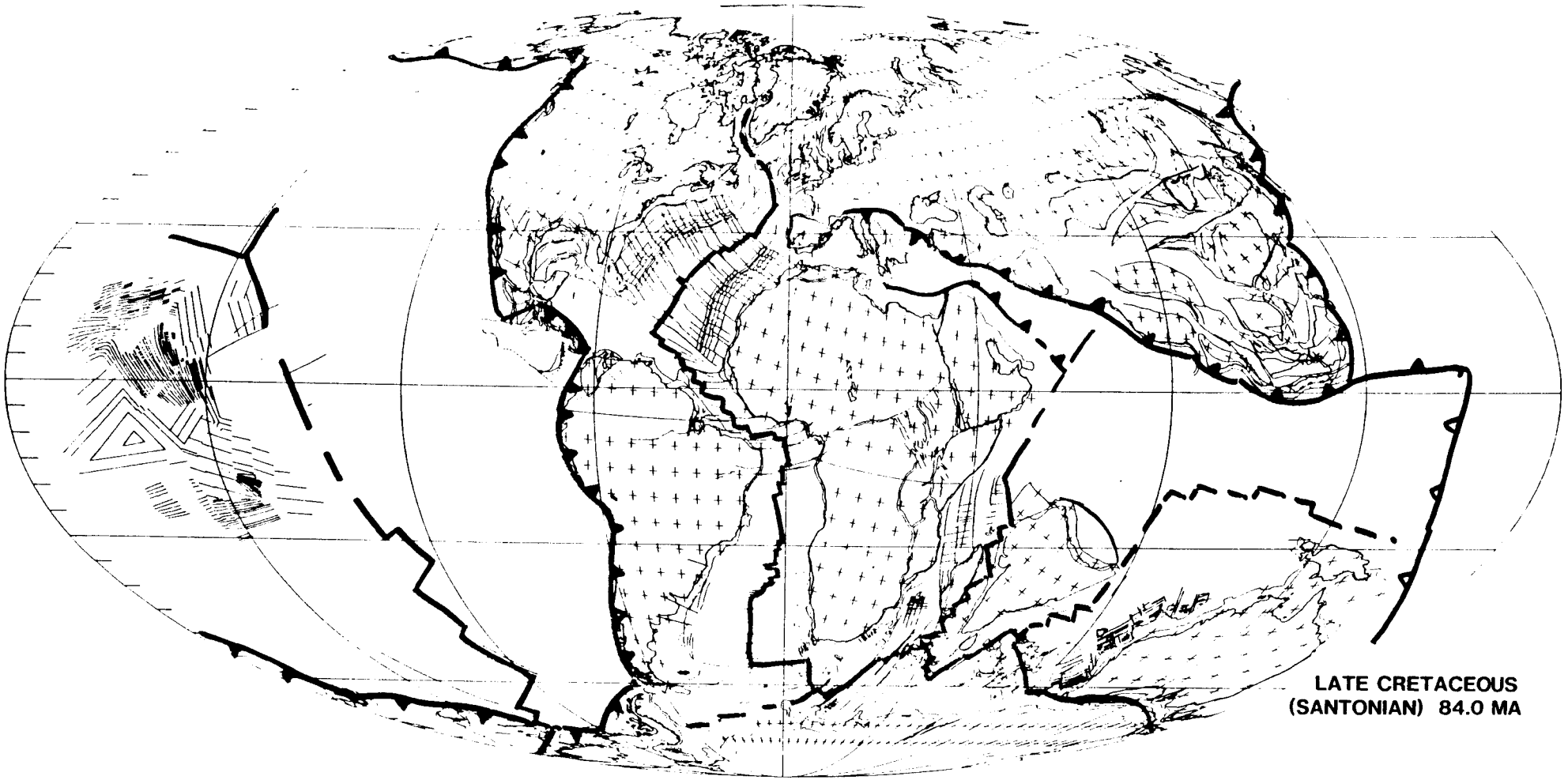
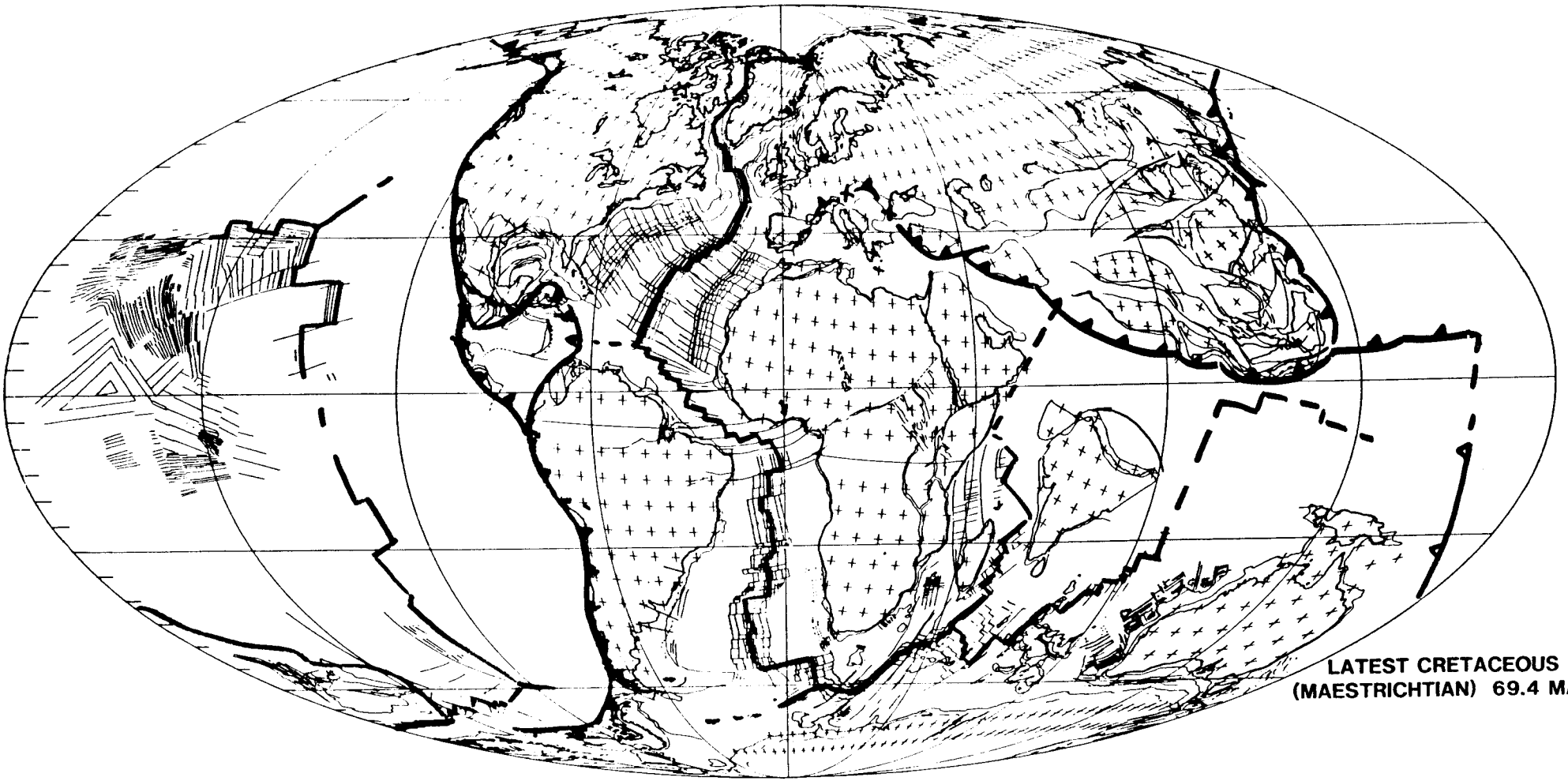
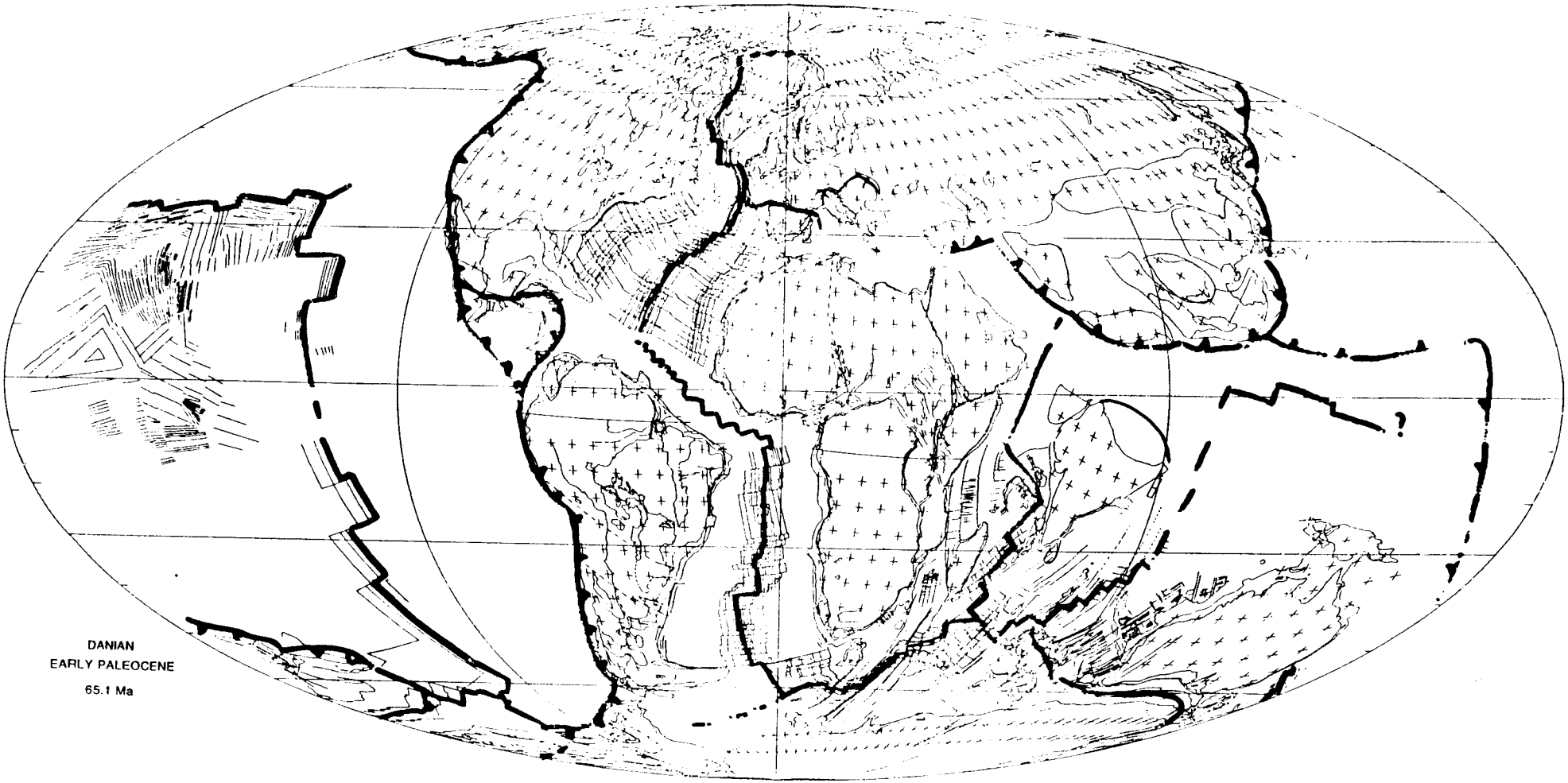


