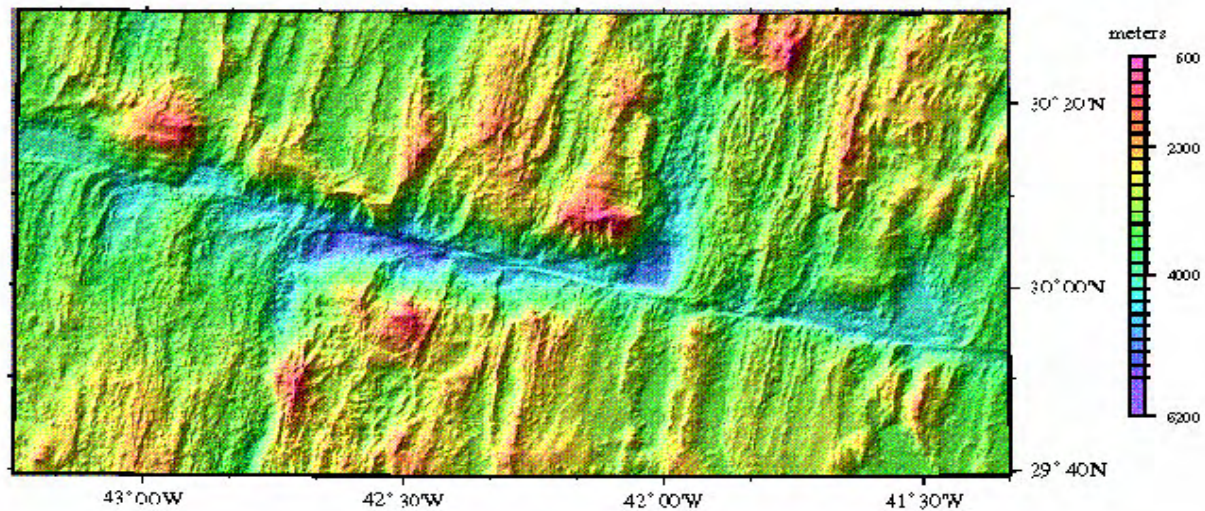
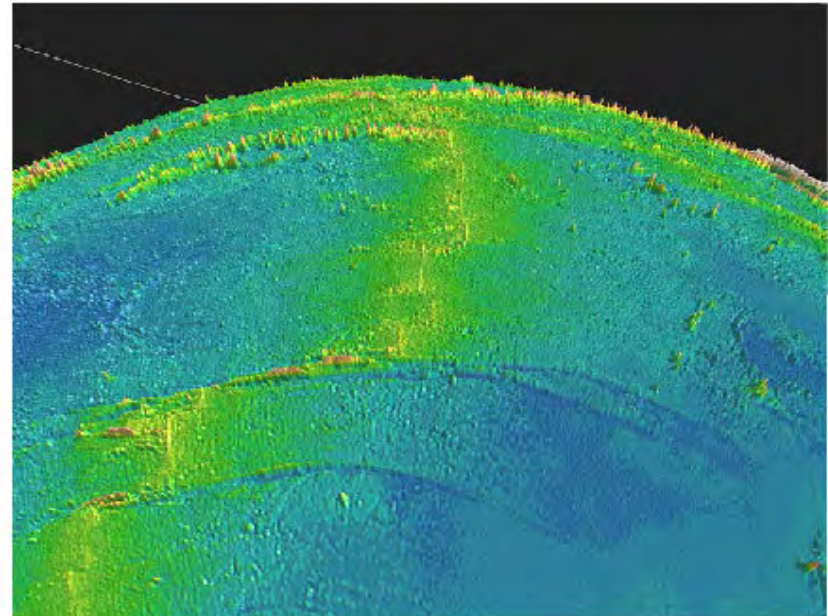
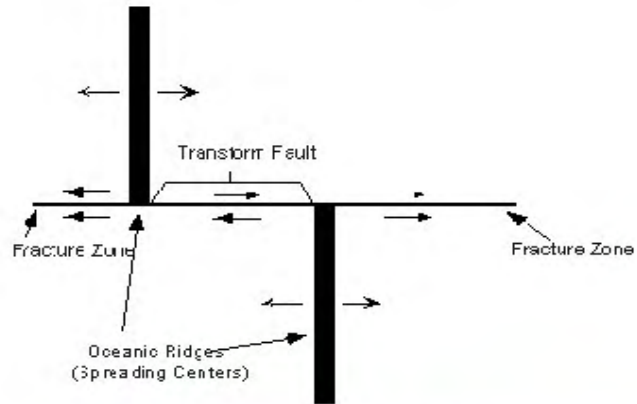
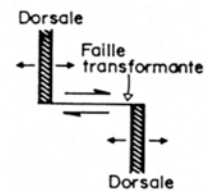


Les failles transformantes océaniques

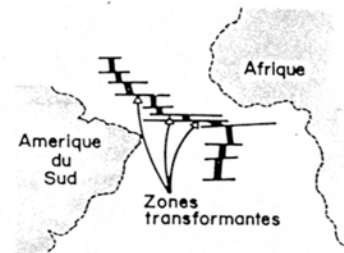
Transform faults



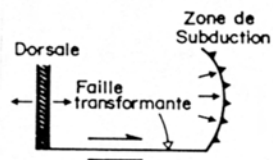
Transformantes



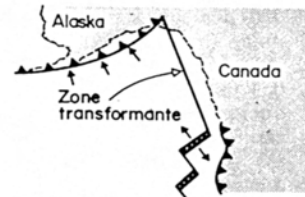
Dorsale - Dorsale (D-D)



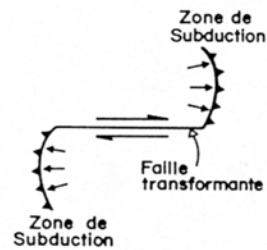
Dorsale Médio Atlantique
au niveau de l'équateur (D-D)



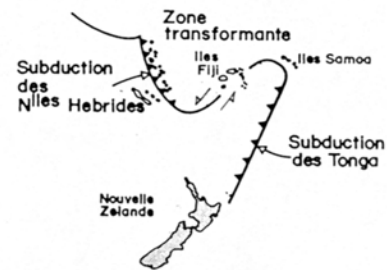
Dorsale - Subduction (D-S)



Zone transformante (D-S) entre
la subduction aléoutienne et la
dorsale Juan de Fuca



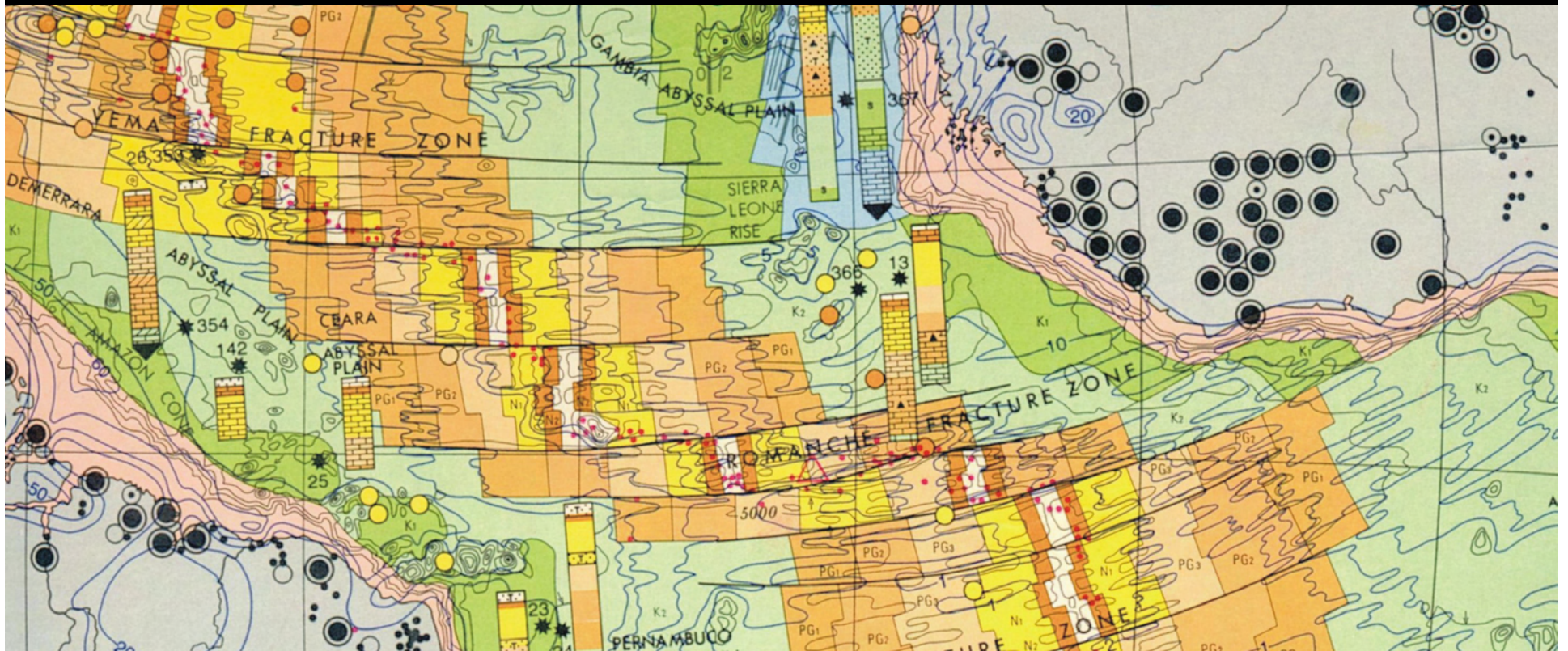
Subduction - Subduction (S-S).



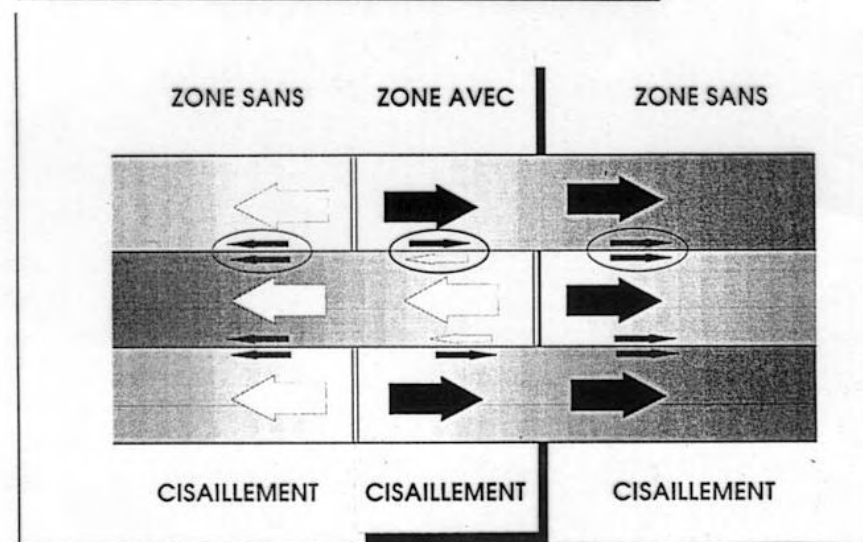
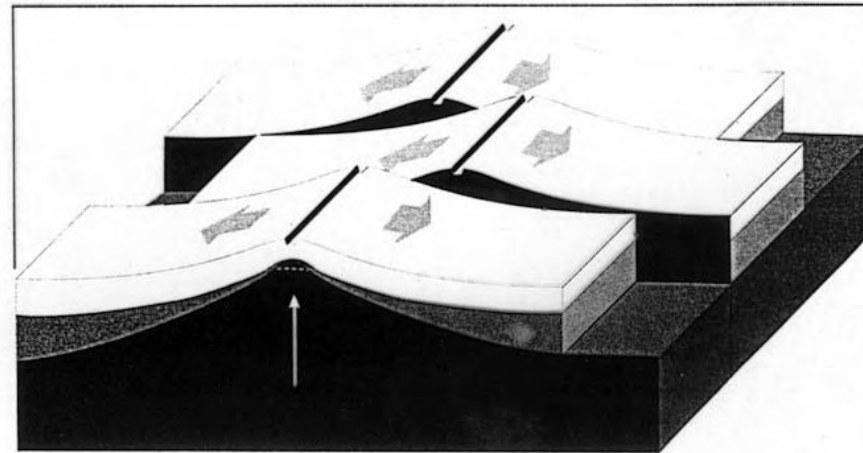
Zone transformante (S-S) des Fiji

Allègre, Ecume de la Terre

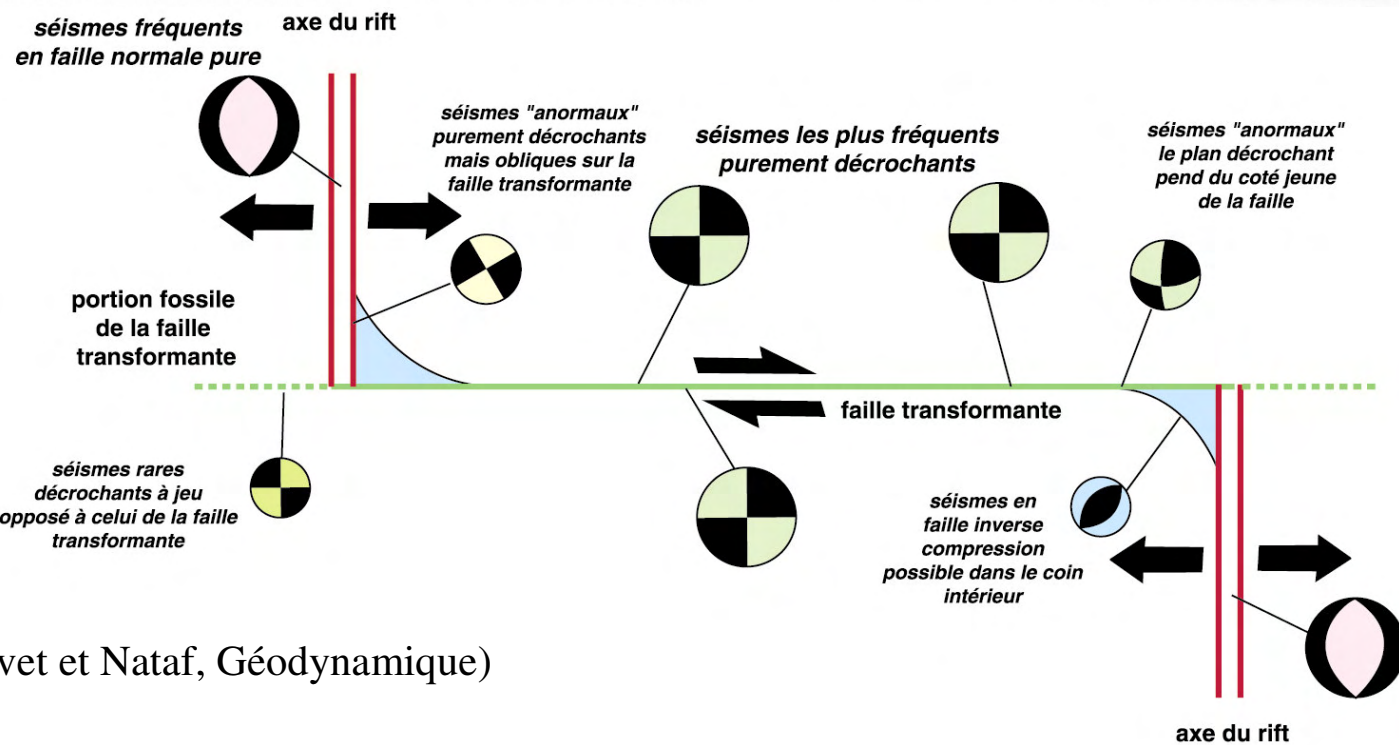
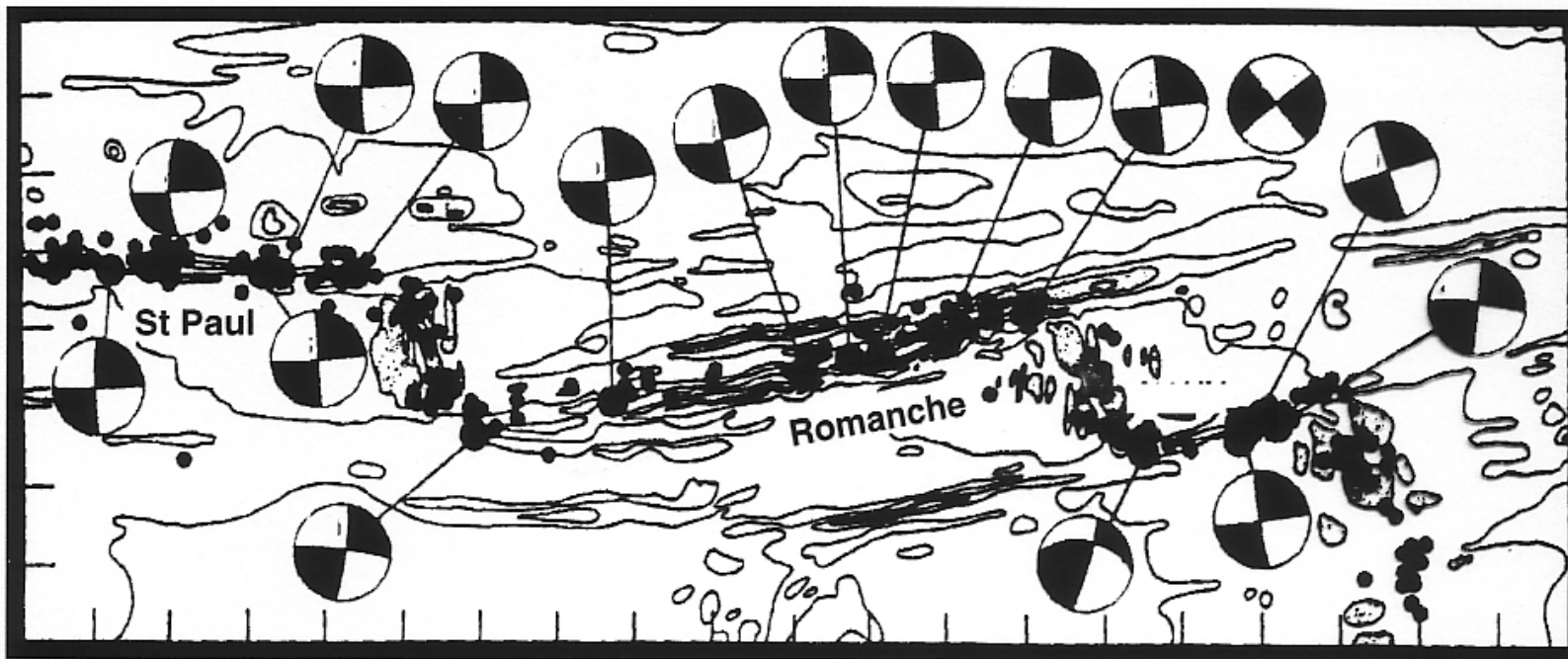
Transformantes D-D



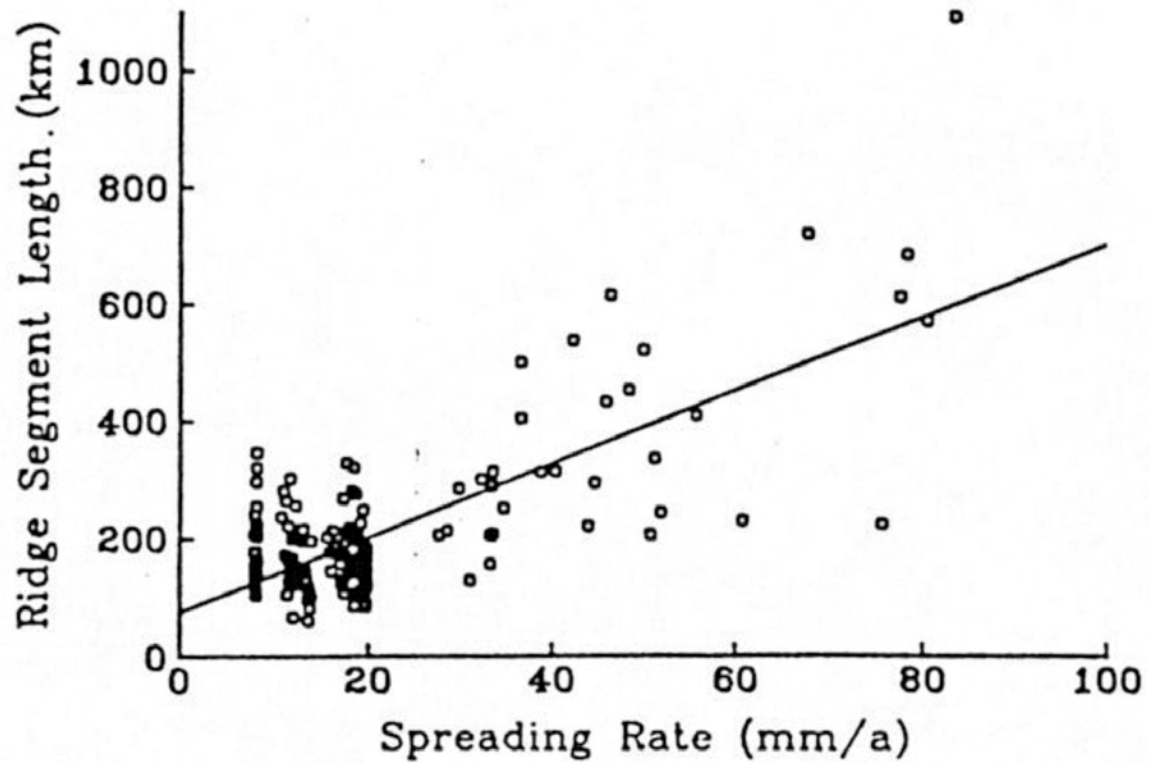
Transformantes D-D



Nicolas,
Les montagnes
sous la mer

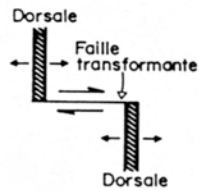


(In Jolivet et Nataf, Géodynamique)

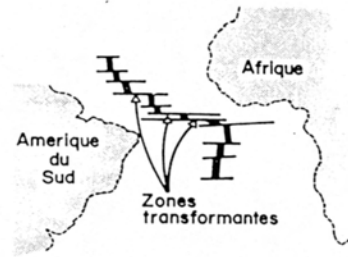


Ridge segment length versus spreading rate corrected to orthogonal spreading. Solid line is best fitting plane.

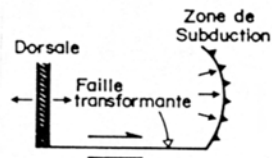
Transformantes



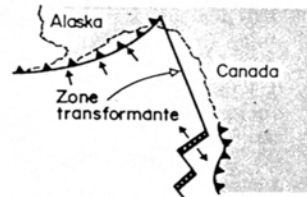
Dorsale - Dorsale (D-D)



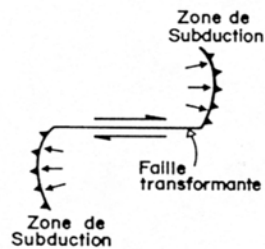
Dorsale Mésio Atlantique
au niveau de l'équateur (D-D)



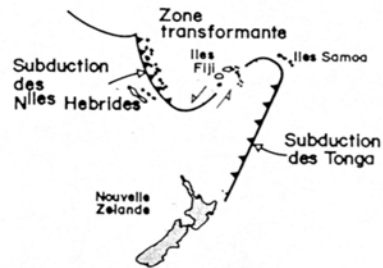
Dorsale - Subduction (D-S)



Zone transformante (D-S) entre
la subduction aléoutienne et la
dorsale Juan de Fuca



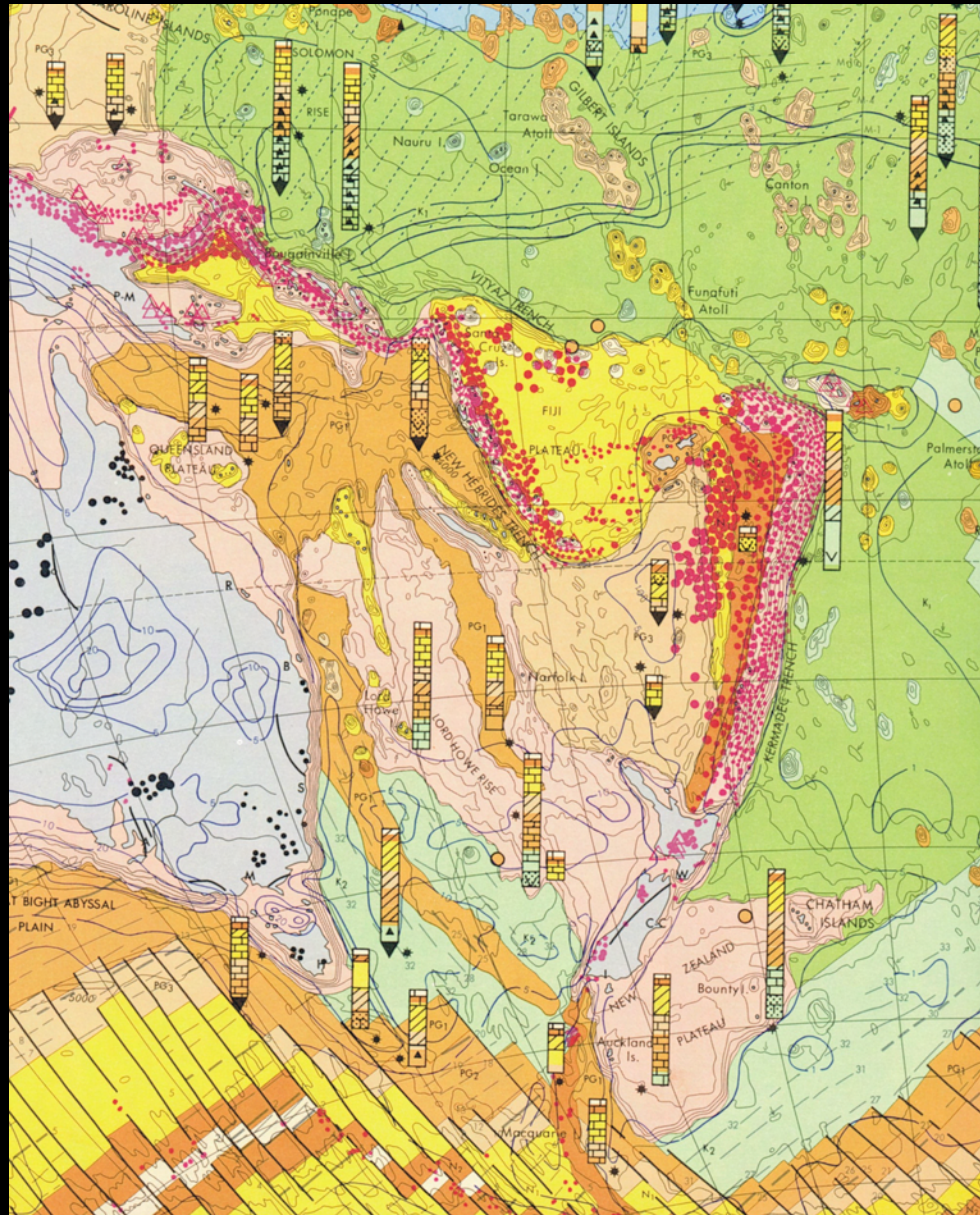
Subduction - Subduction (S-S)



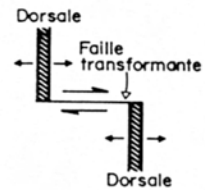
Zone transformante (S-S) des Fiji

Allègre, Ecume de la Terre

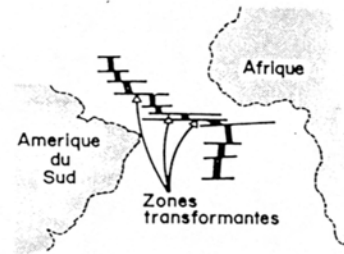
Transformantes S-S



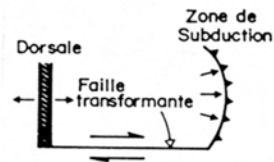
Transformantes



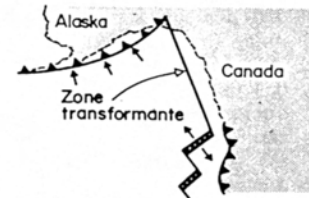
Dorsale - Dorsale (D-D)



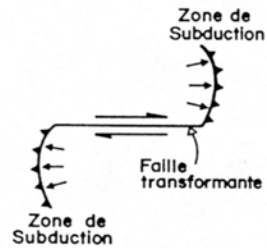
Dorsale Mésio Atlantique au niveau de l'équateur (D-D)



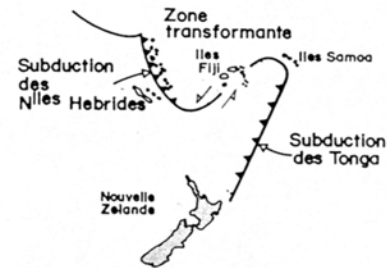
Dorsale - Subduction (D-S)



Zone transformante (D-S) entre la subduction aléoutienne et la dorsale Juan de Fuca

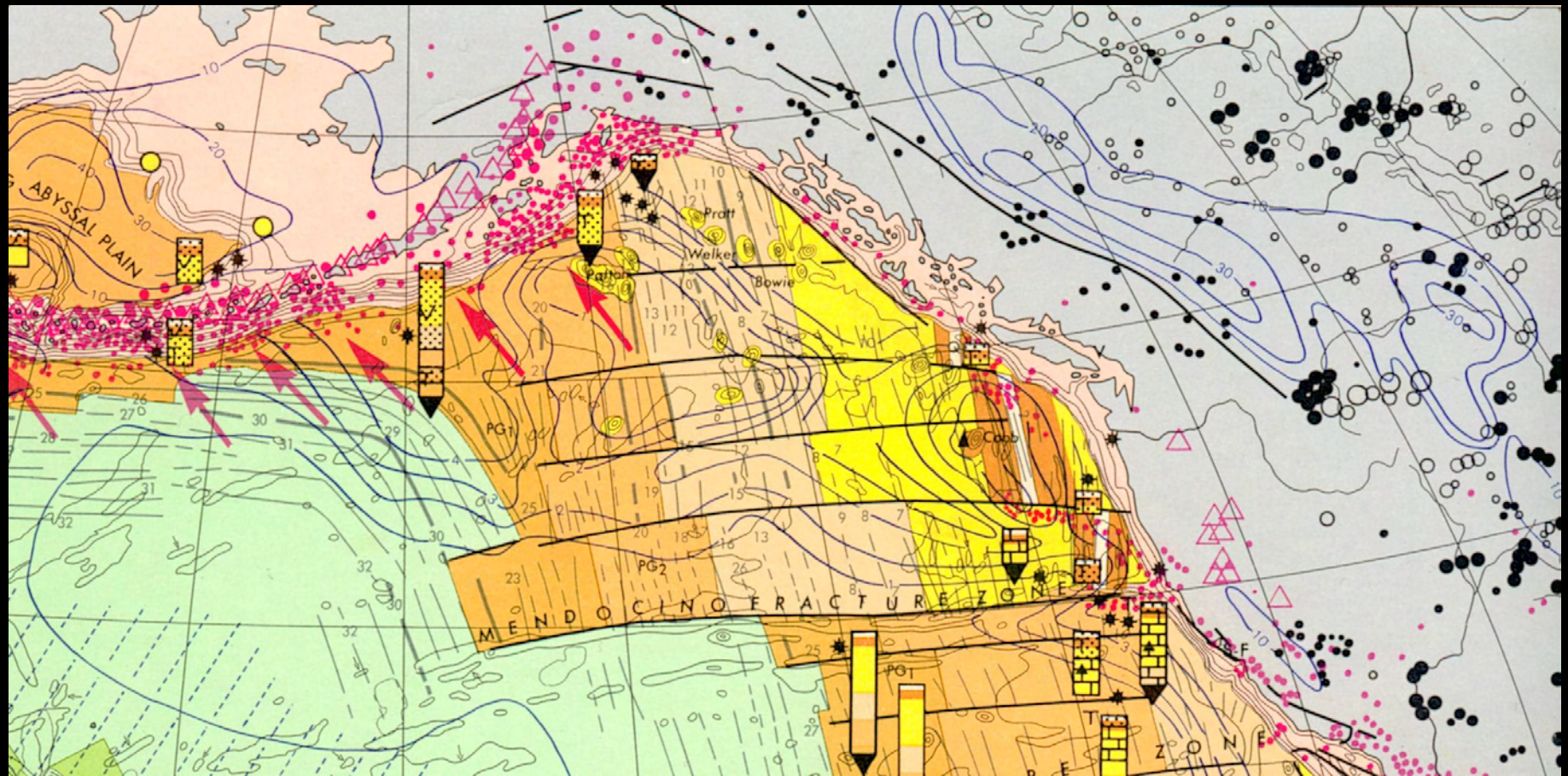


Subduction - Subduction (S-S)