Fig. 16



LATEST CRETACEOUS
(MAESTRICHTIAN) 69.4 MA

Fig 15



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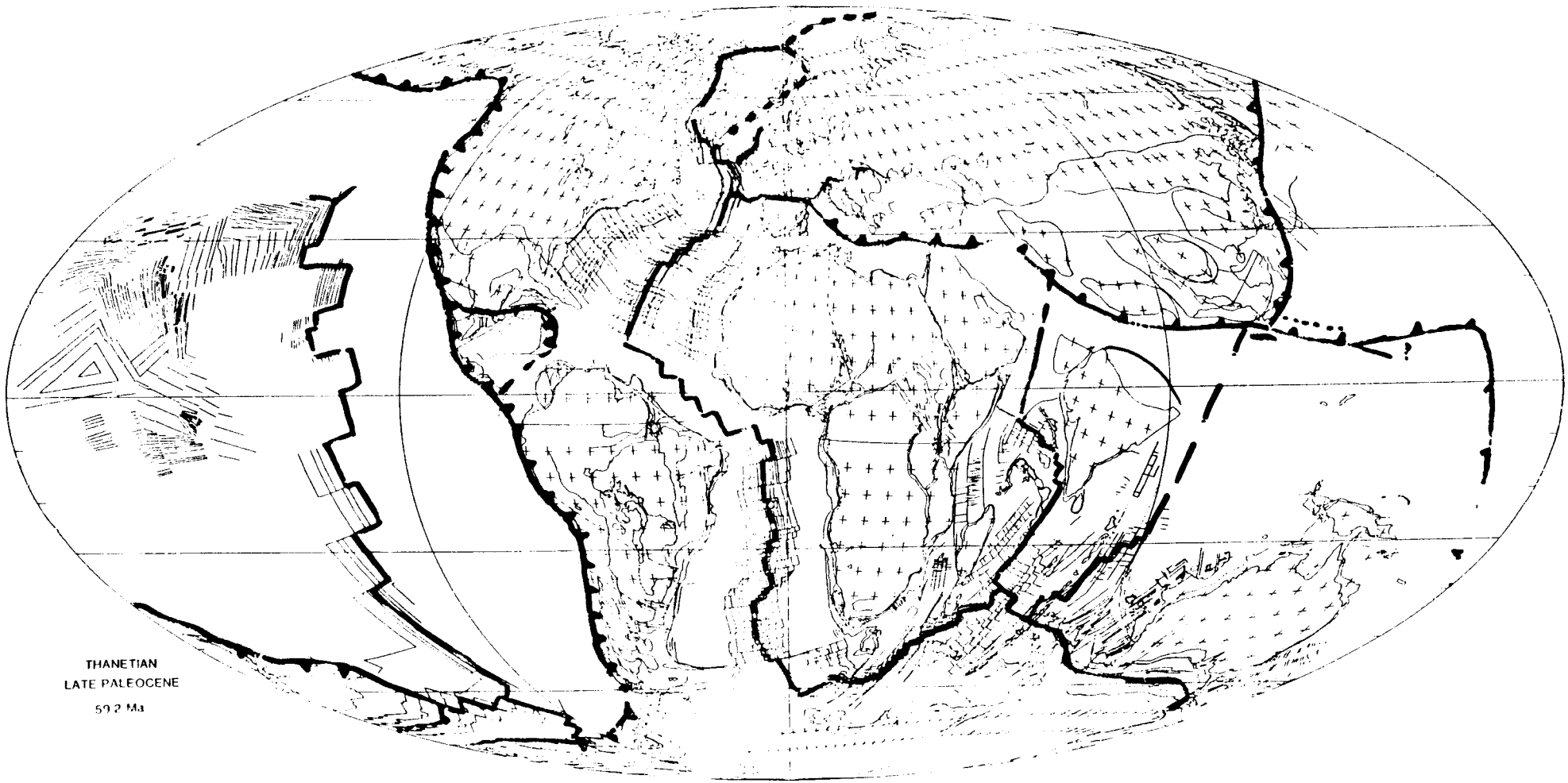