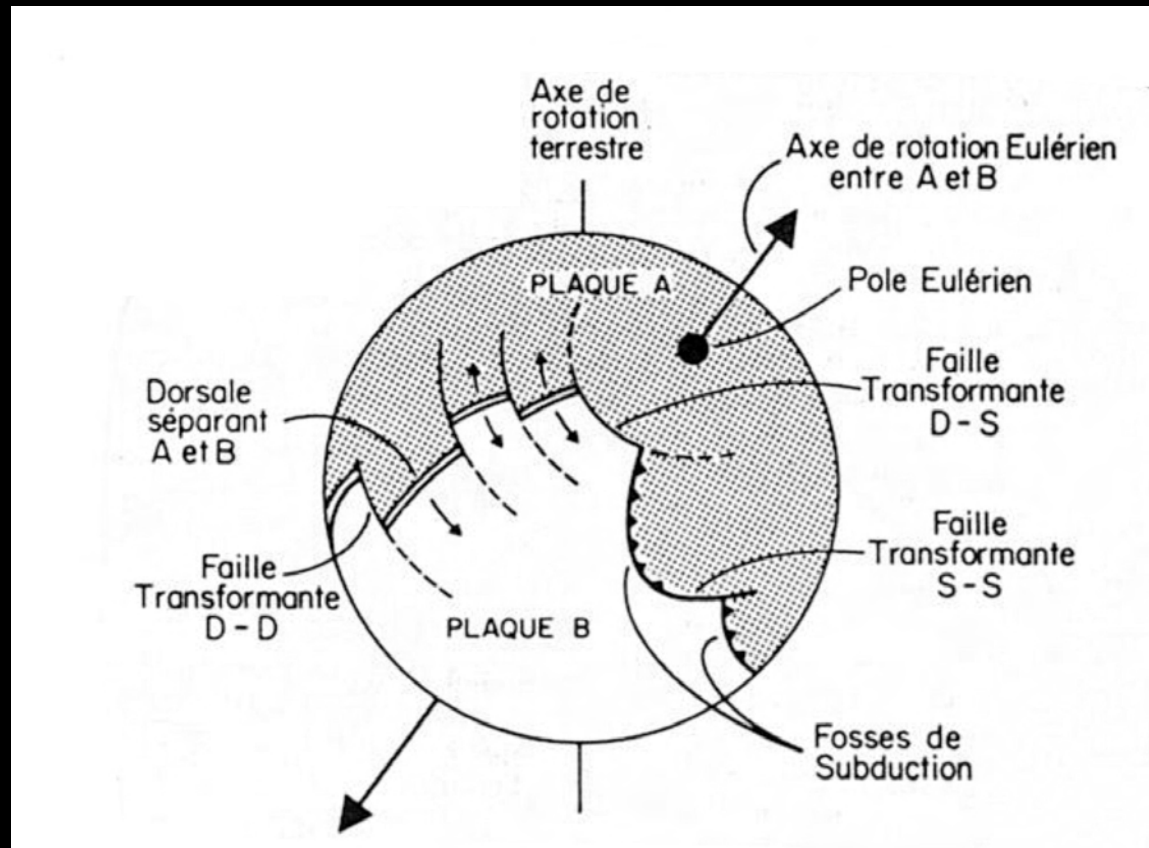
Zone transformante (S-S) des Fiji

Transformantes D-S

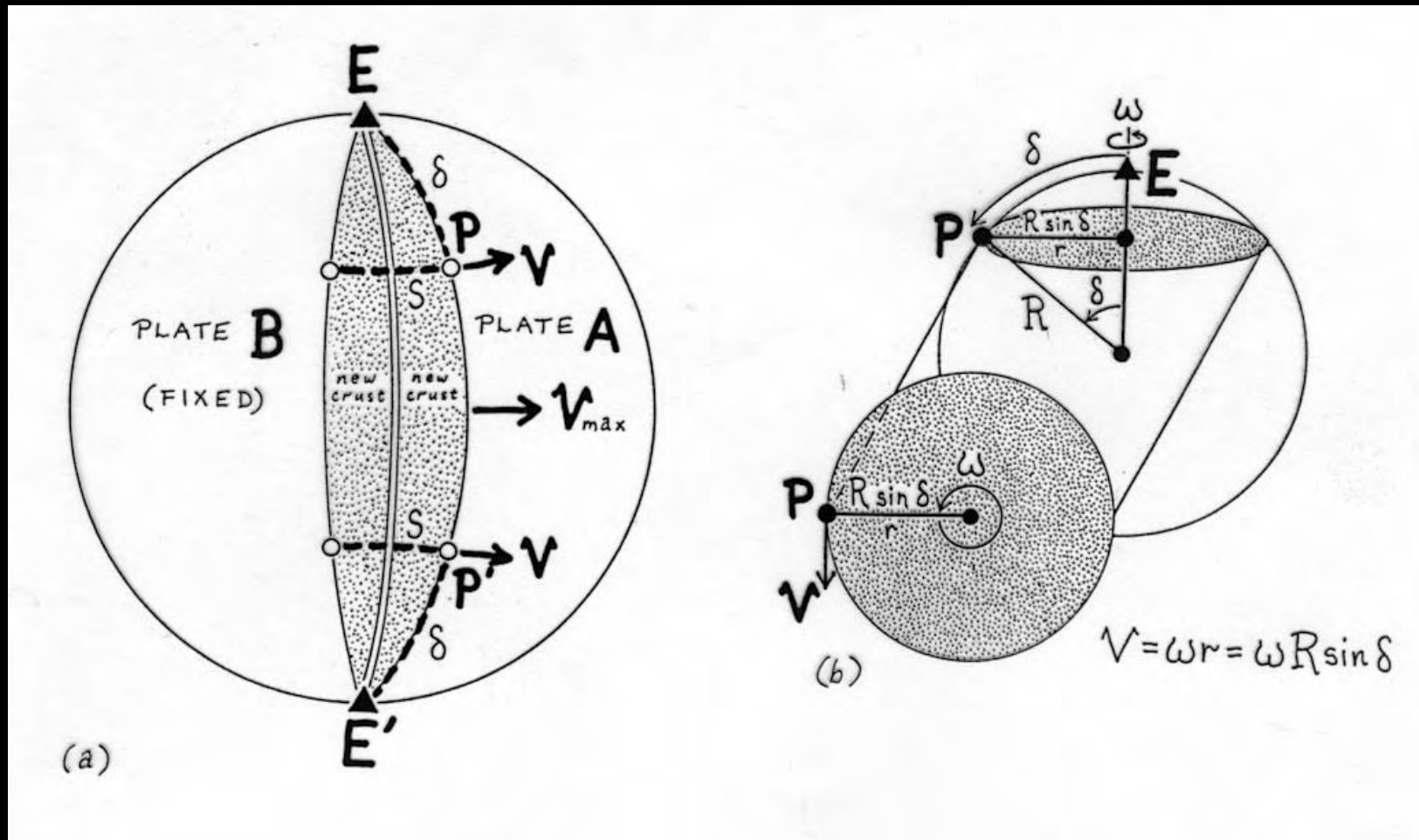


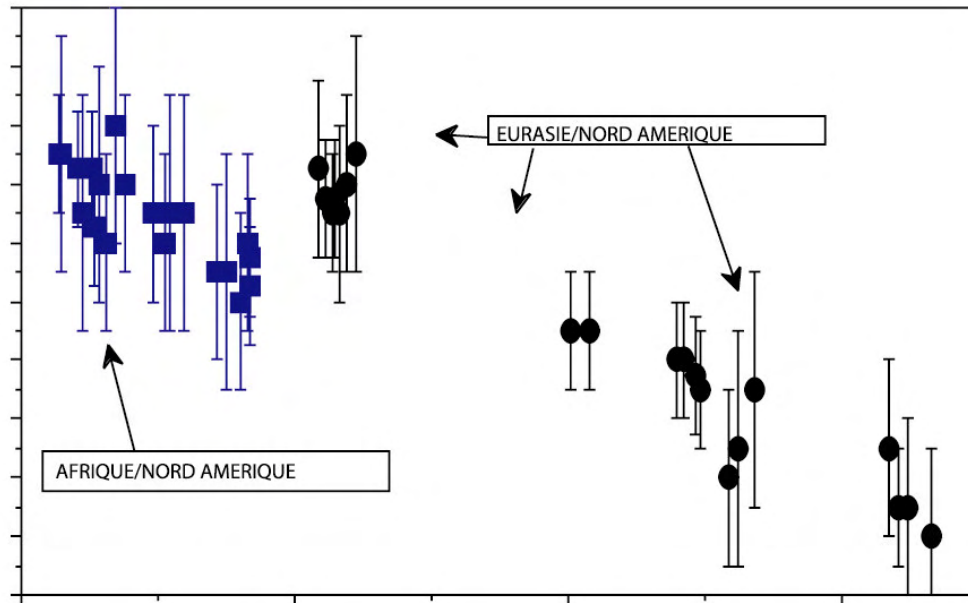
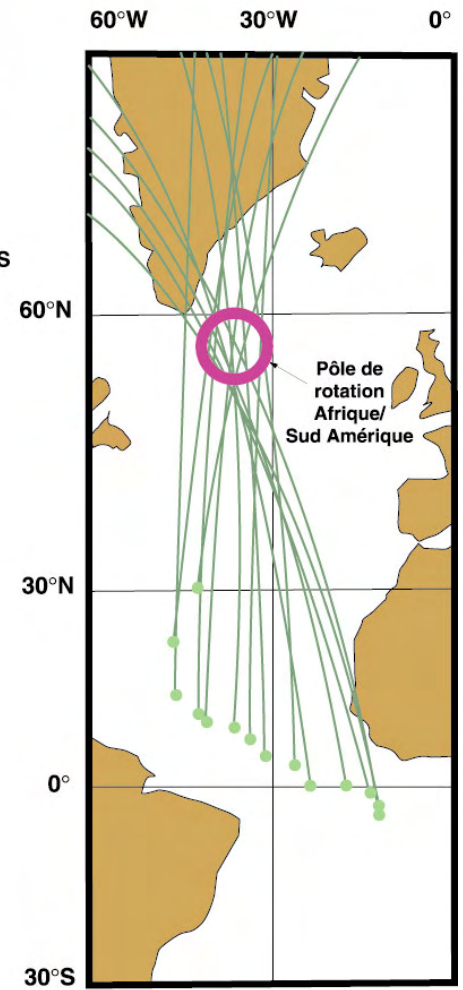
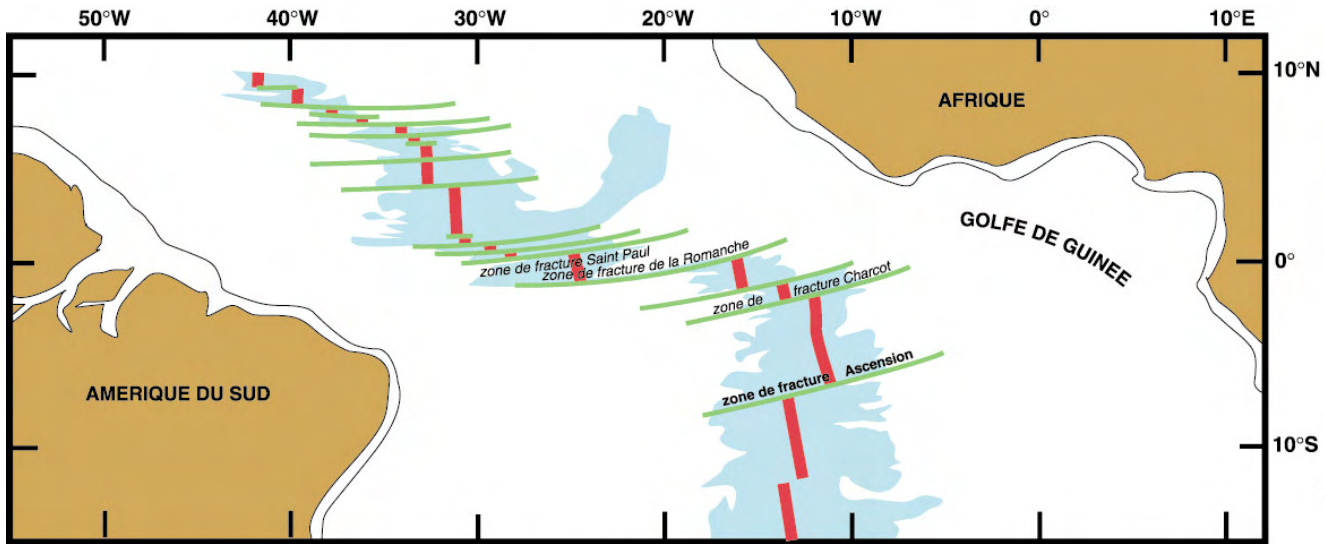
Eléments de cinématique relative des plaques

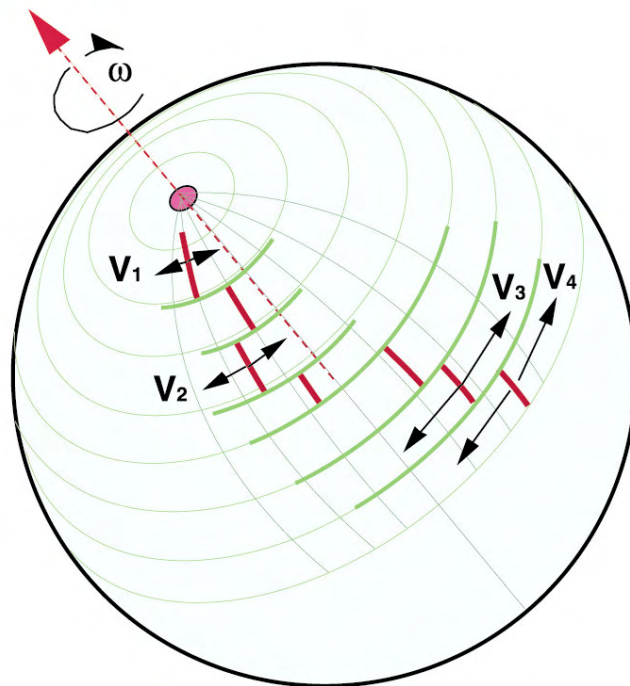
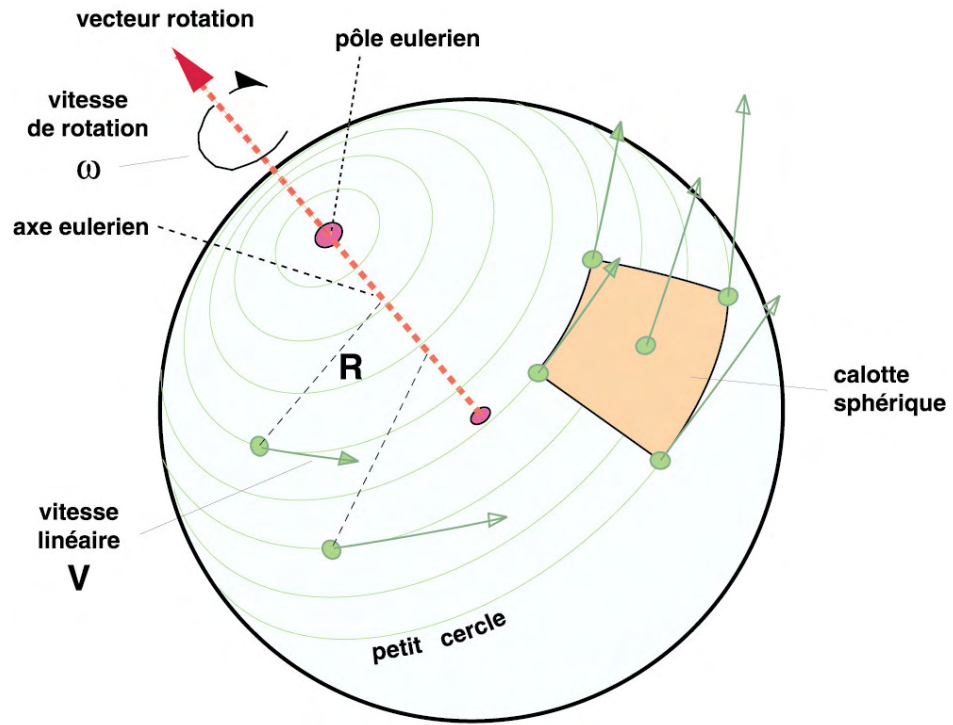
Cinématique relative



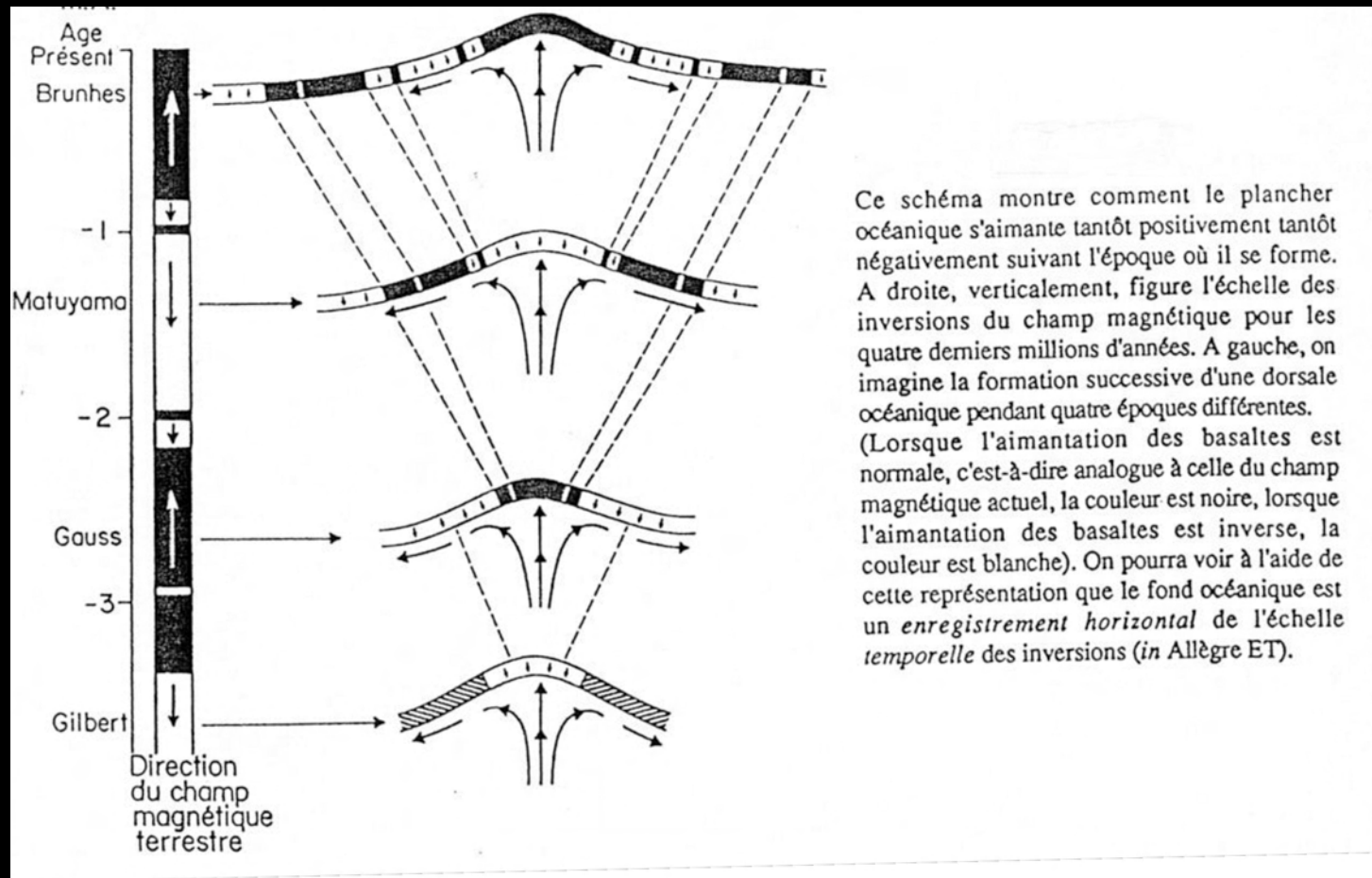
Cinématique relative





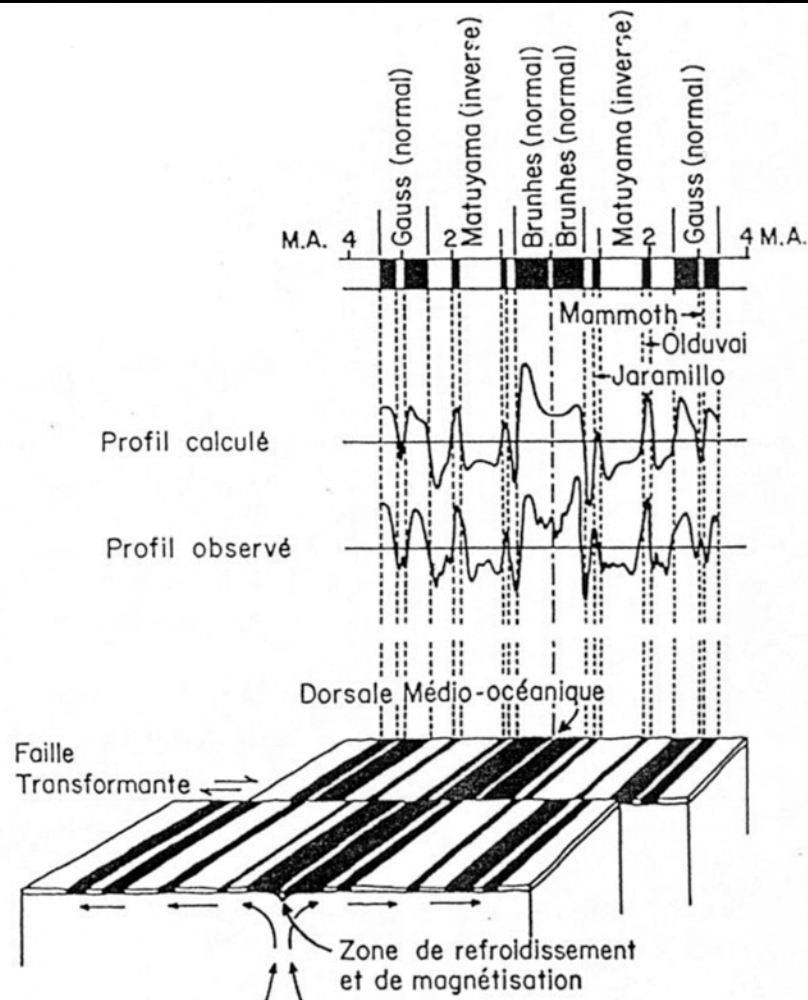


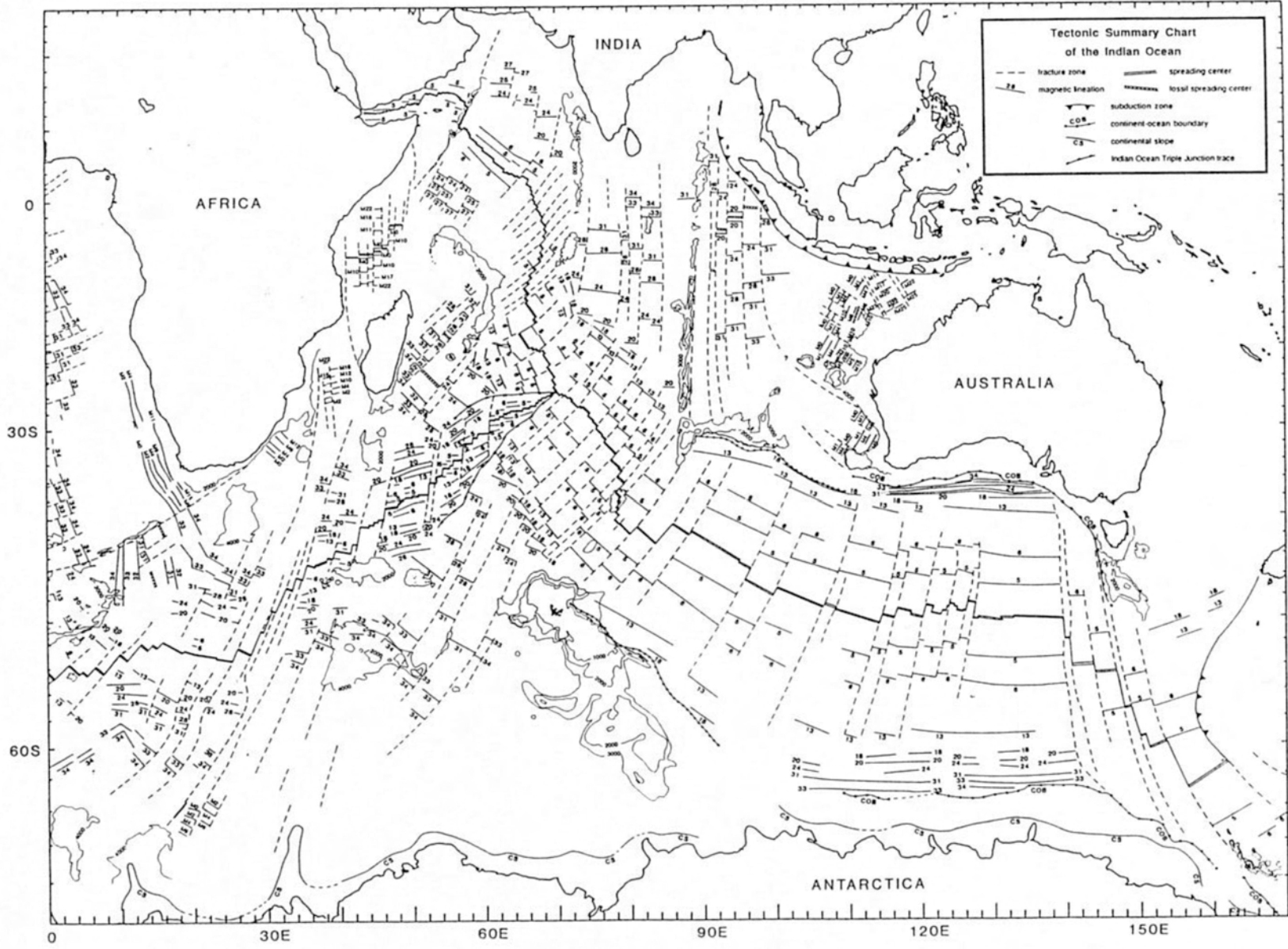
Cinématique- paléomag.

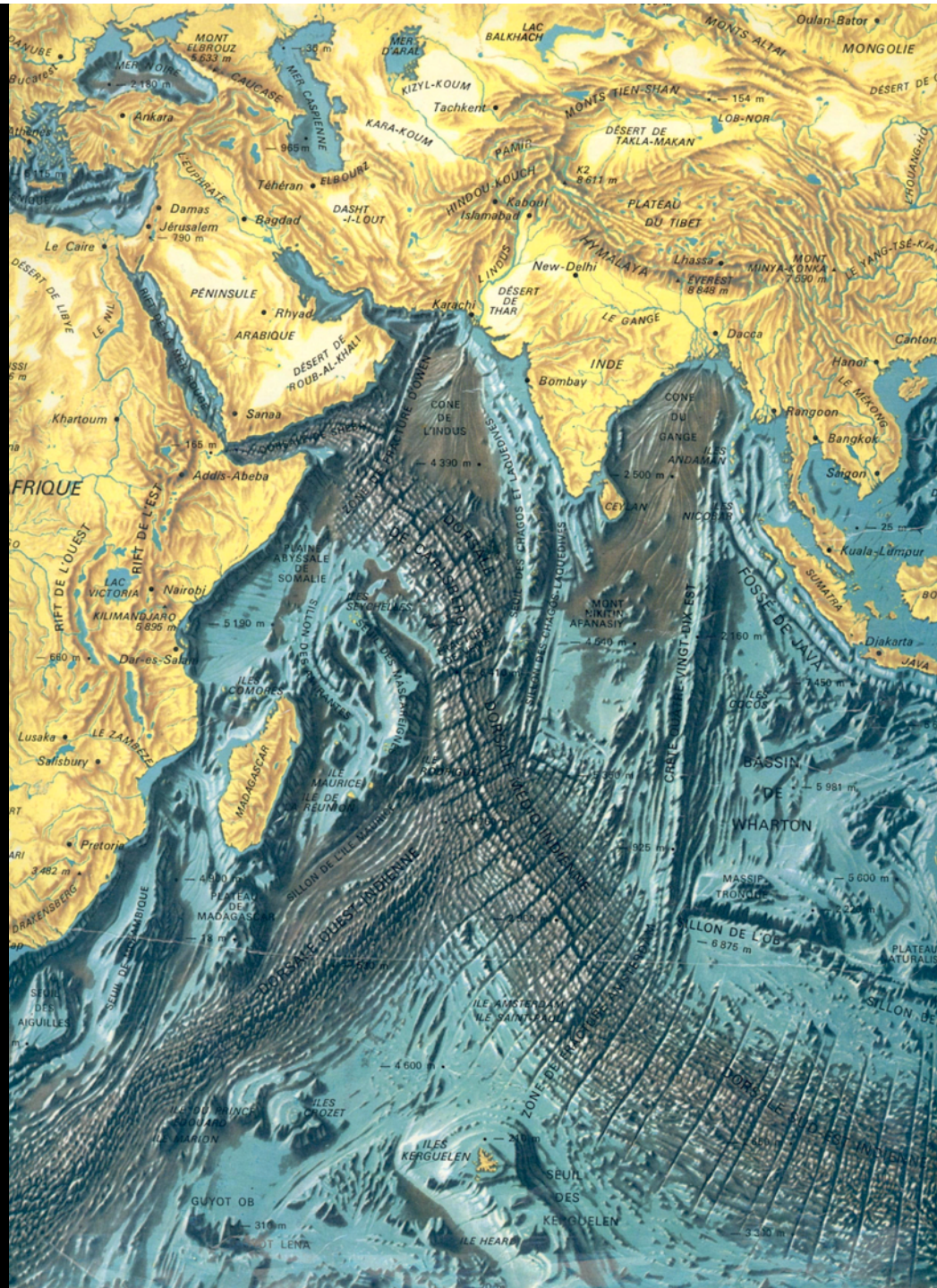


Cinématique- paléomag.

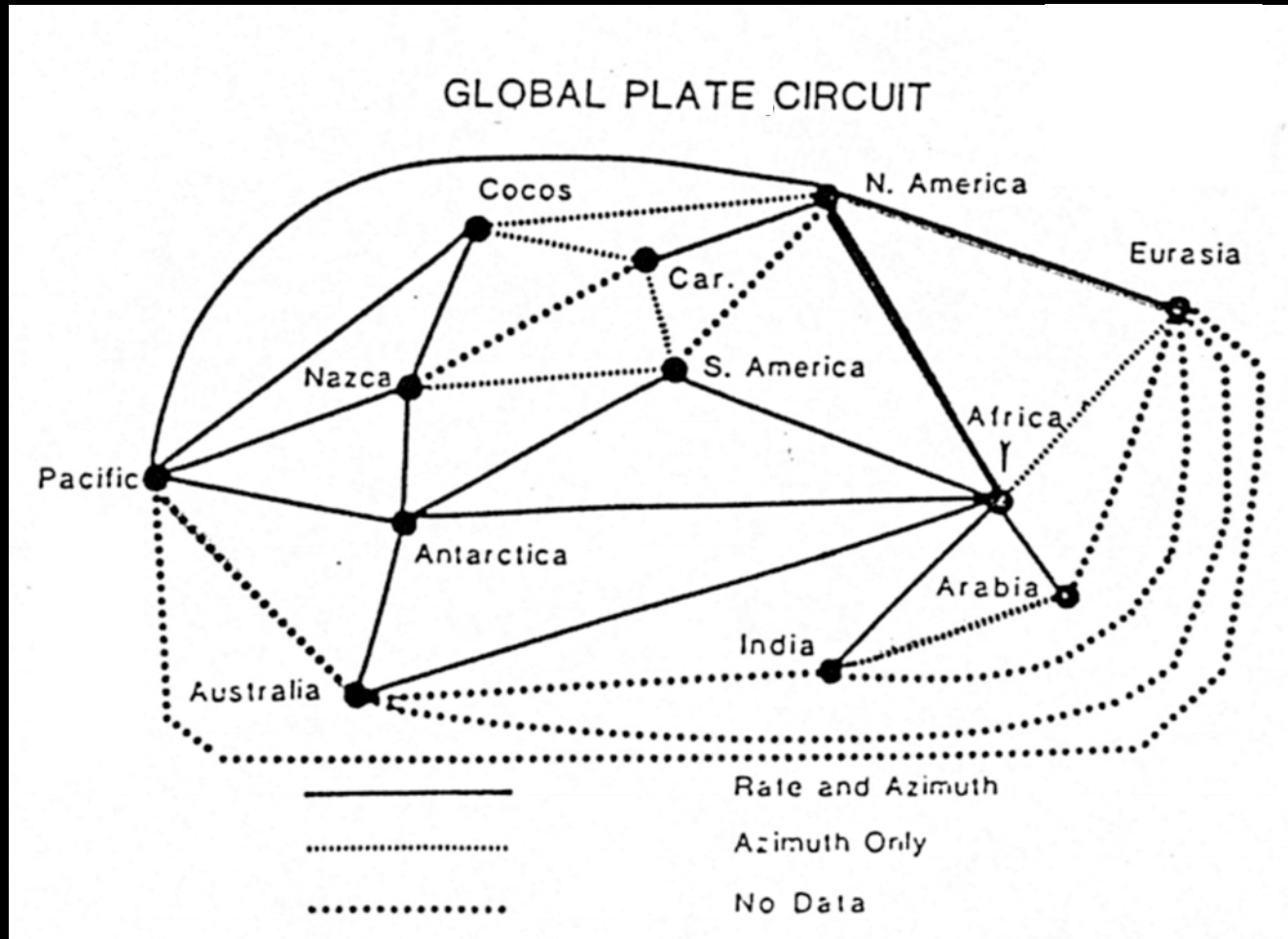
Compréhension des anomalies magnétiques. En chaque point on calcule la différence entre le champ moyen et le champ local. On peut comparer le profil déduit des observations avec le profil qu'on peut calculer à partir d'une série de bandes magnétiques alternativement aimantée vers le haut et vers le bas. En référence, vers le haut, l'échelle des inversions ; vers le bas, le plancher océanique de part et d'autre d'une dorsale. Le schéma a été compliqué par l'existence d'une faille transformante (figure d'après le dessin original de Vine, in Allègre ET).

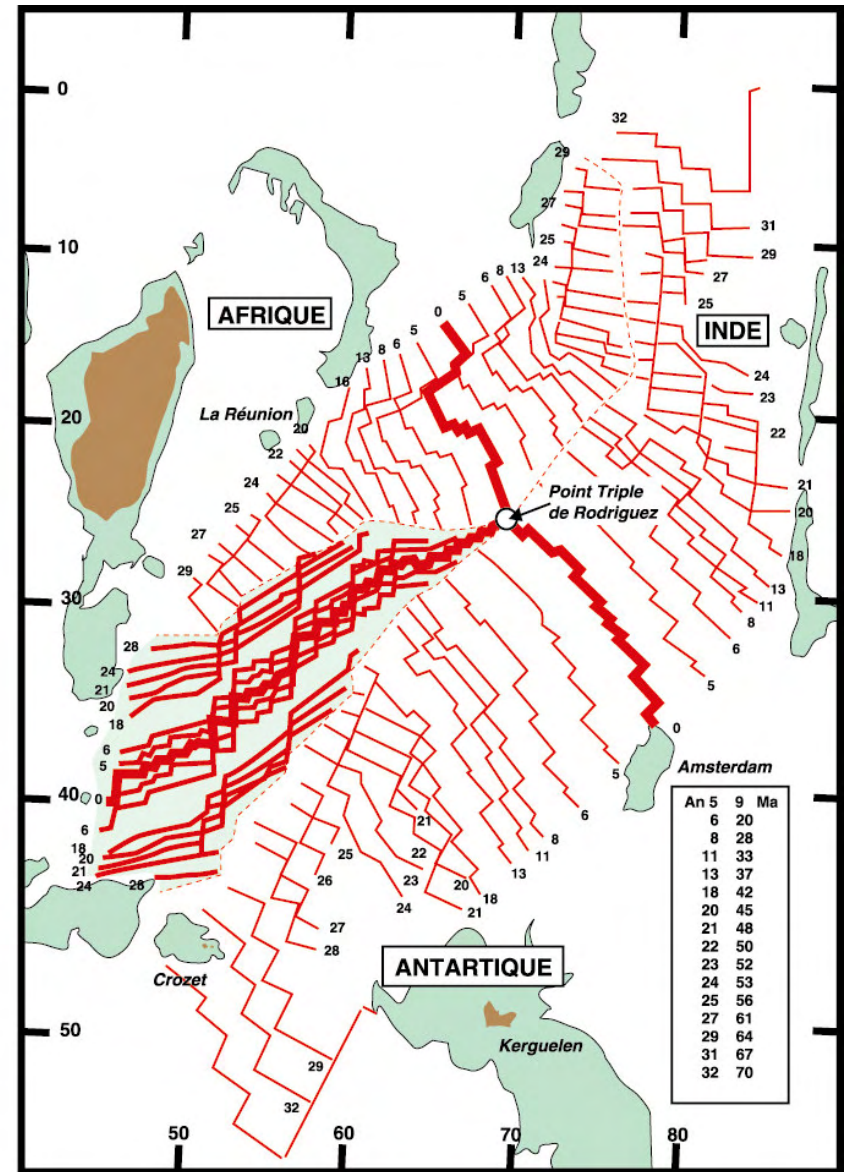
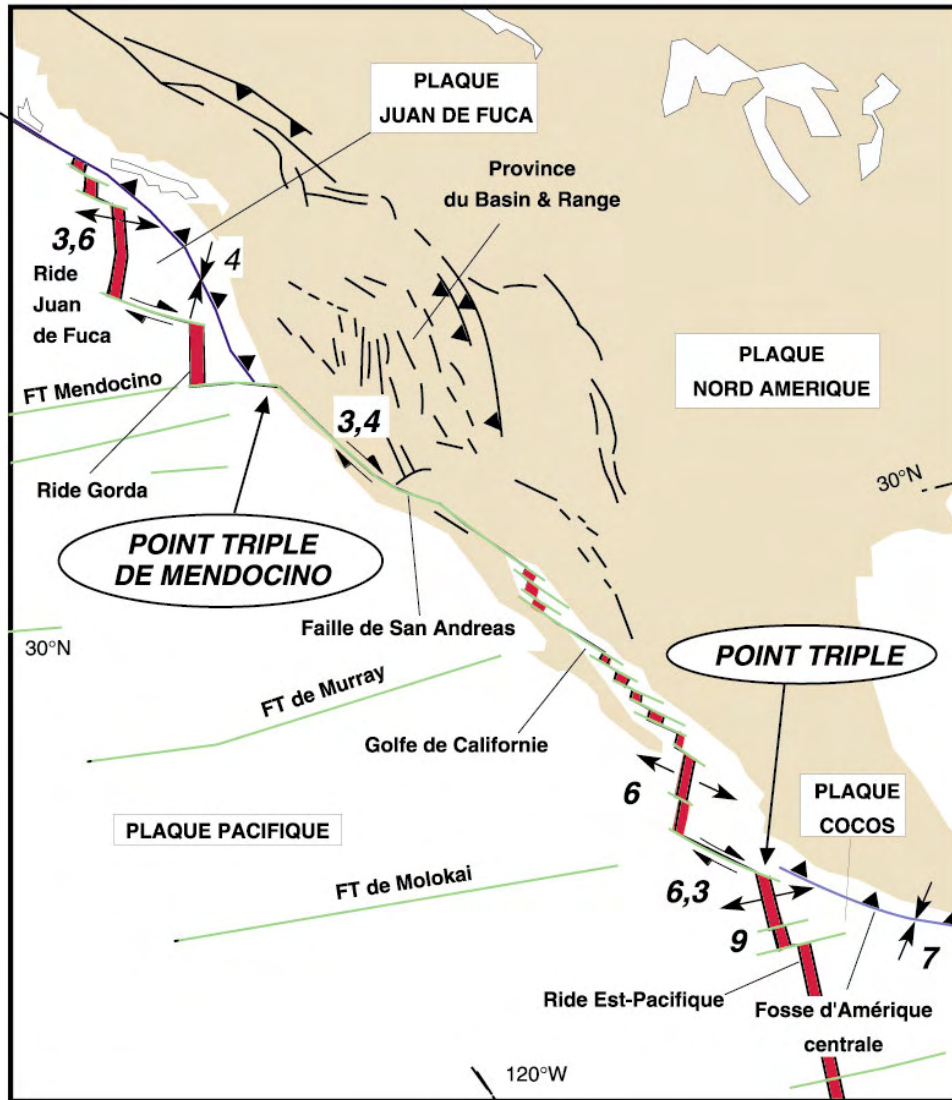


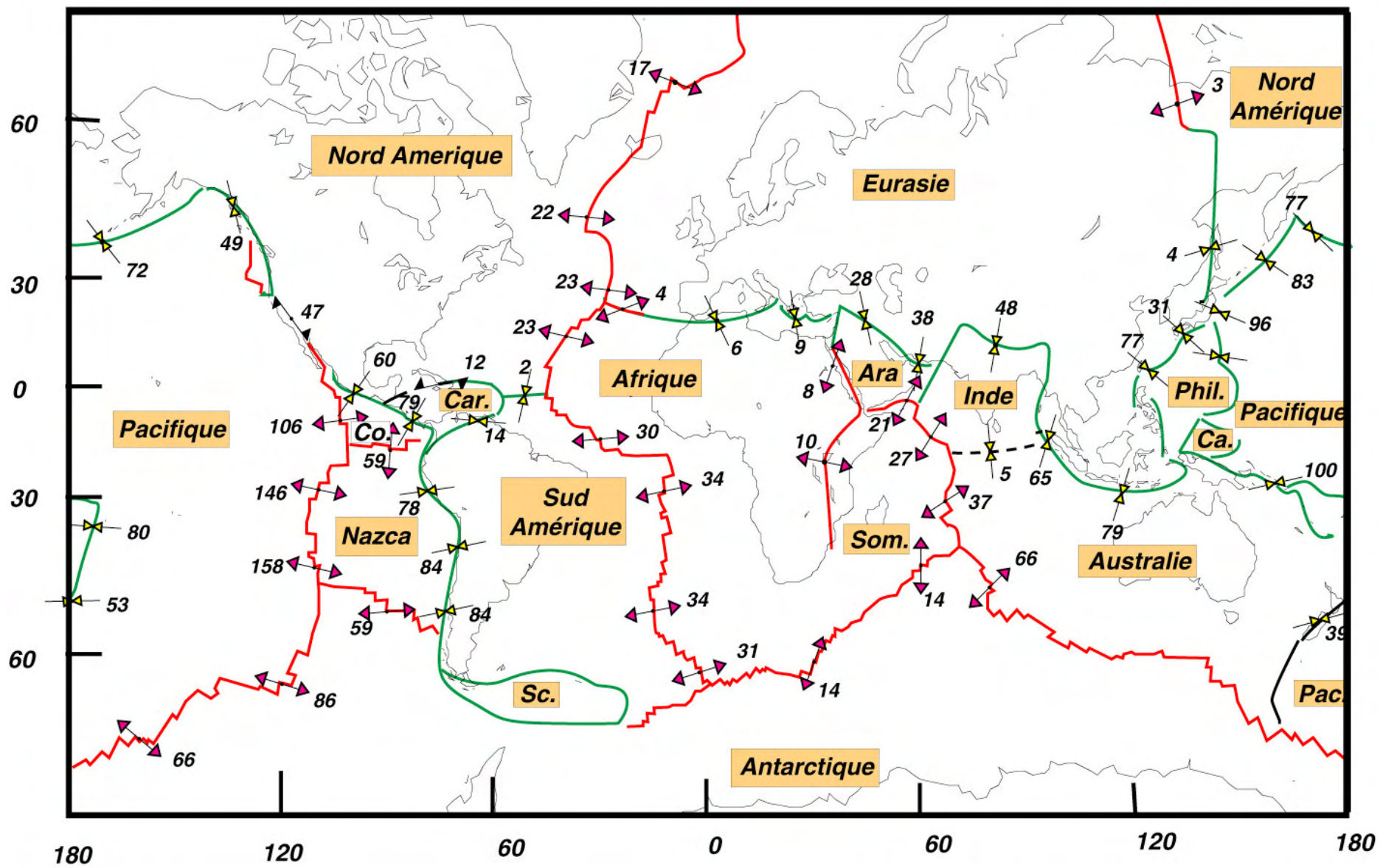




Cinématique relative

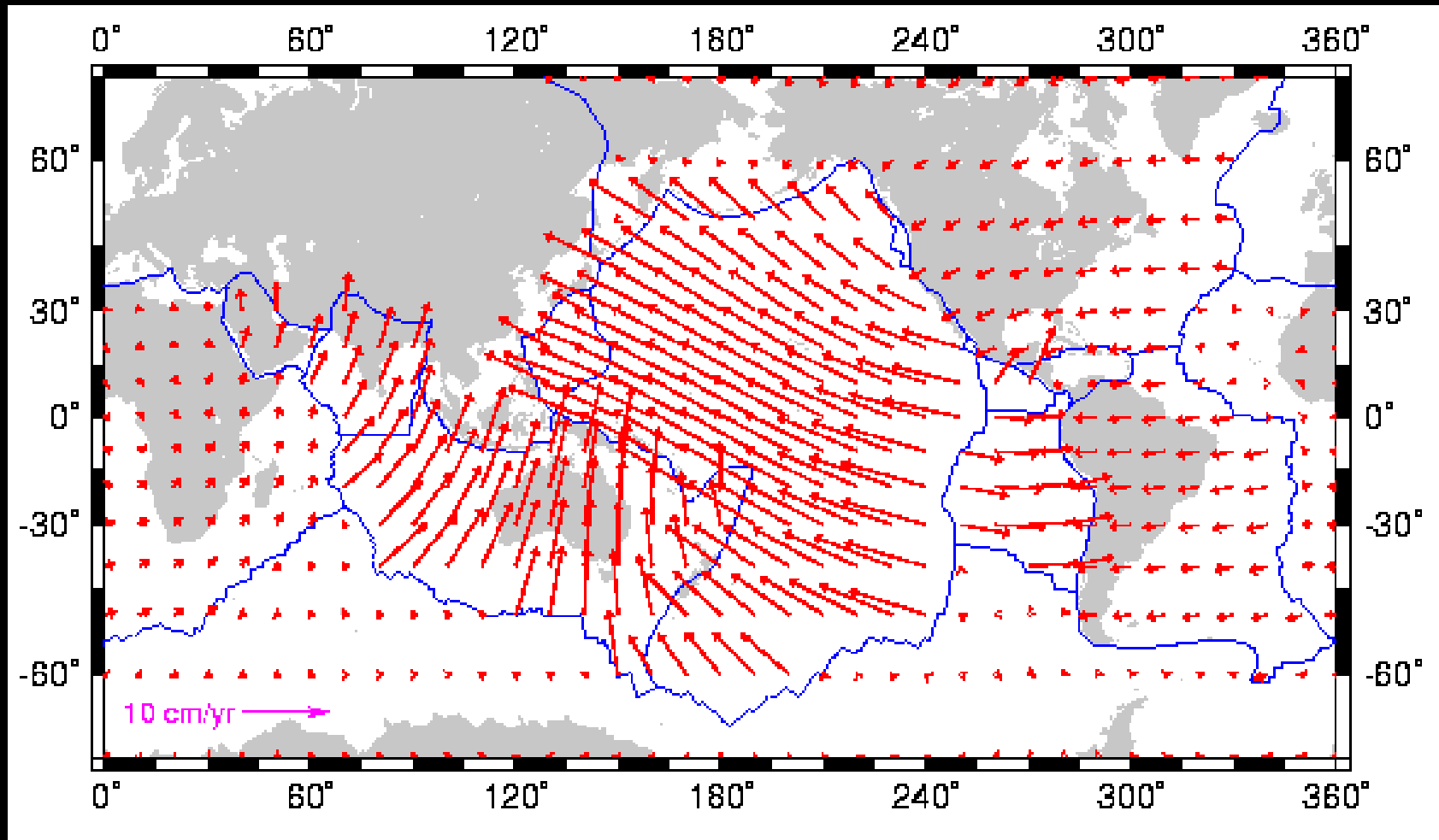




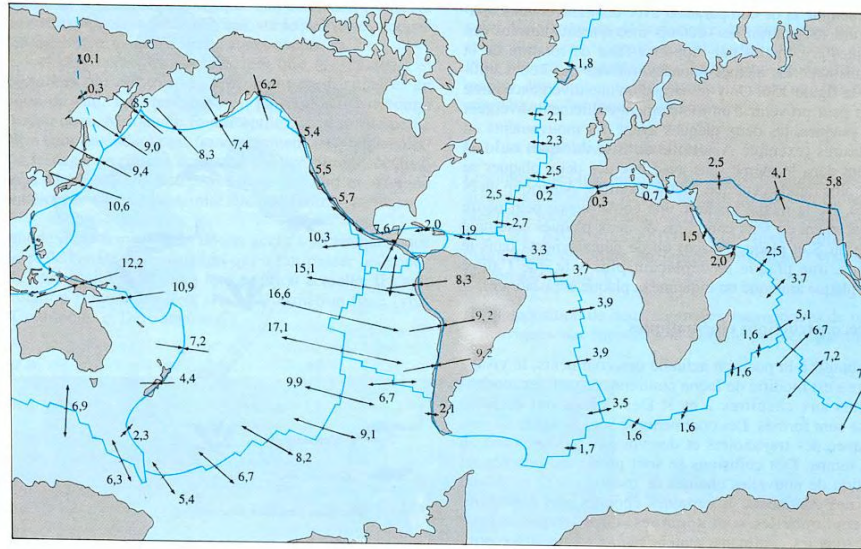


Cinématique relative

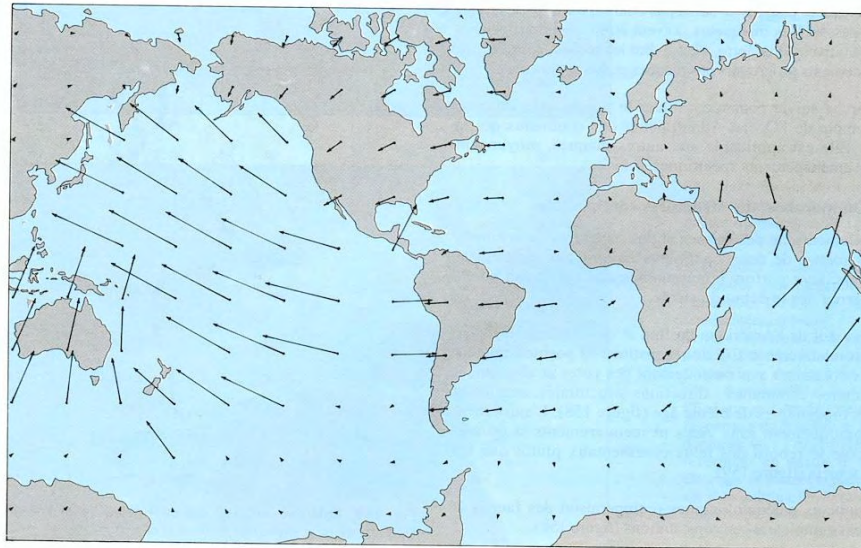
Le modèle NUVEL-1 (*DeMets et al., 1990*)