Fig 13

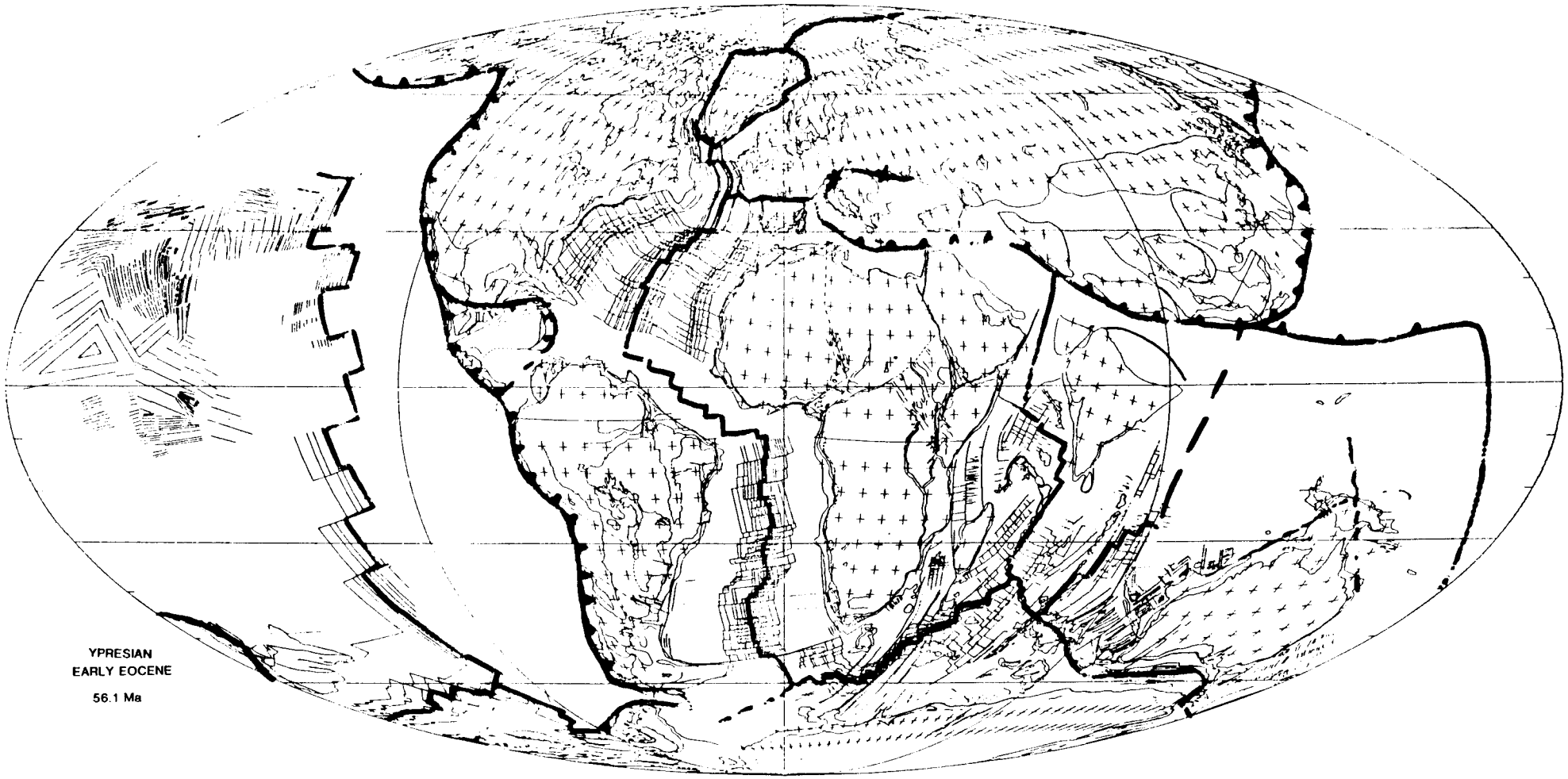
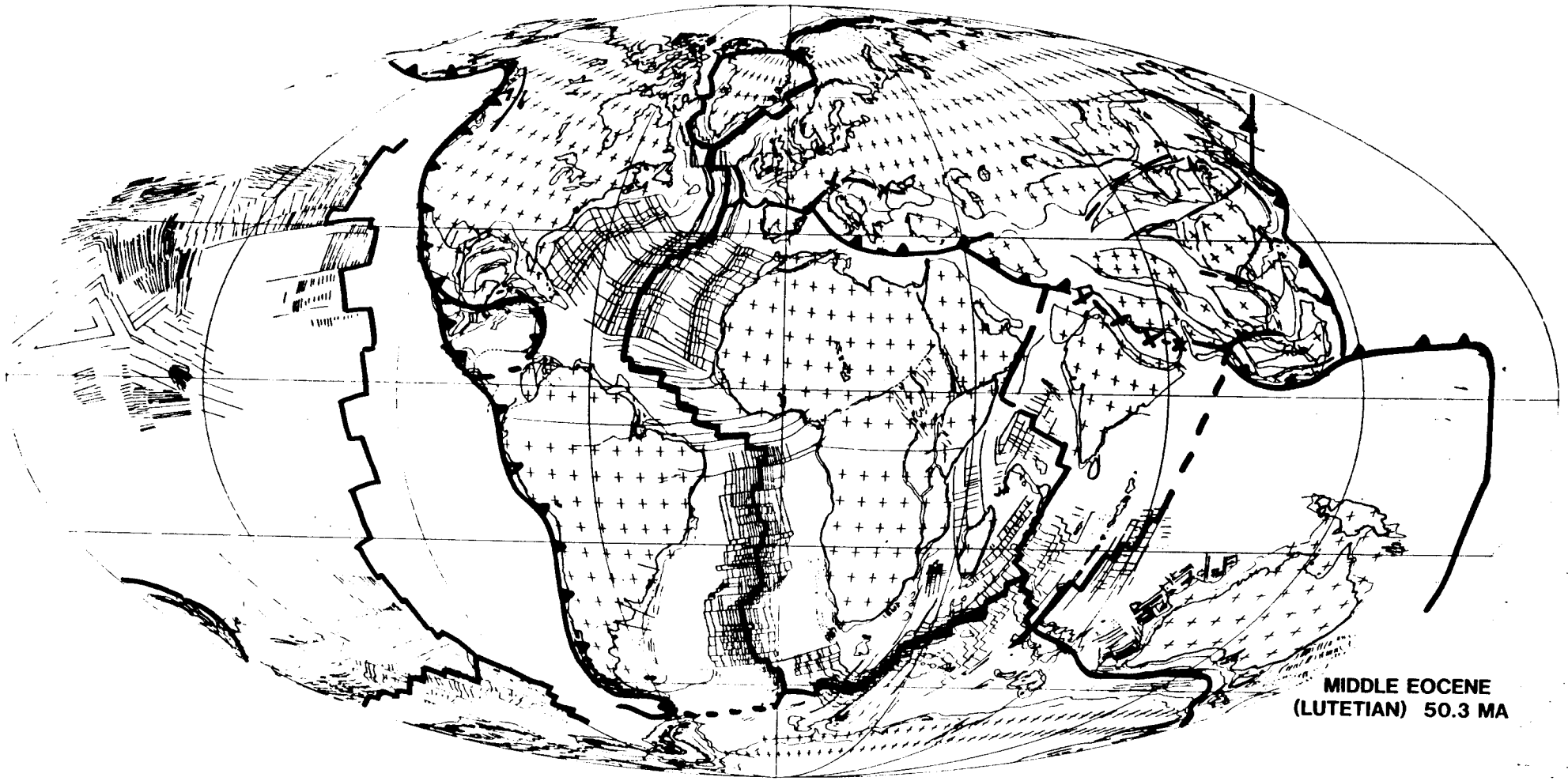