NB: tous les mouvements sont par rapport à l'Eurasie fixe



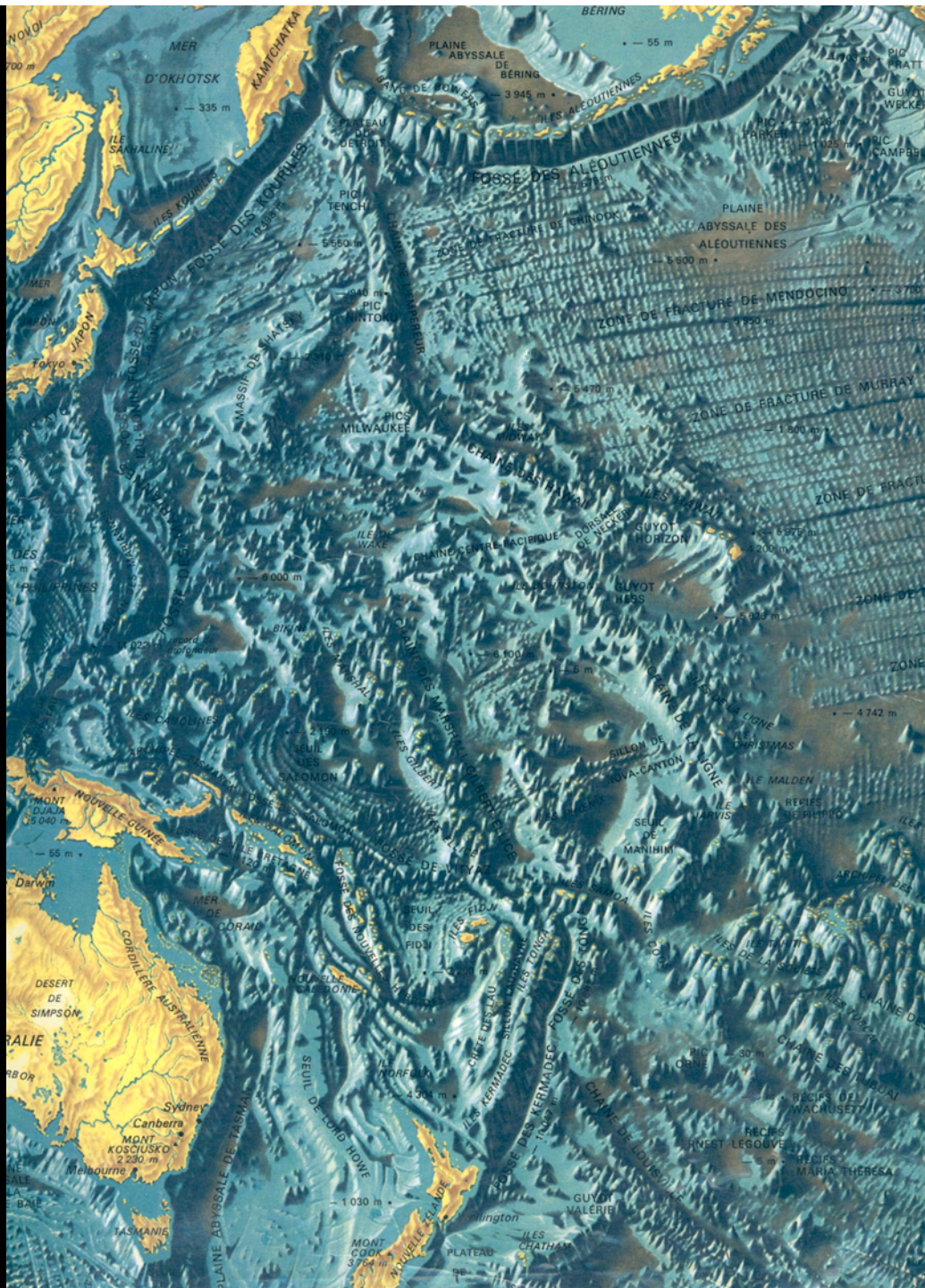
10 cm · a⁻¹



10 cm · a⁻¹

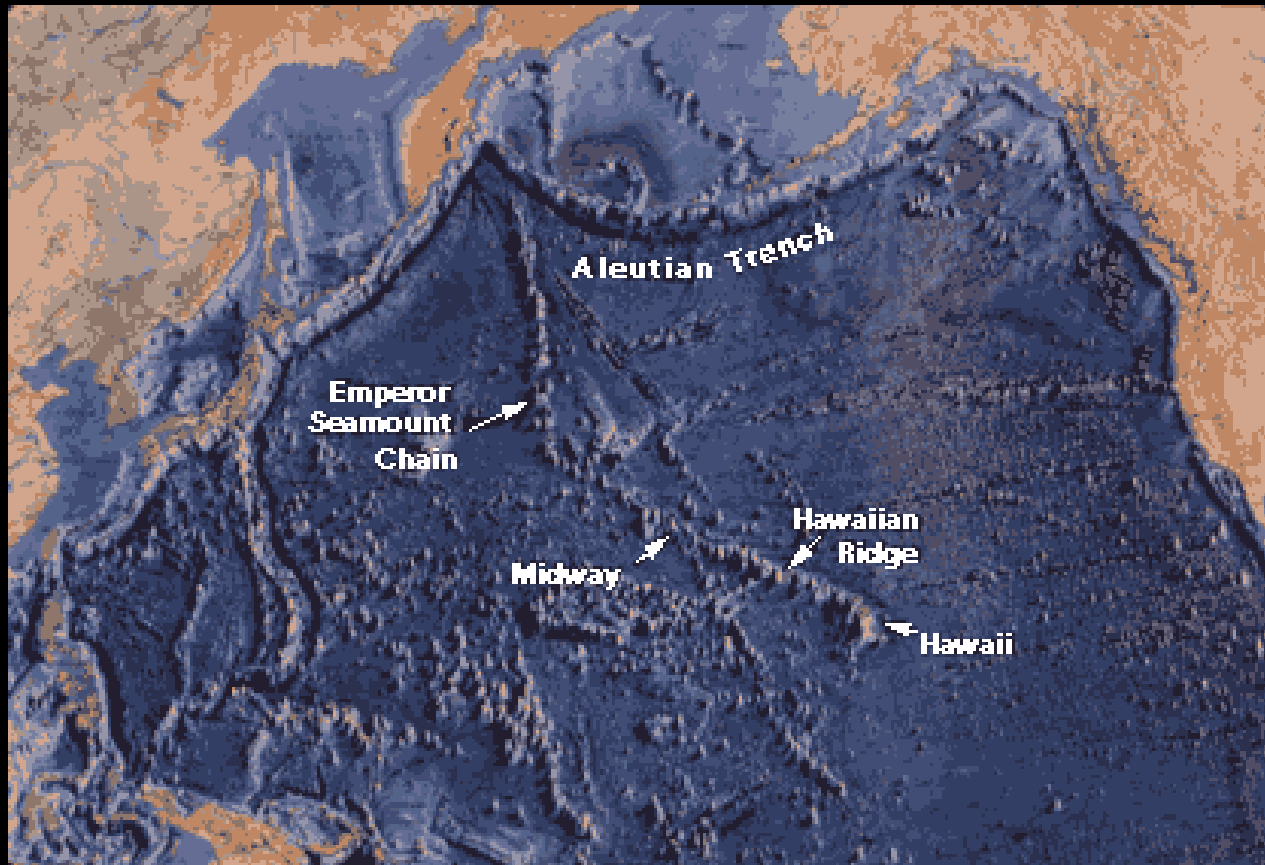
(In Caron et al.,
Enseigner la planète
Terre)

Eléments de cinématique absolue des plaques



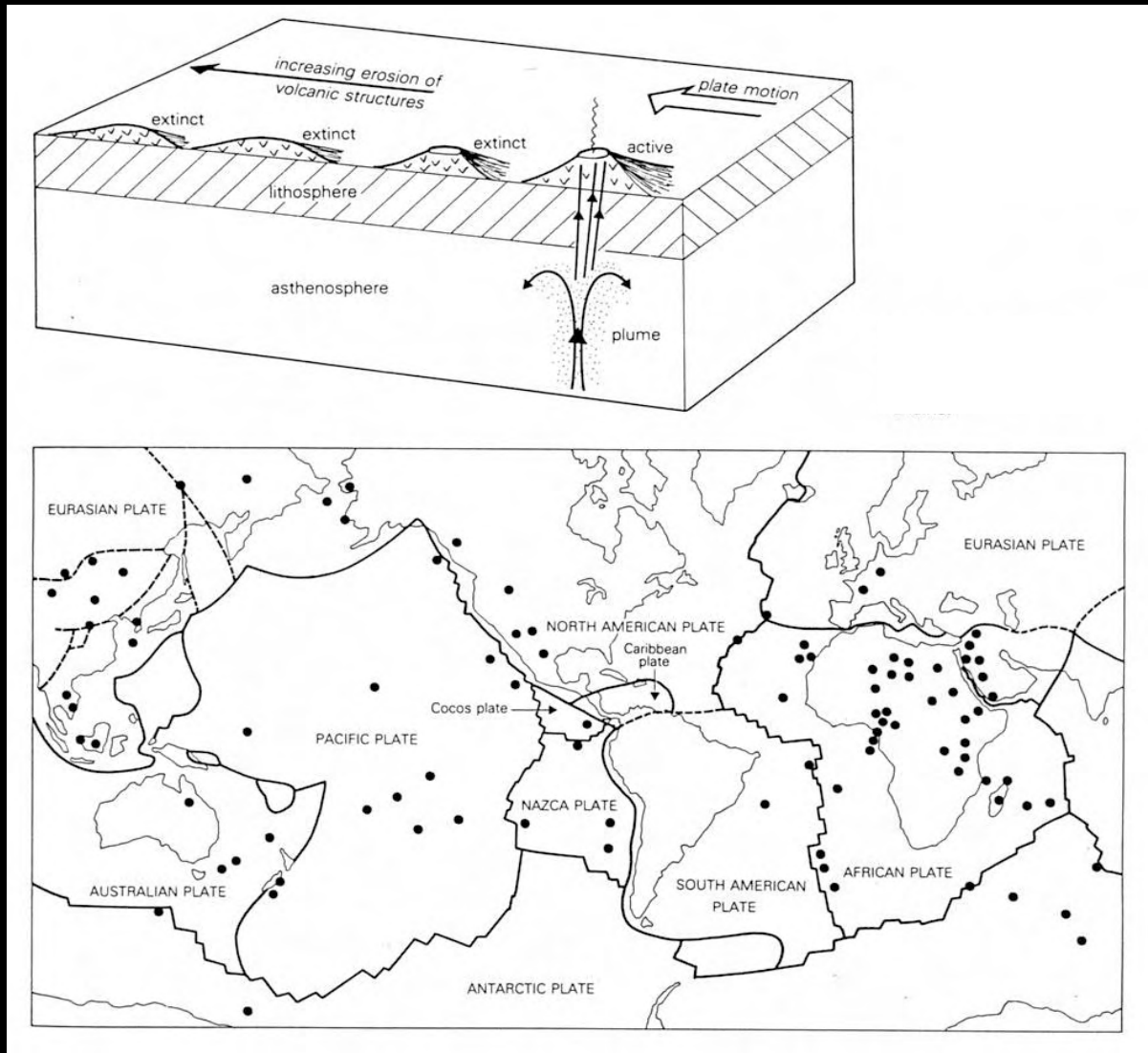
Cinématique absolue - Points chauds

Le repère lié aux points chauds



- Les points chauds semblent fixes les uns par rapport aux autres
- On détermine le mouvement de la plaque Pacifique uniquement

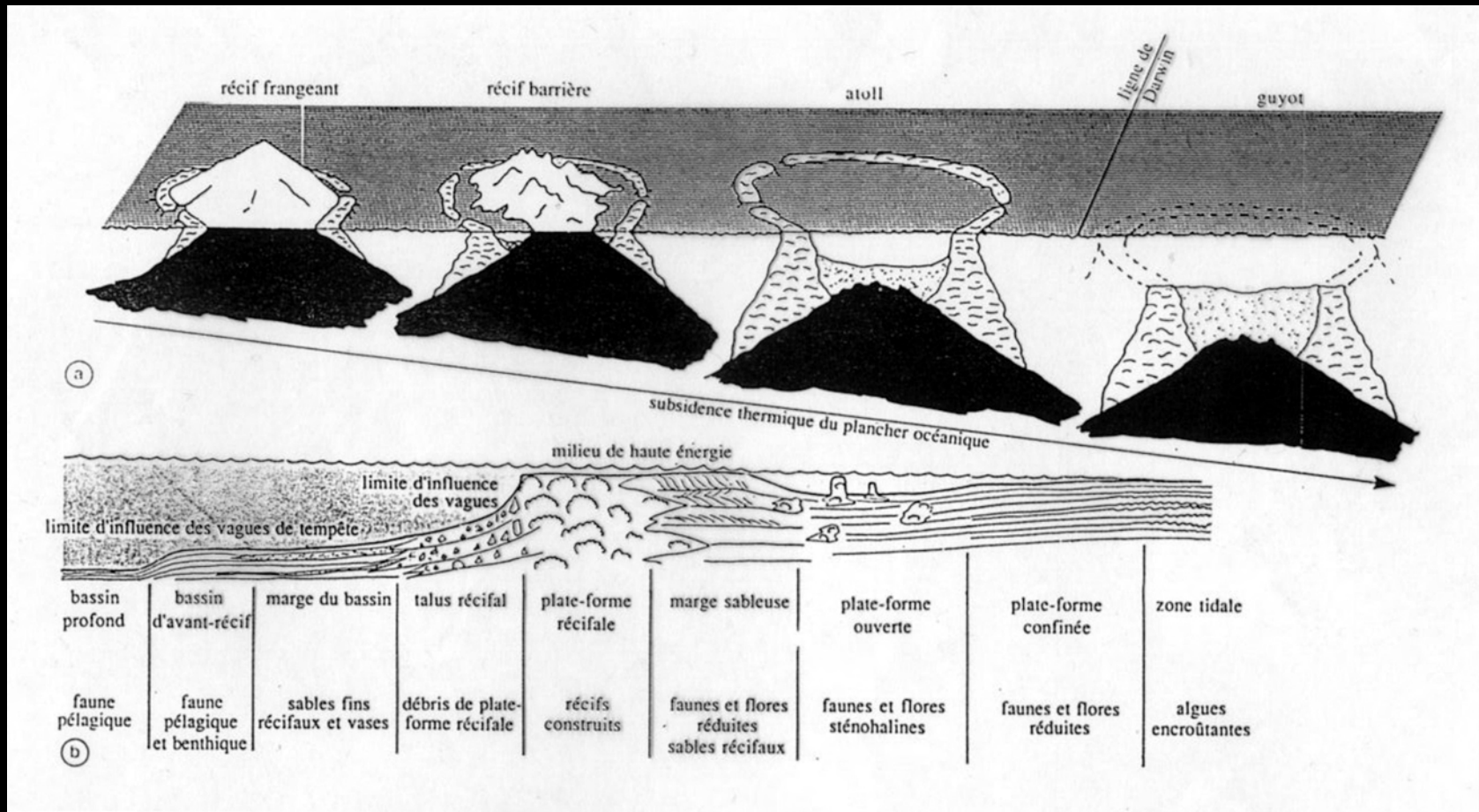
Cinématique absolue - Points chauds



Cinématique absolue - Points chauds

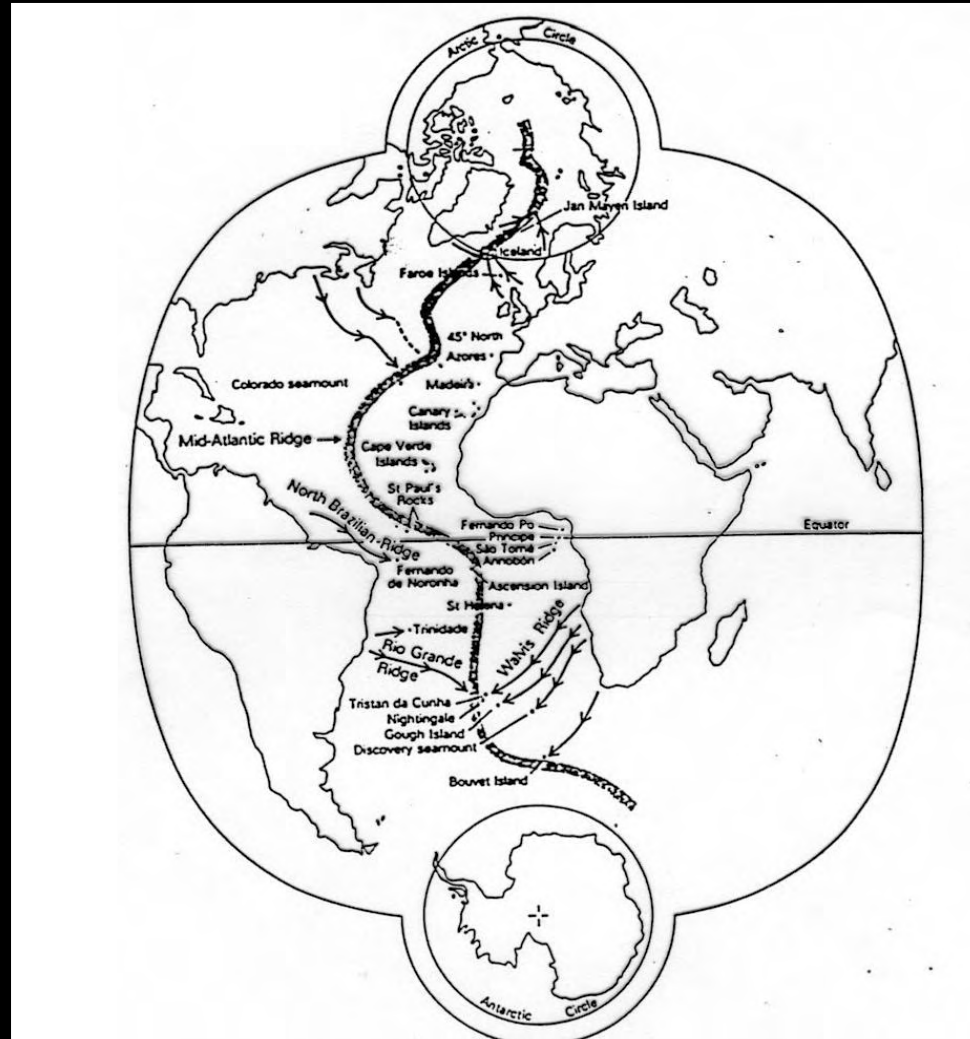


Cinématique absolue - Points chauds

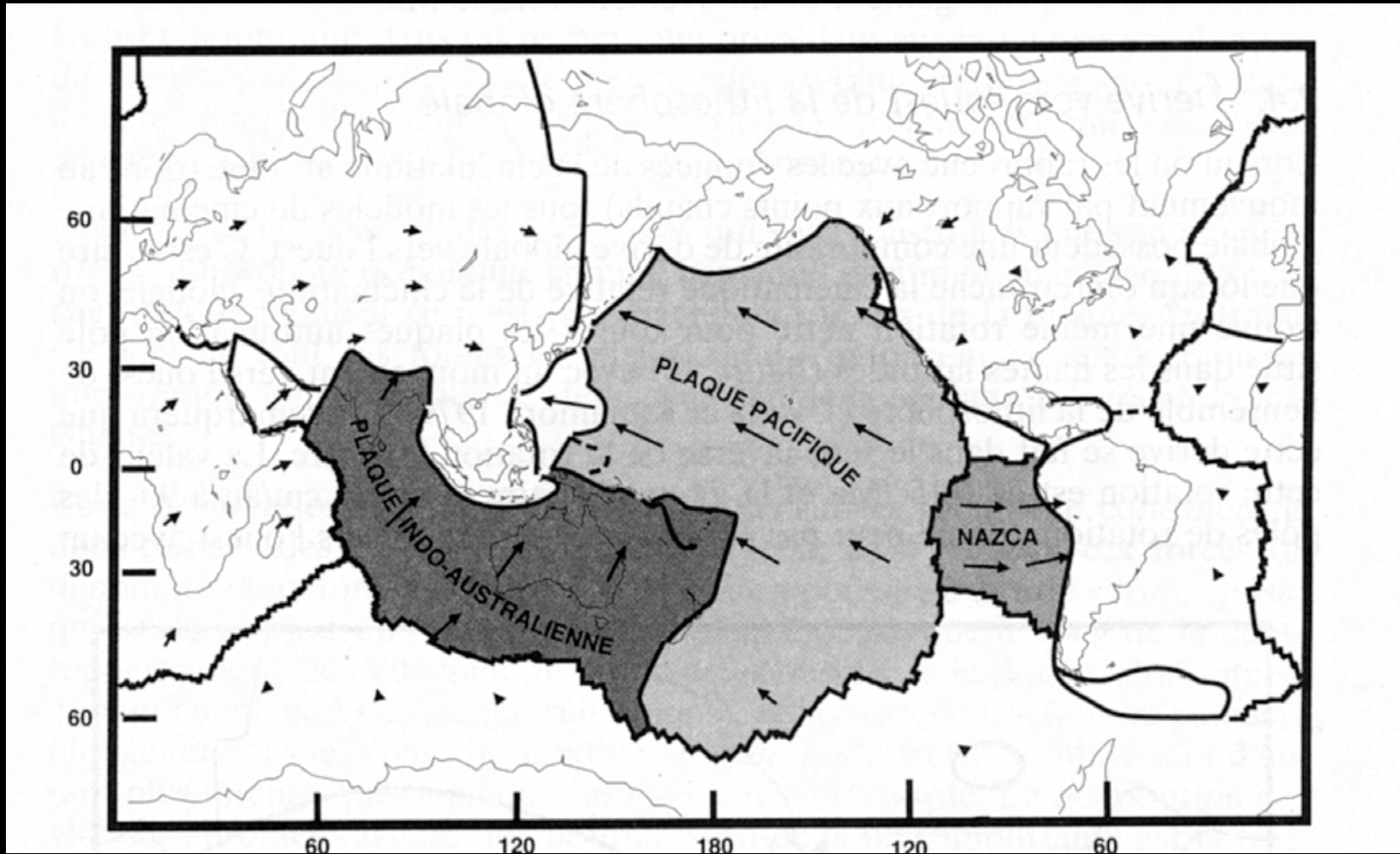


(In Caron et al., Enseigner la planète Terre)

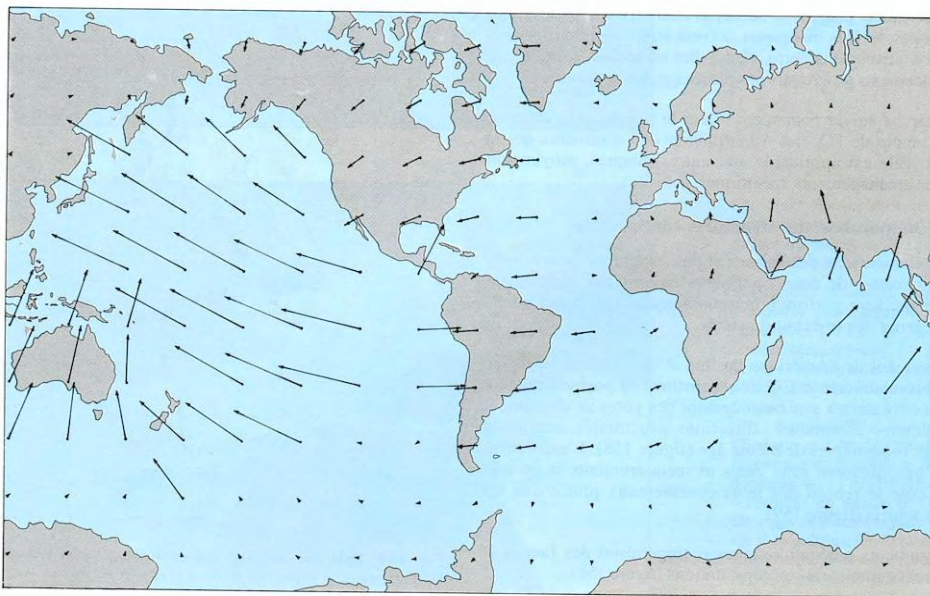
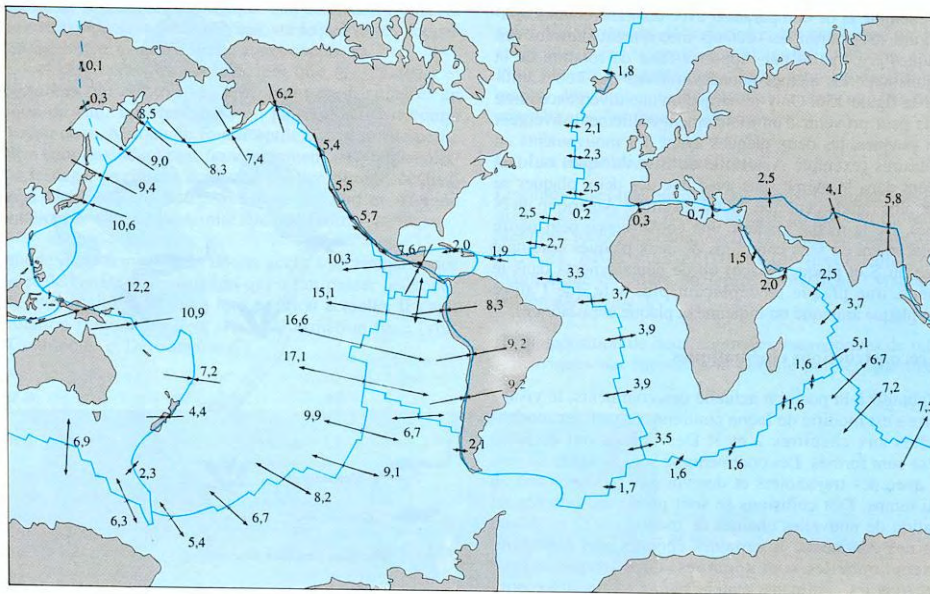
Cinématique absolue - Points chauds



Cinématique absolue

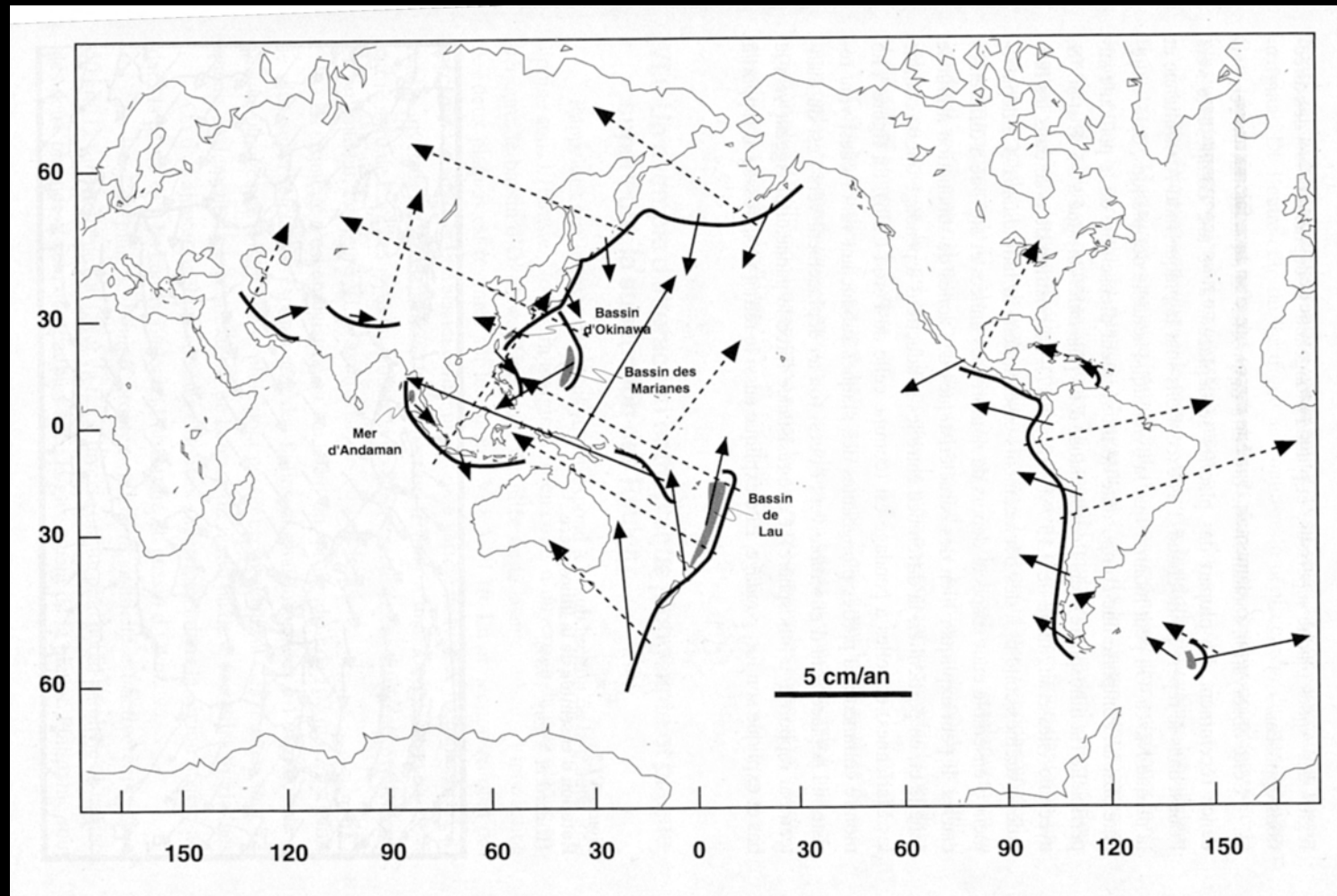


(In Jolivet et Nataf, Géodynamique)



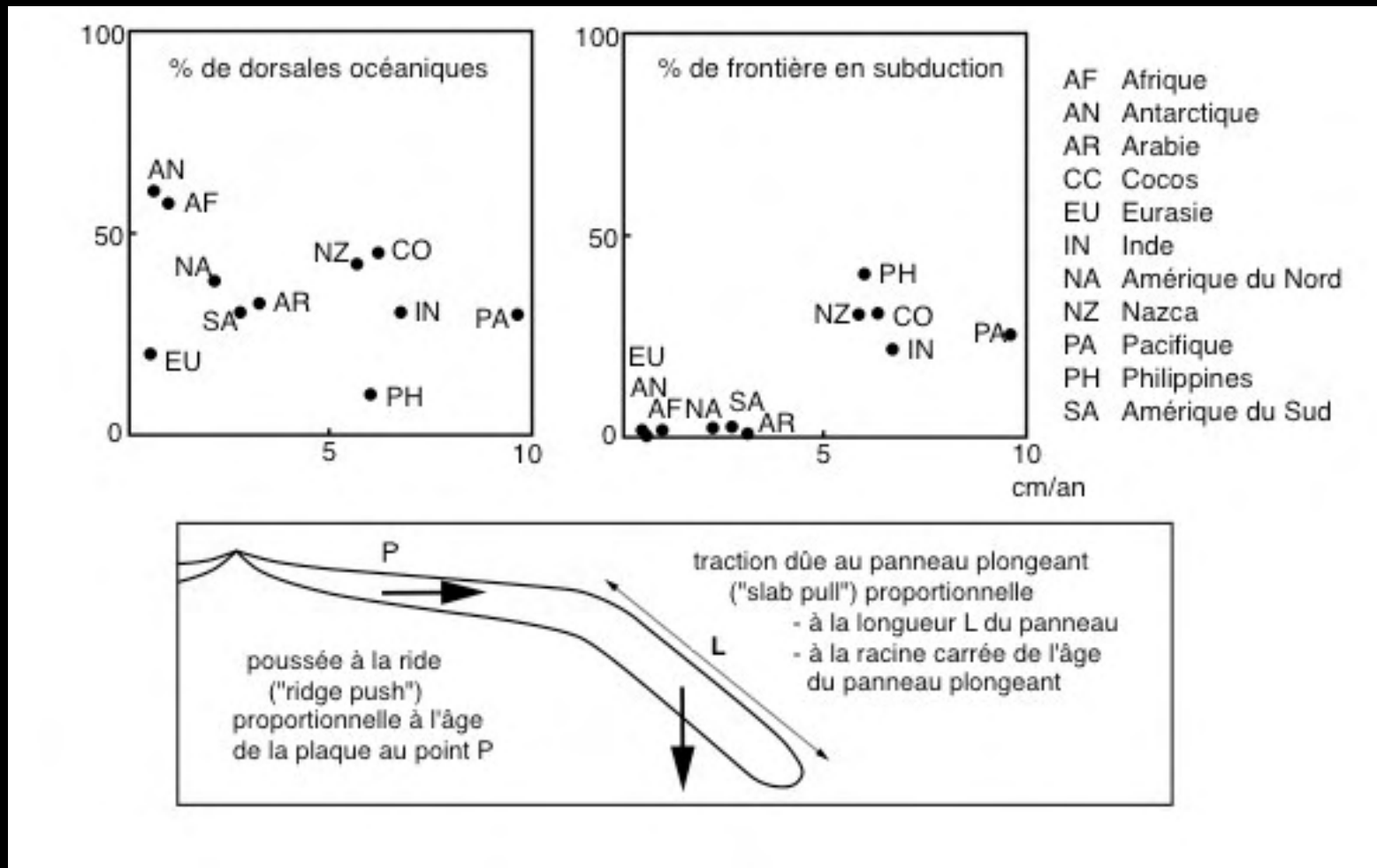
$10 \text{ cm} \cdot \text{a}^{-1}$

Cinématique absolue



(In Jolivet,
La déformation des continents)

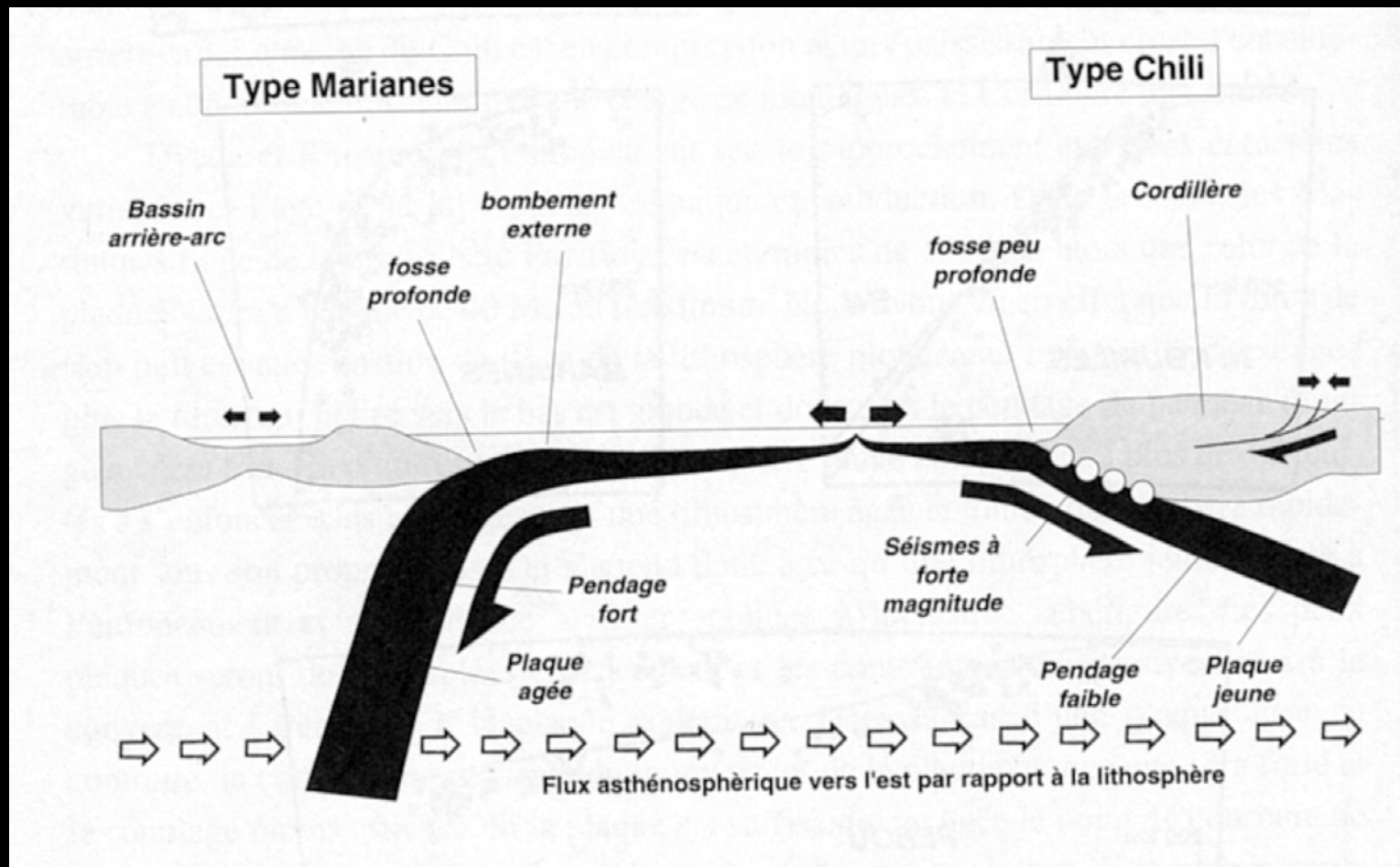
La subduction, force motrice des plaques ?



(In Boillot et al. Dynamique de la lithosphère)

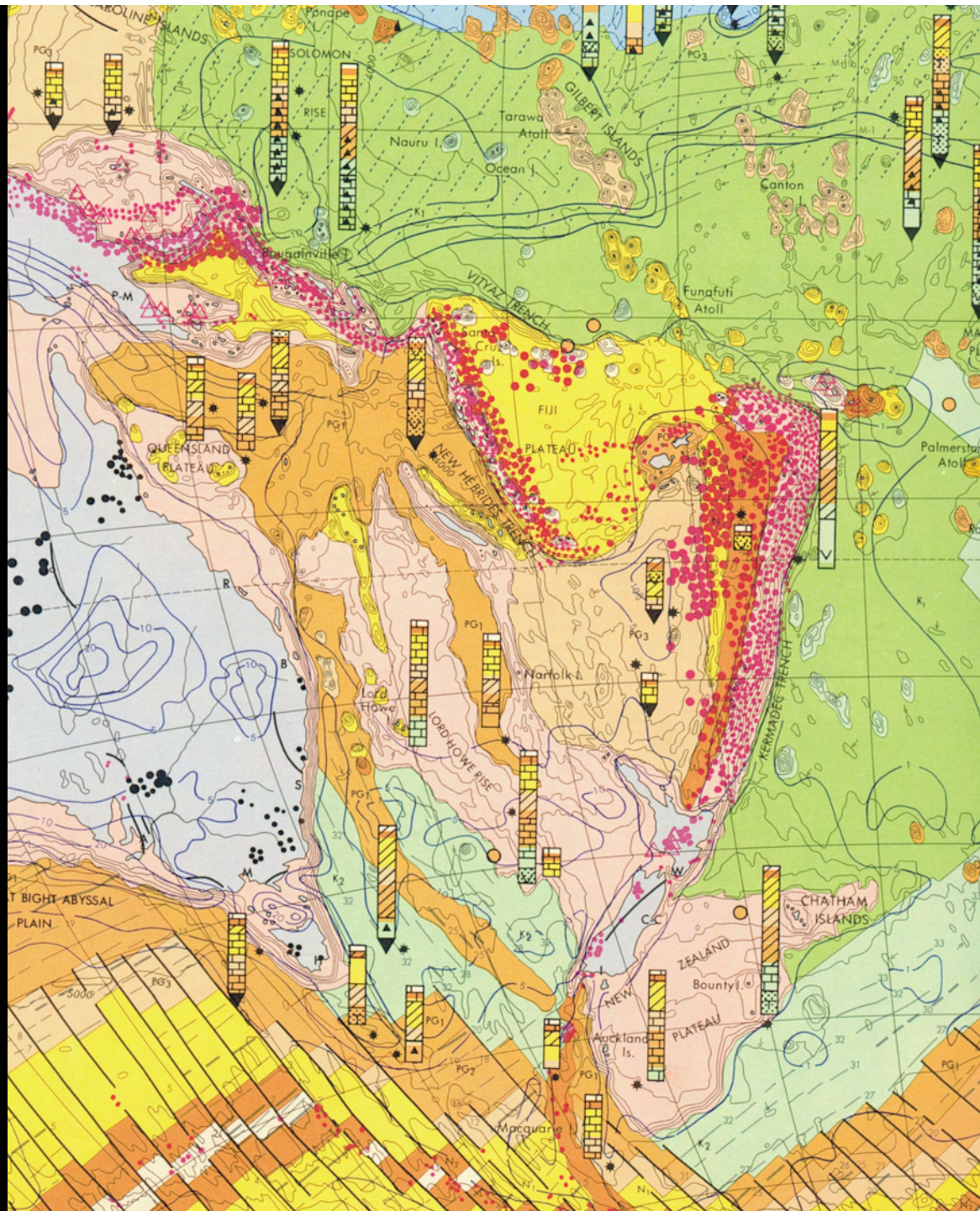
Cinématique absolue

Quel rôle joue le flux asthénosphérique vers l'est ?