Fig. 12



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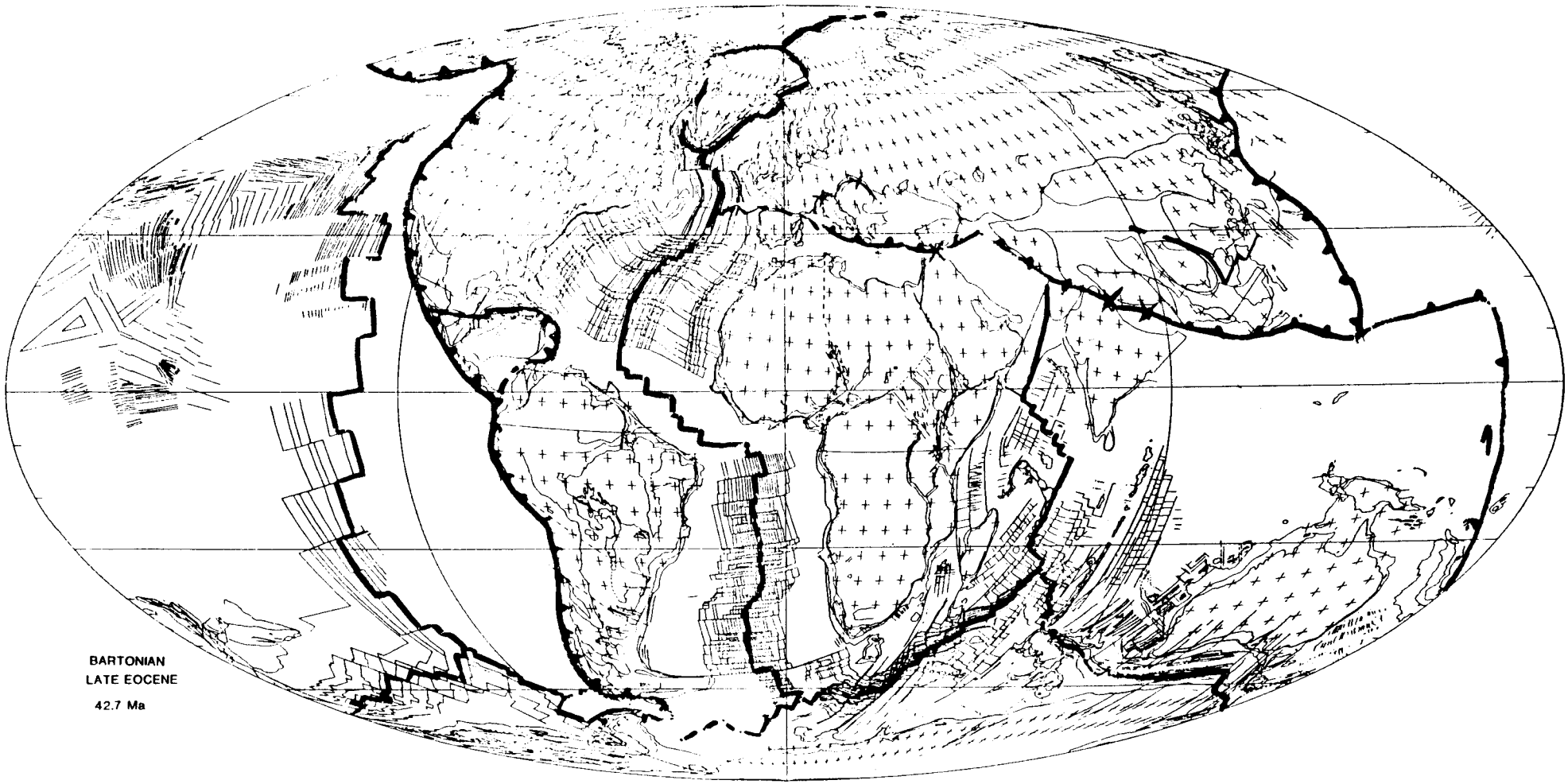
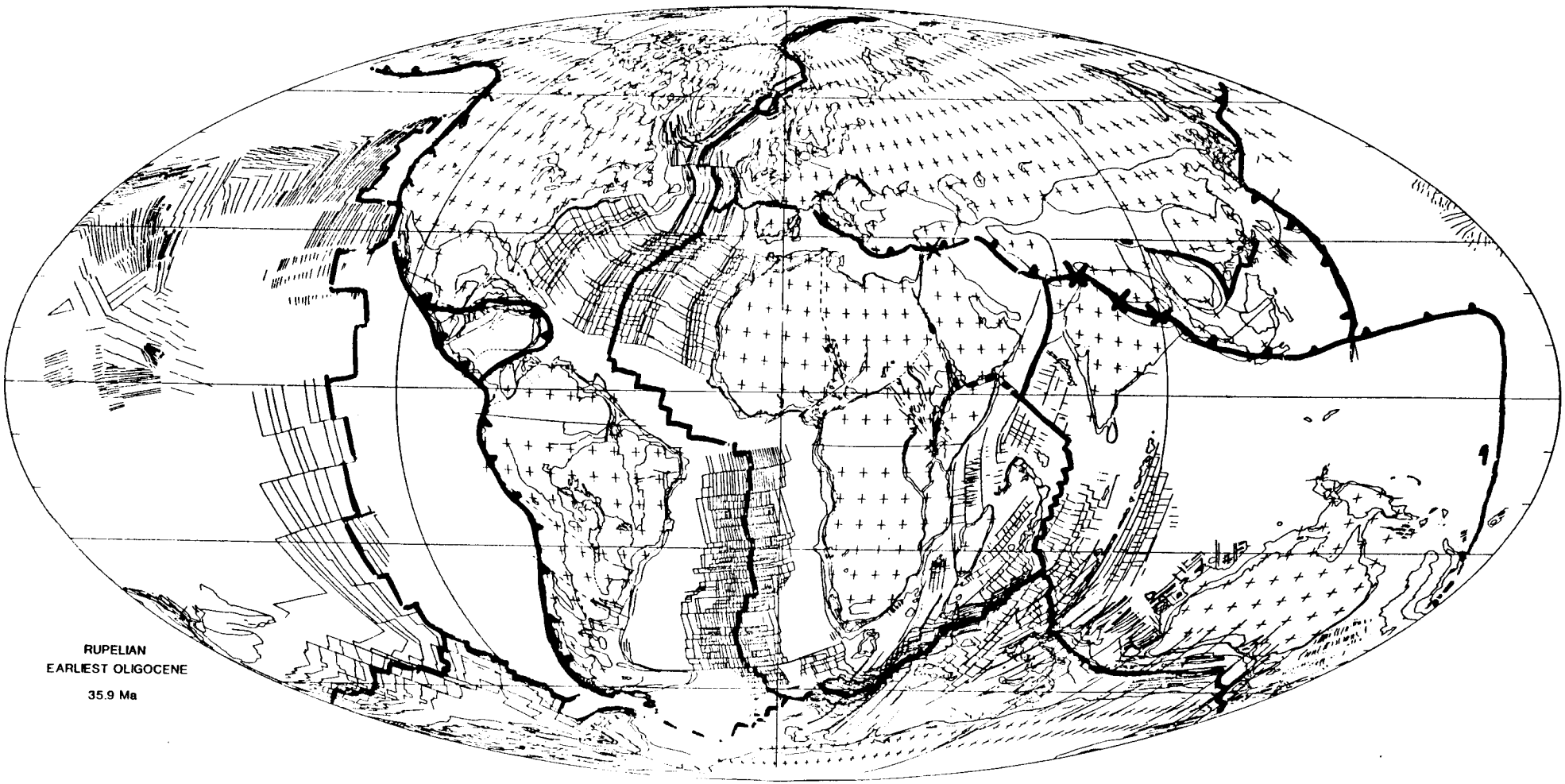


Fig 10



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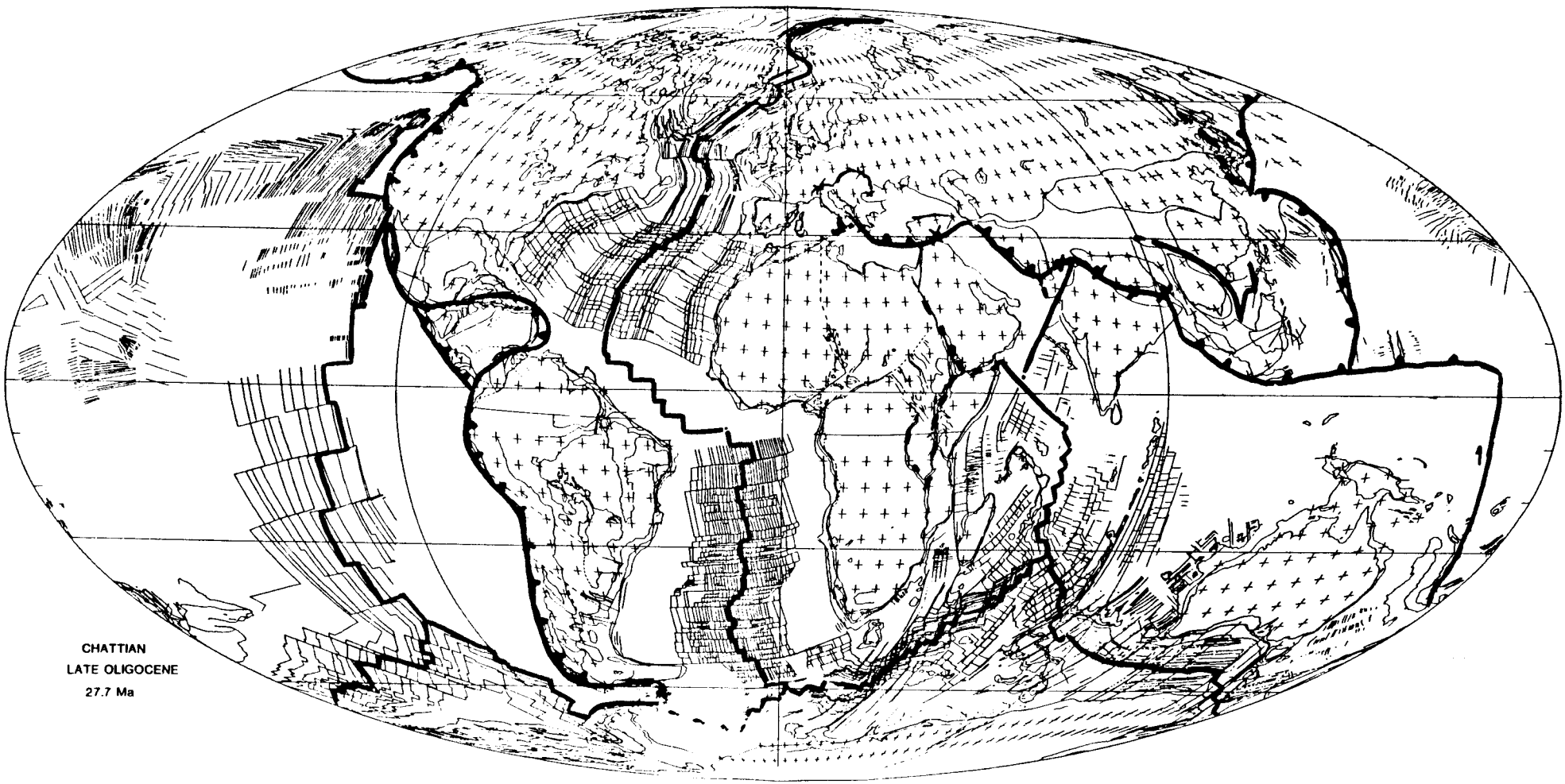

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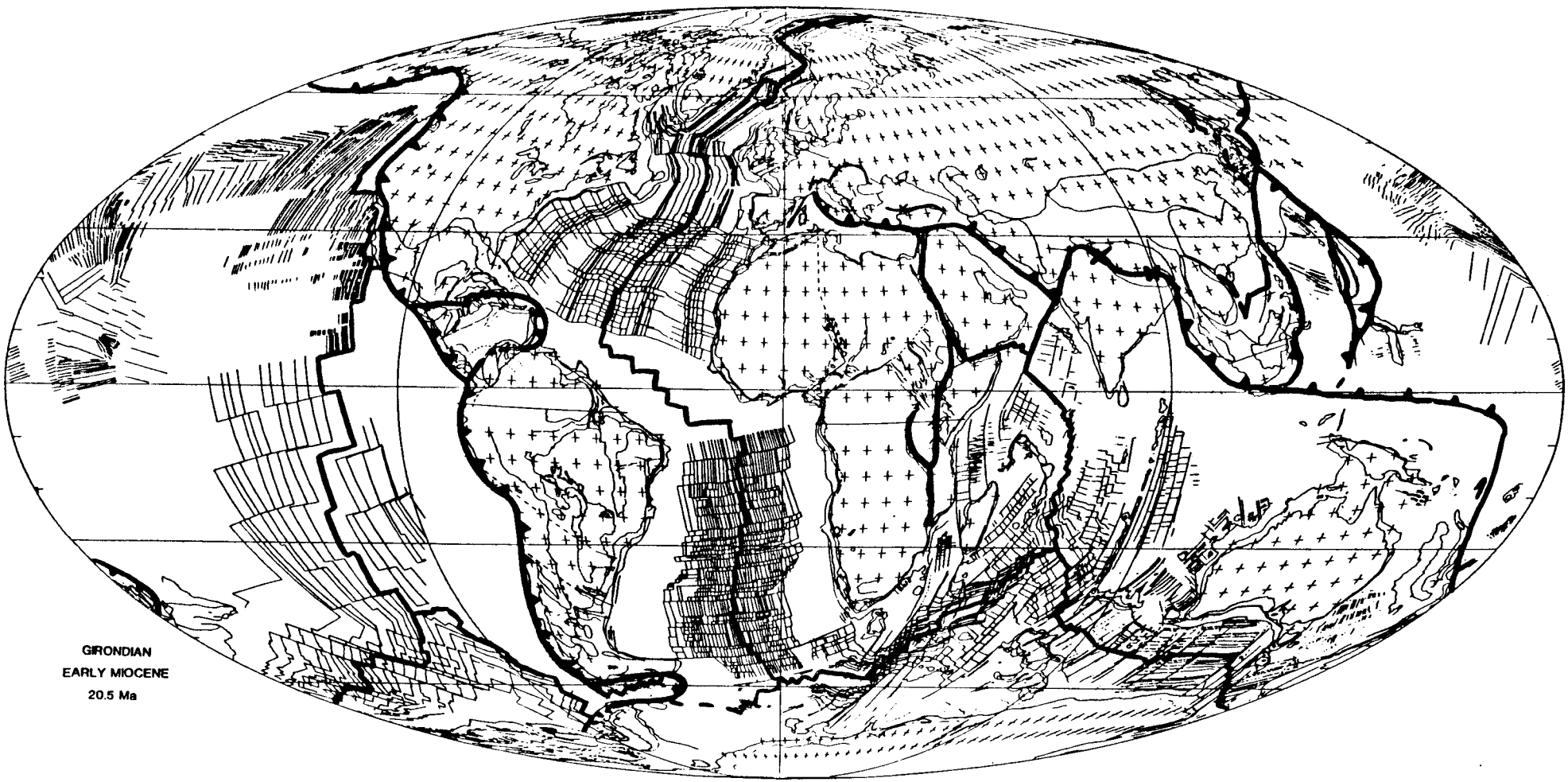