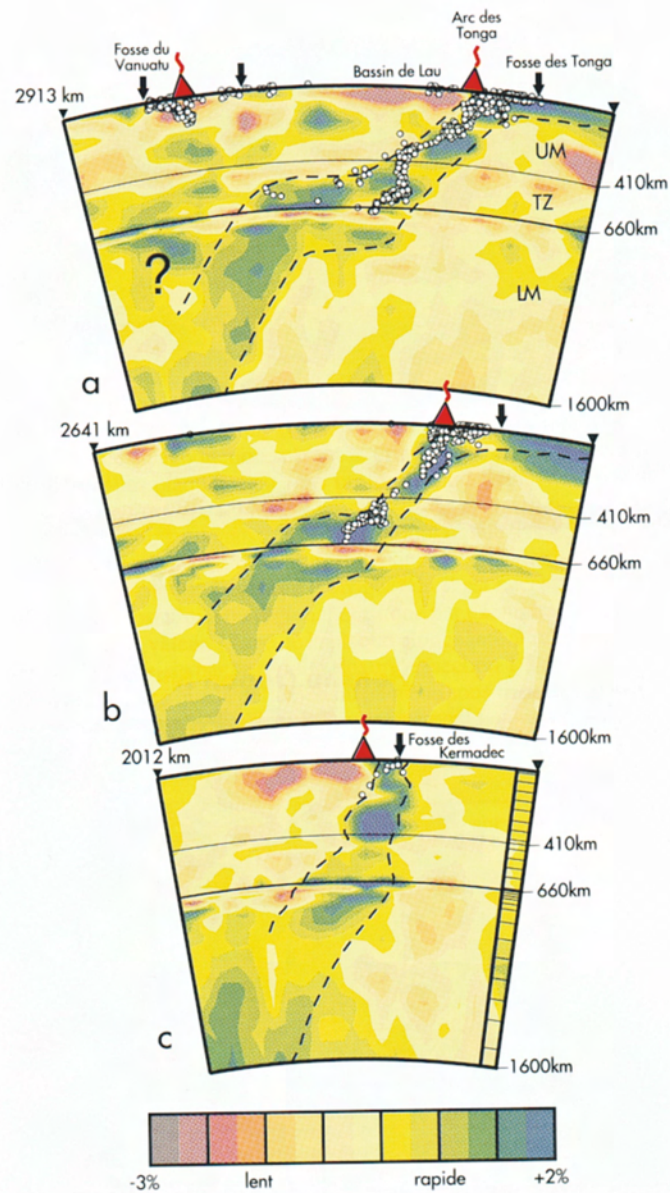


(In Jolivet, La déformation des continents d'après Uyeda & Kanamori 1979 et Ricard et al., 1991)

Tectonique des plaques et convection mantellique

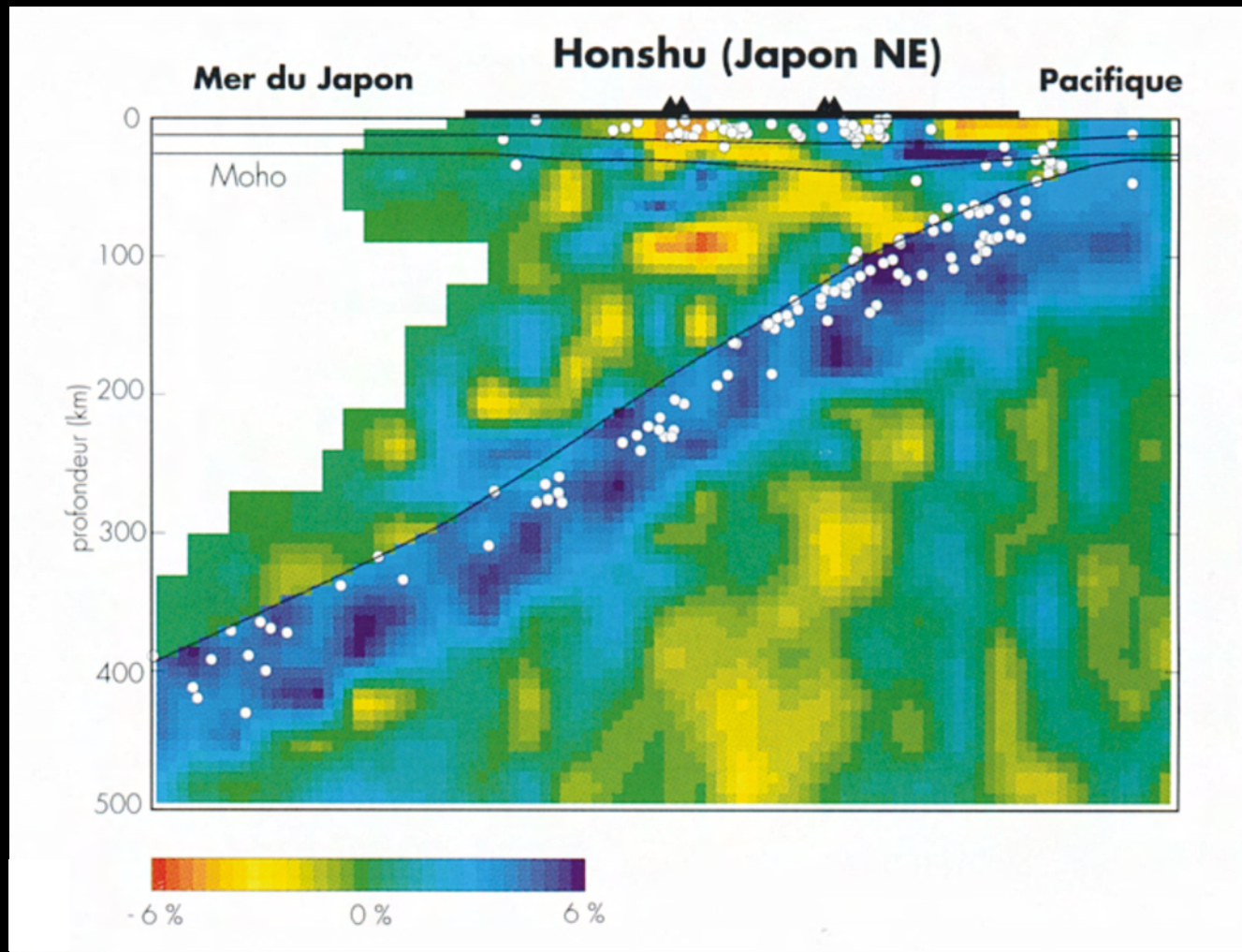


Tomographie



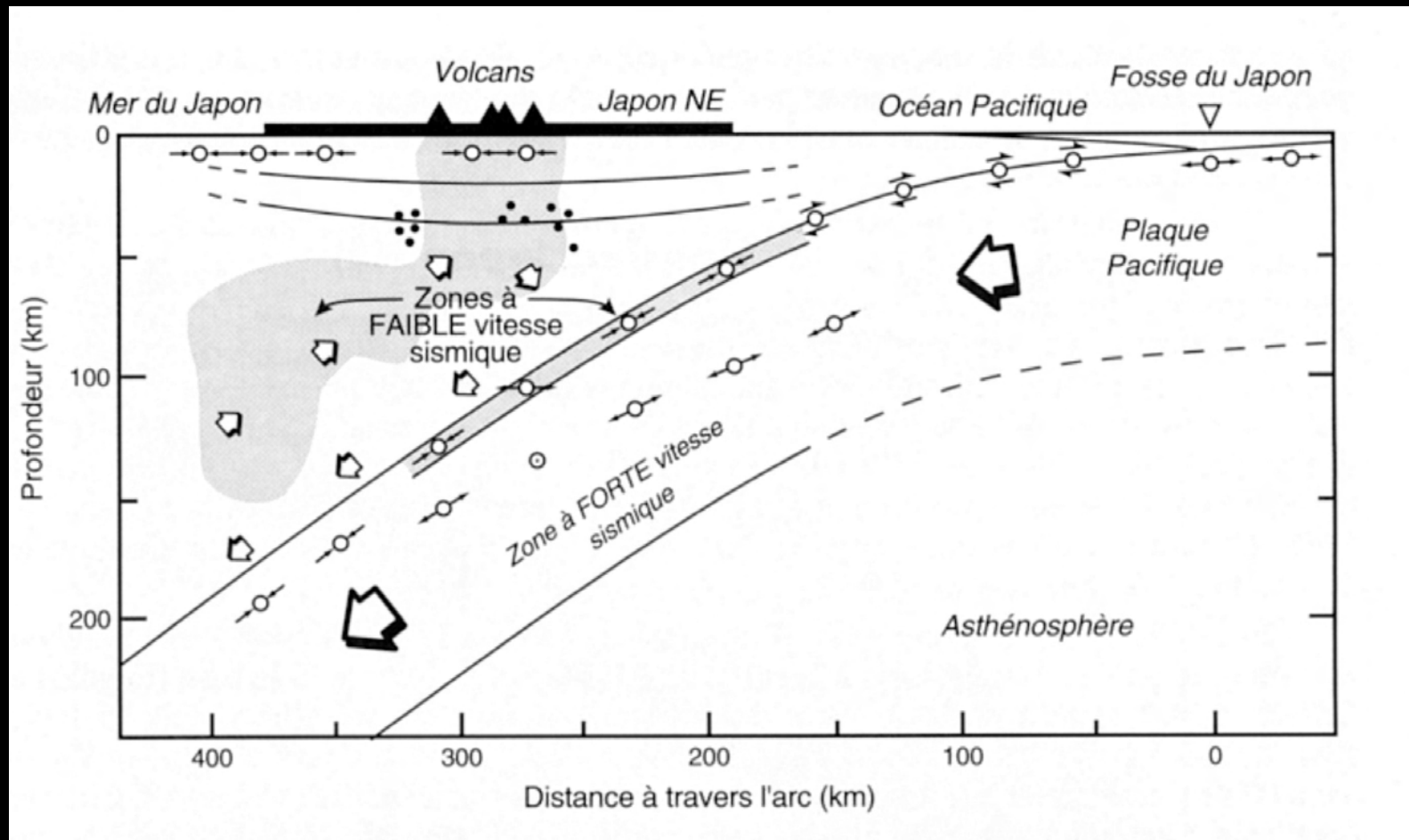
(In Lallemand,
La subduction océanique)

Tomographie



(In Lallemand, La subduction océanique)

Tomographie



(In Lallemand, La subduction océanique)

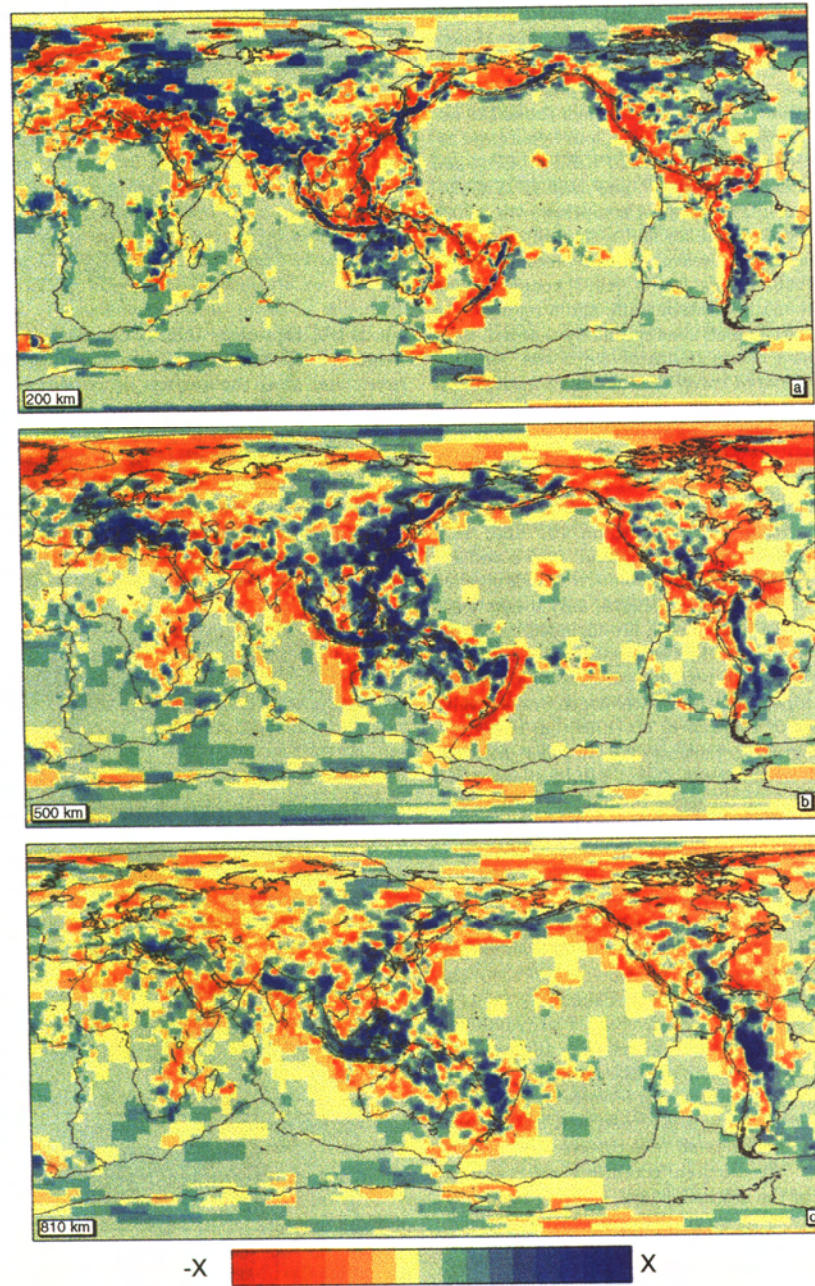
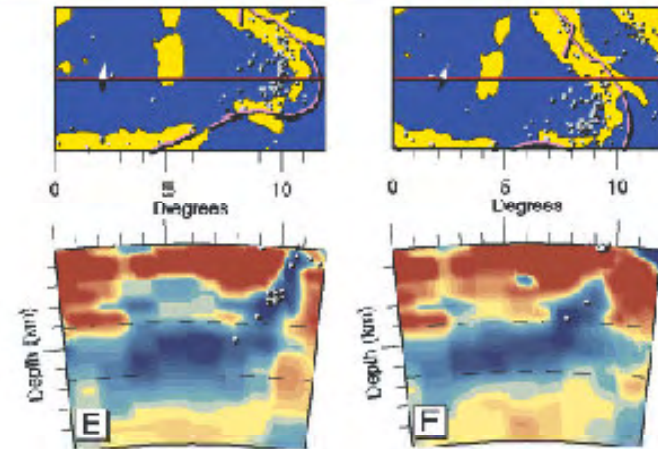
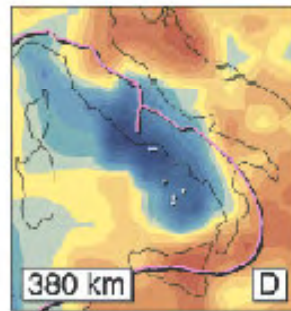
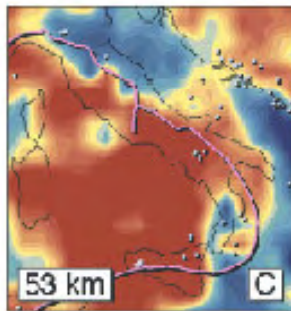
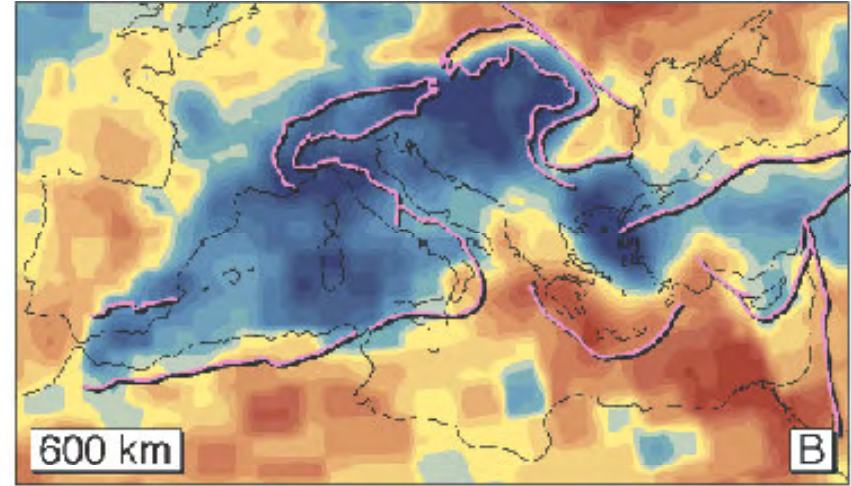
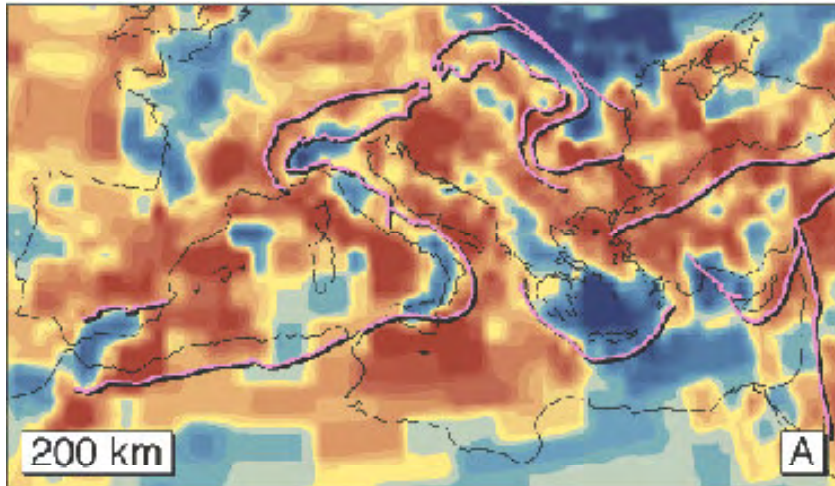
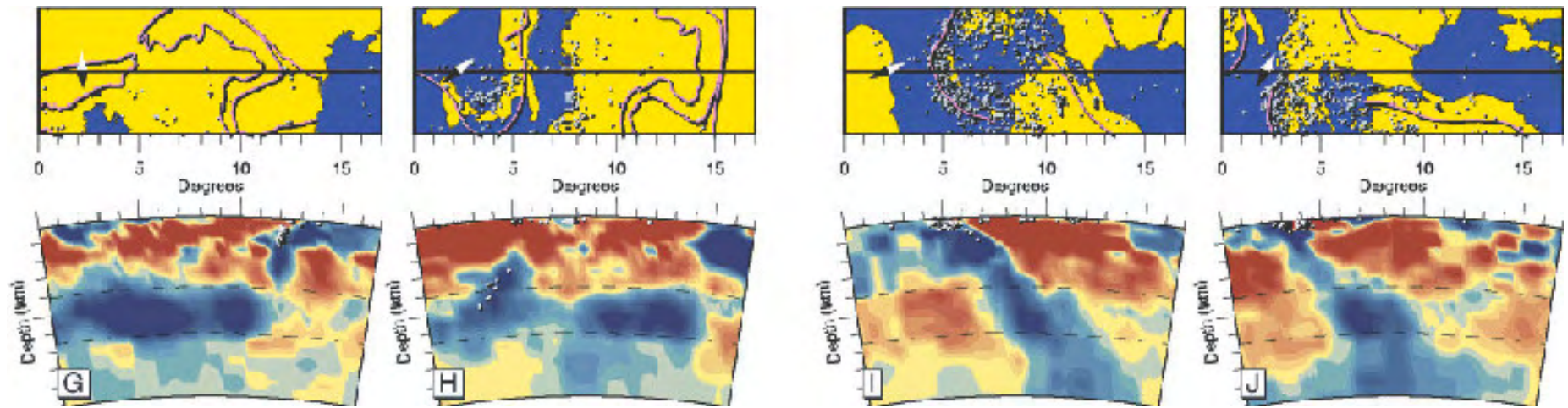