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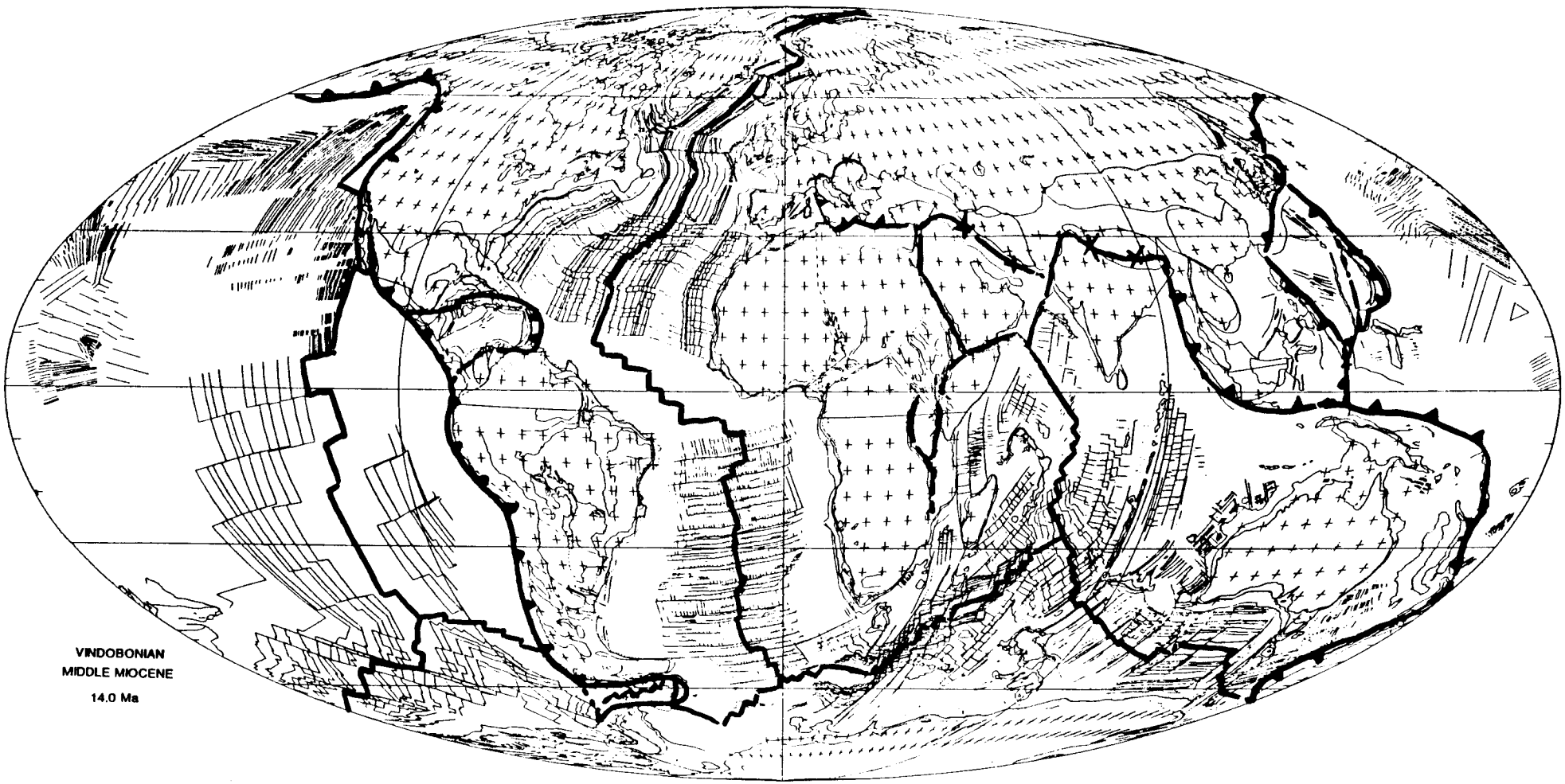

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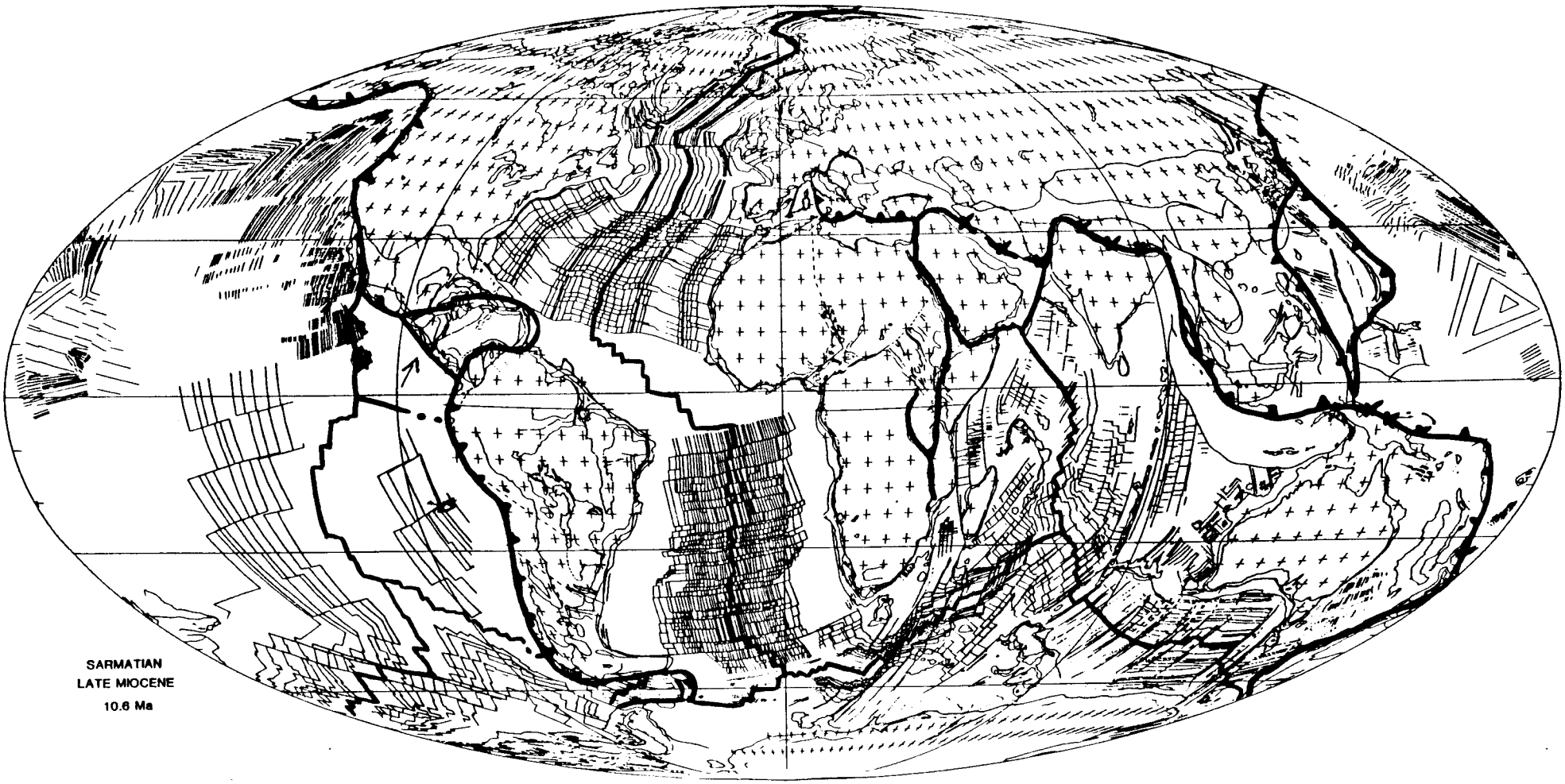

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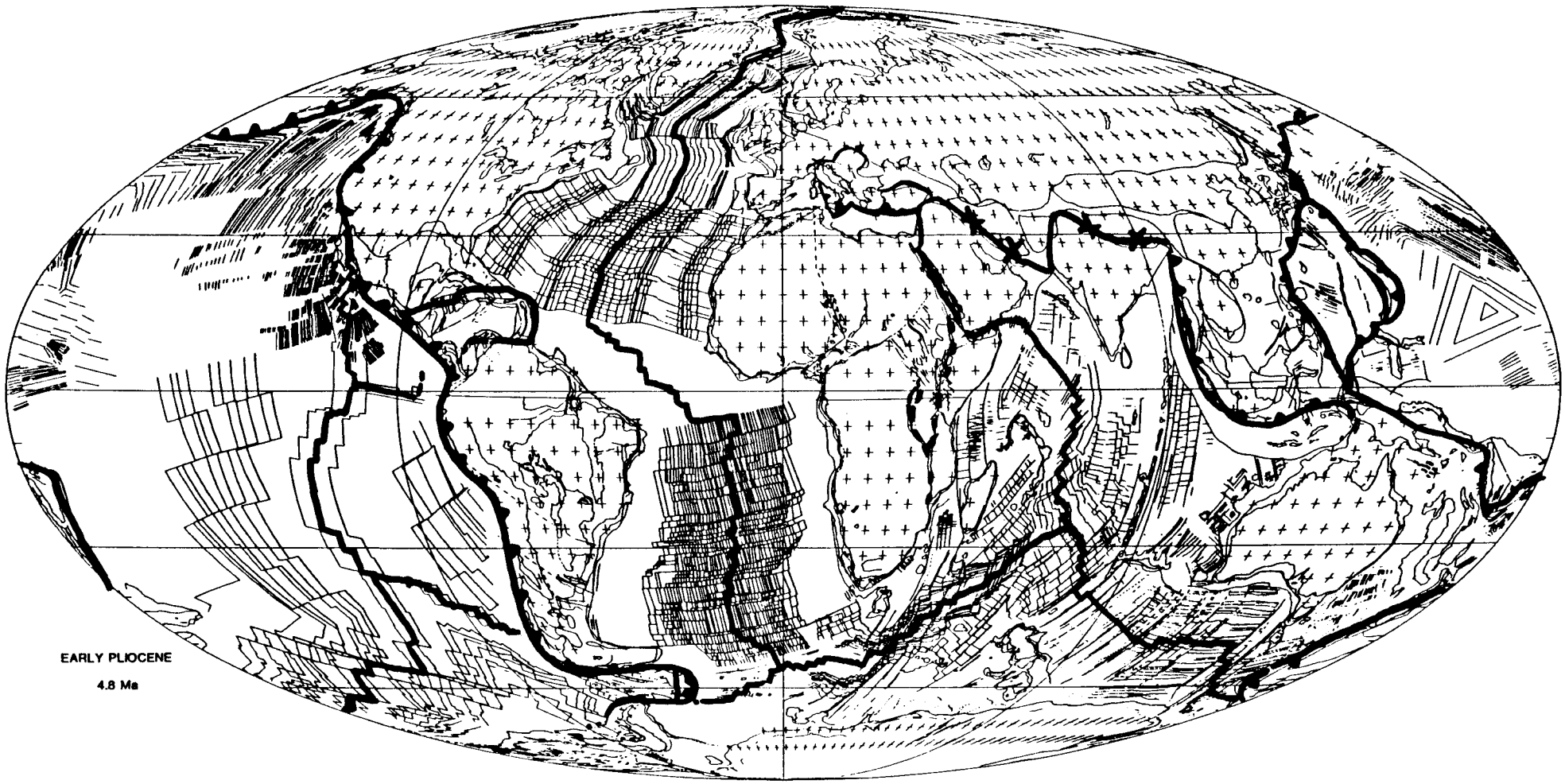

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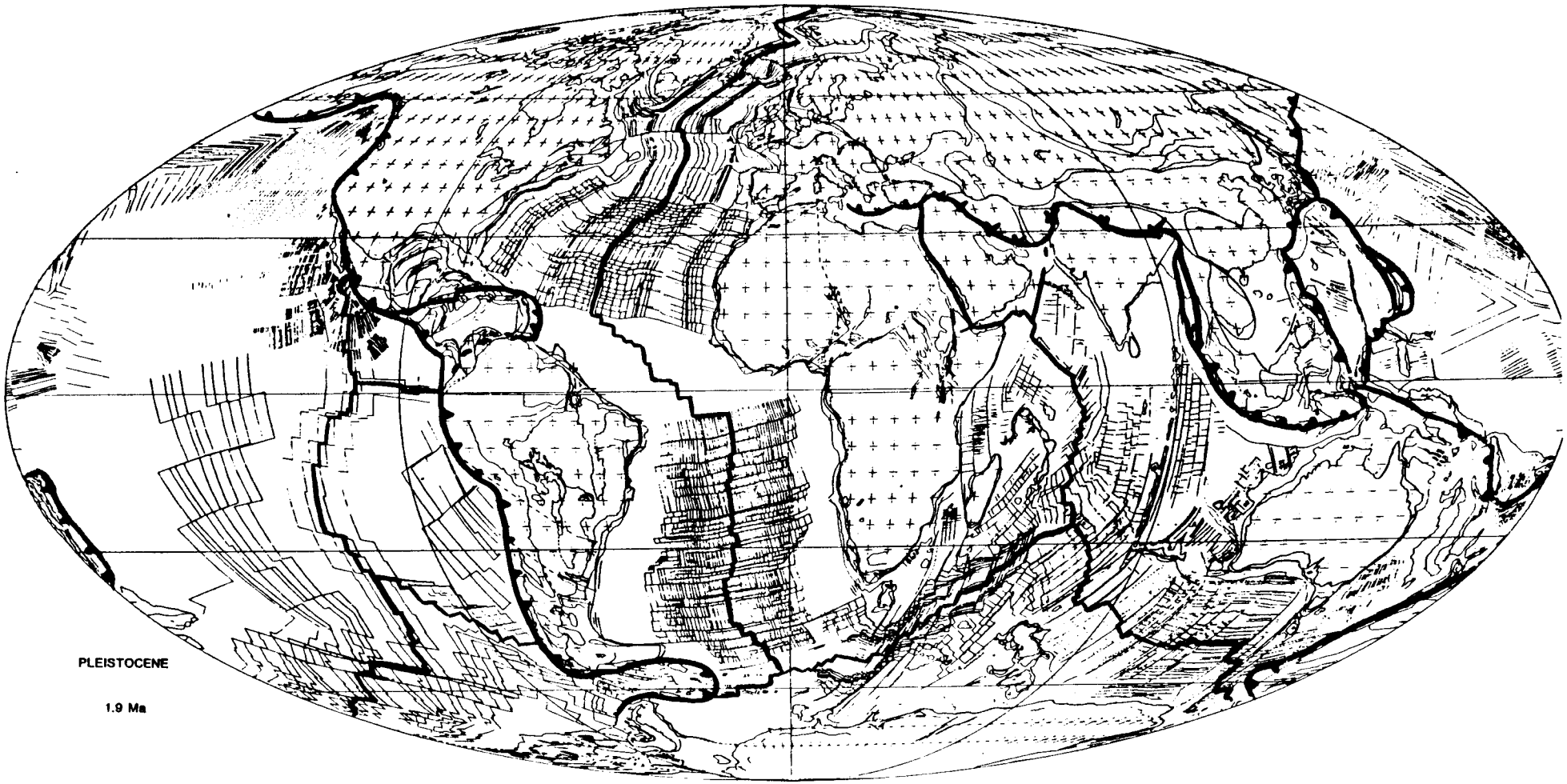


Fig. 3

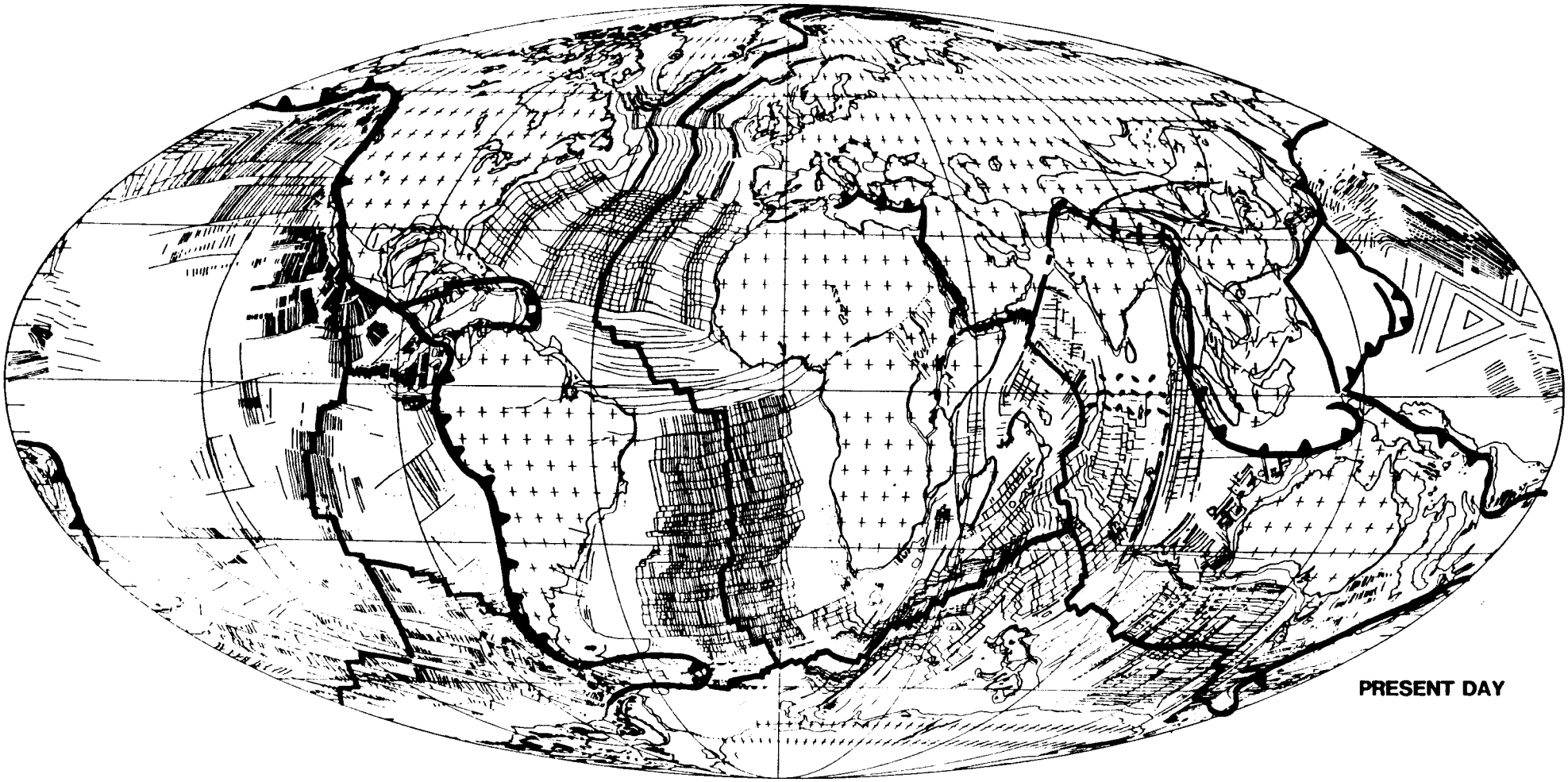
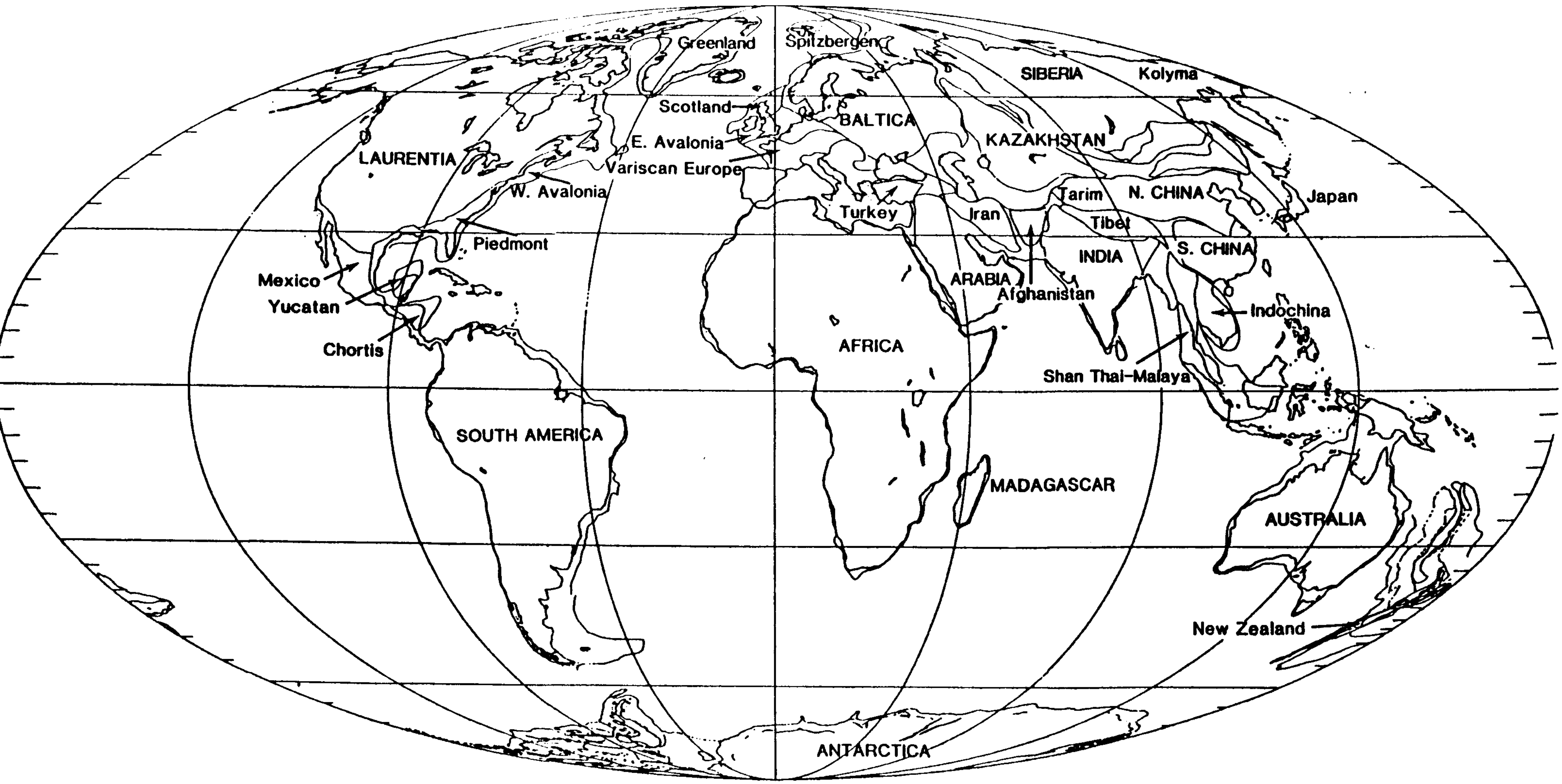


Fig. 2



Greenland
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Scotland
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LAURENTIA
E. Avalonia
Variscan Europe
W. Avalonia
Tarim
N. CHINA
Japan
Turkey
Iran
Tibet
Piedmont
S. CHINA
INDIA
Mexico
ARABIA
Afghanistan
Yucatan
Indochina
Chortis
AFRICA
Shan Thai–Malaya
SOUTH AMERICA
MADAGASCAR
AUSTRALIA
New Zealand
ANTARCTICA

Fig. 1