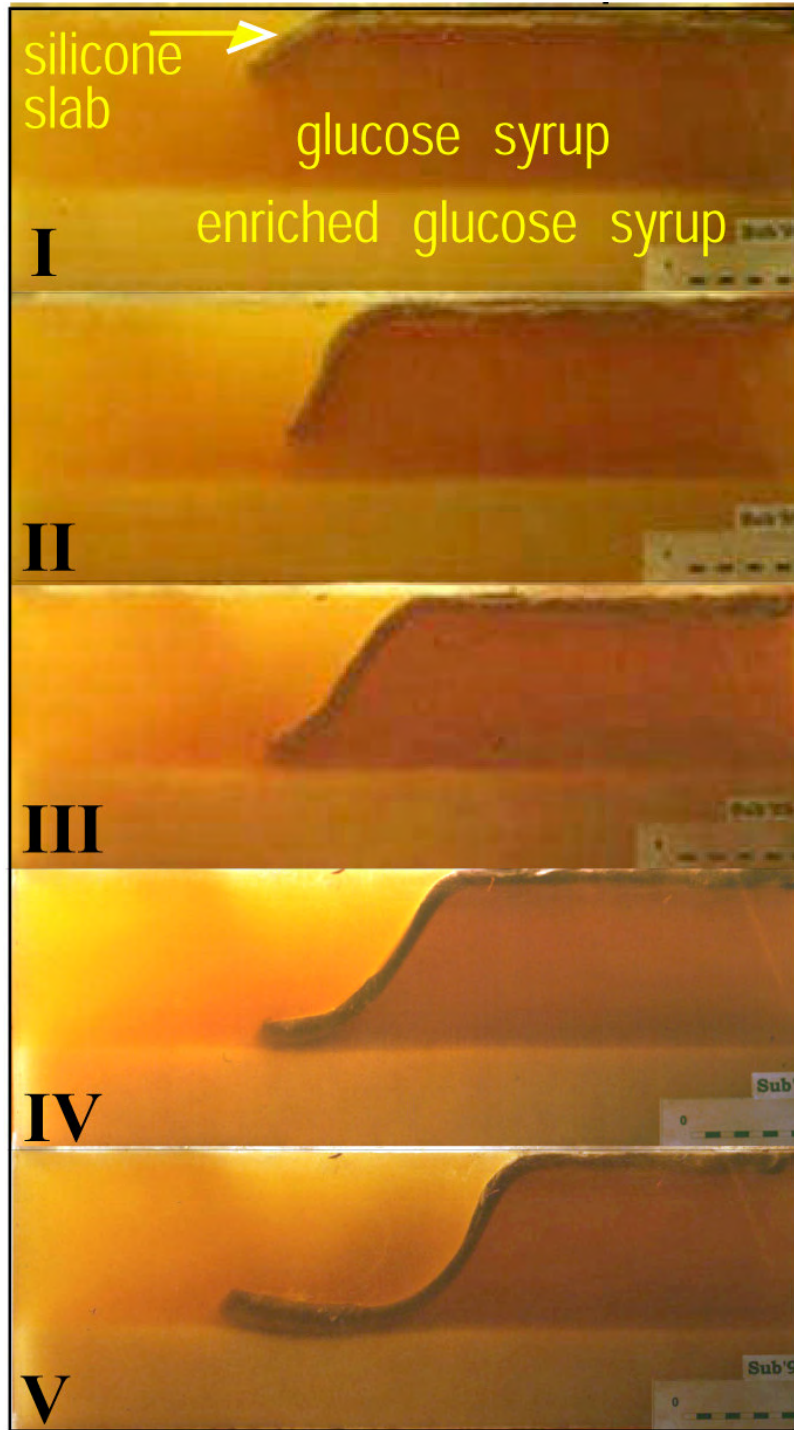
Plate 1. Selected whole Earth layer solutions centered around $[0^\circ\text{N}, 145^\circ\text{E}]$ (slightly smoothed over distances of 0.6°) from the final model. Contour scales range from $-X$ to $+X$ with respect to ak135 [Kennett *et al.*, 1995]. Values outside this range obtain the color of the nearest value inside this range. Depths are (a) 200 km ($X=2\%$), (b) 500 km ($X=1.5\%$), (c) 810 km ($X=1\%$), (d) 1325 km ($X=0.5\%$), (e) 1900 km ($X=0.5\%$), and (f) 2805 km ($X=0.5\%$).



(d'après Spakman, Wortel, Bijwaard)

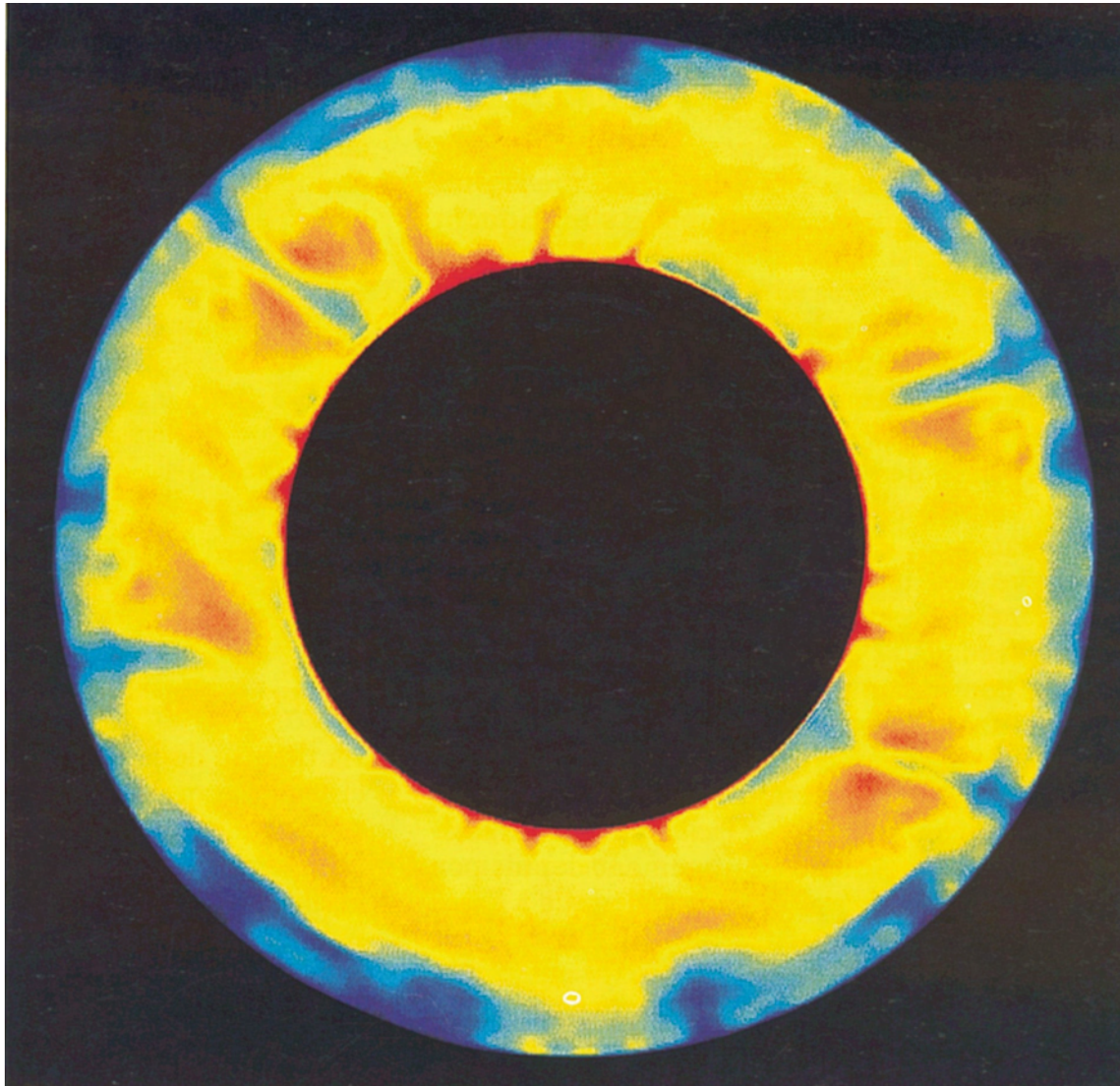


(d'après Spakman, Wortel, Bijwaard)

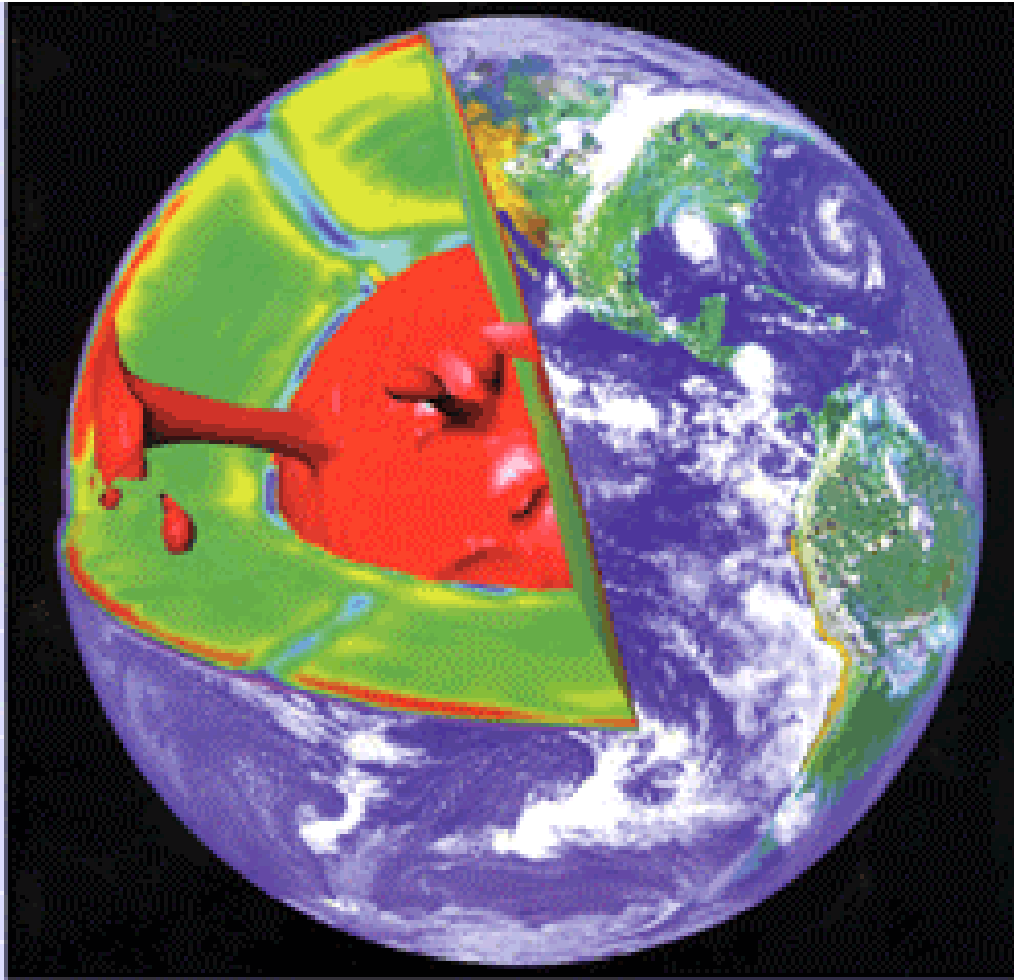


**Expérience effectuée à RomeIII,
Faccenna et al.**

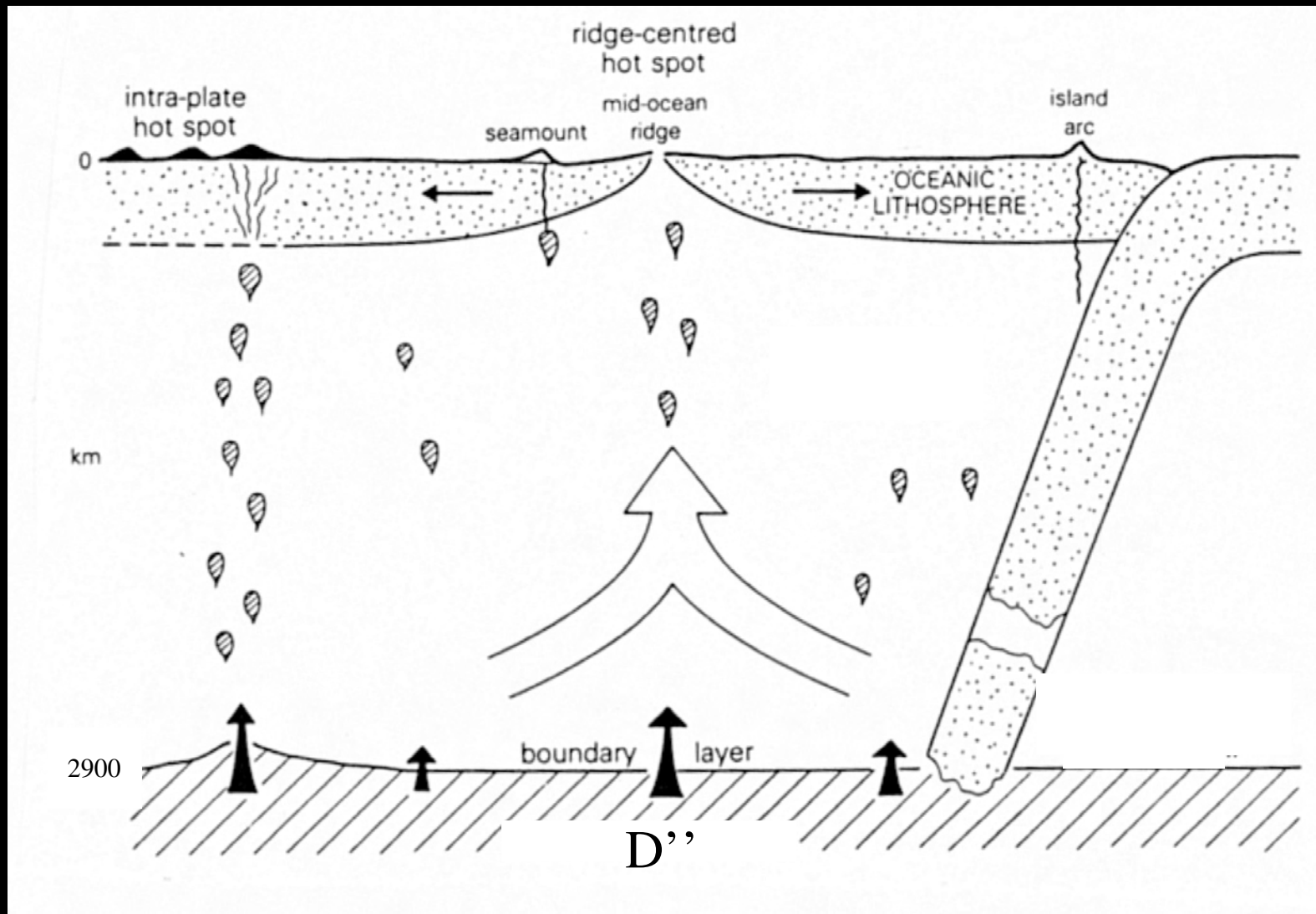
Convection



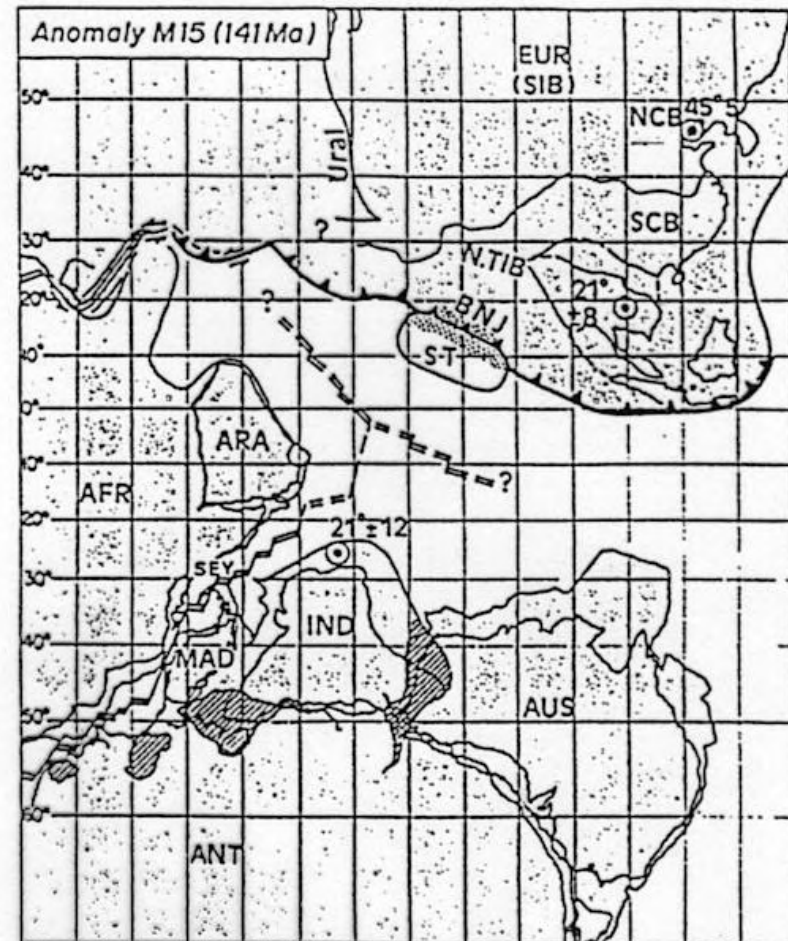
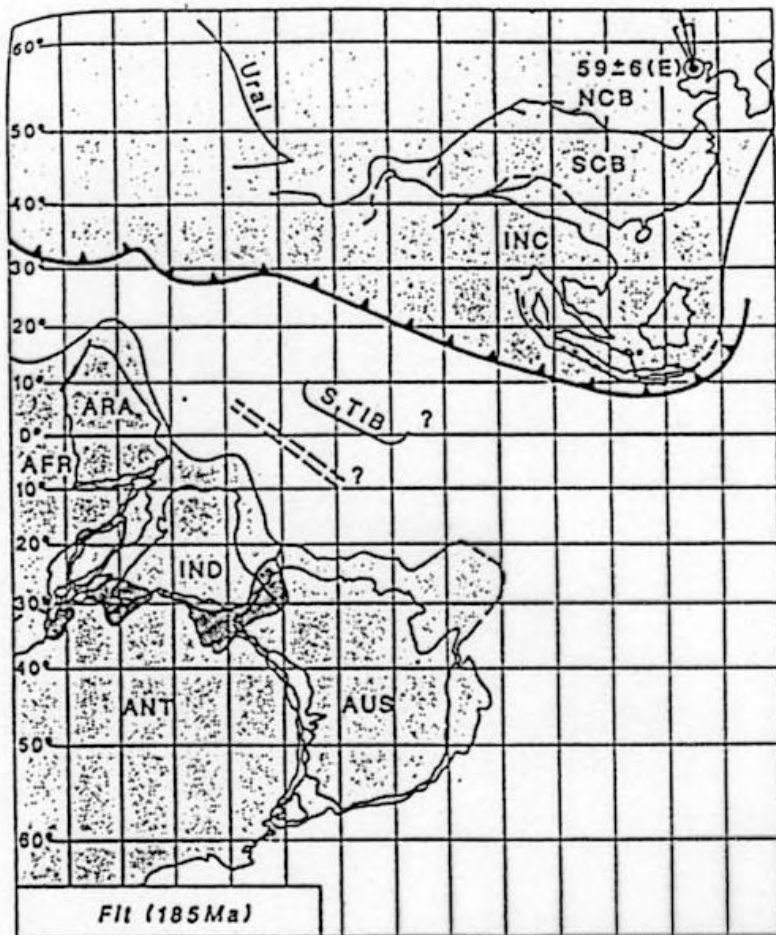
**In Cazenave et Feigl,
Formes et mouvements
de la Terre**



Convection

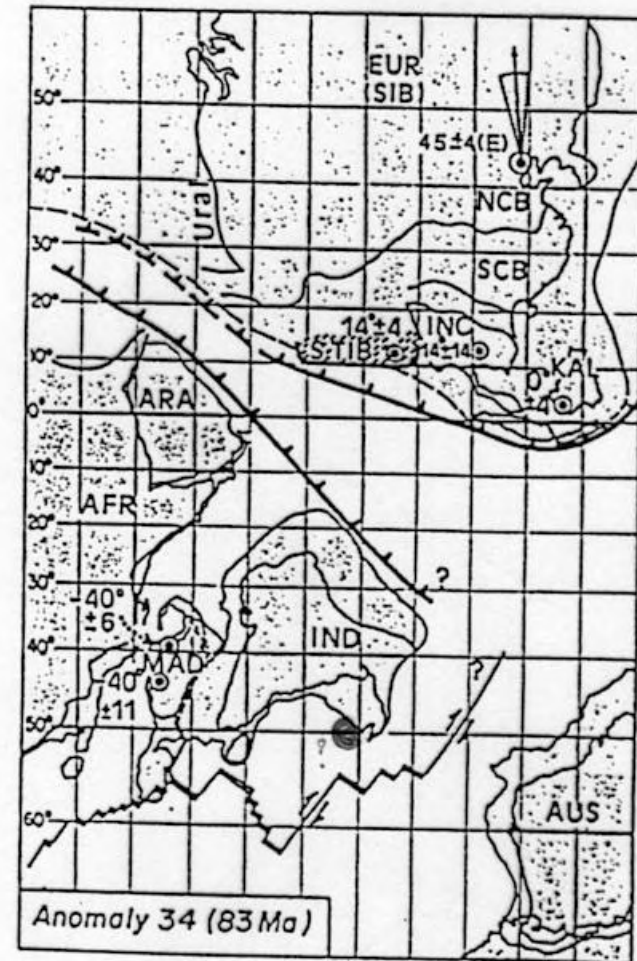
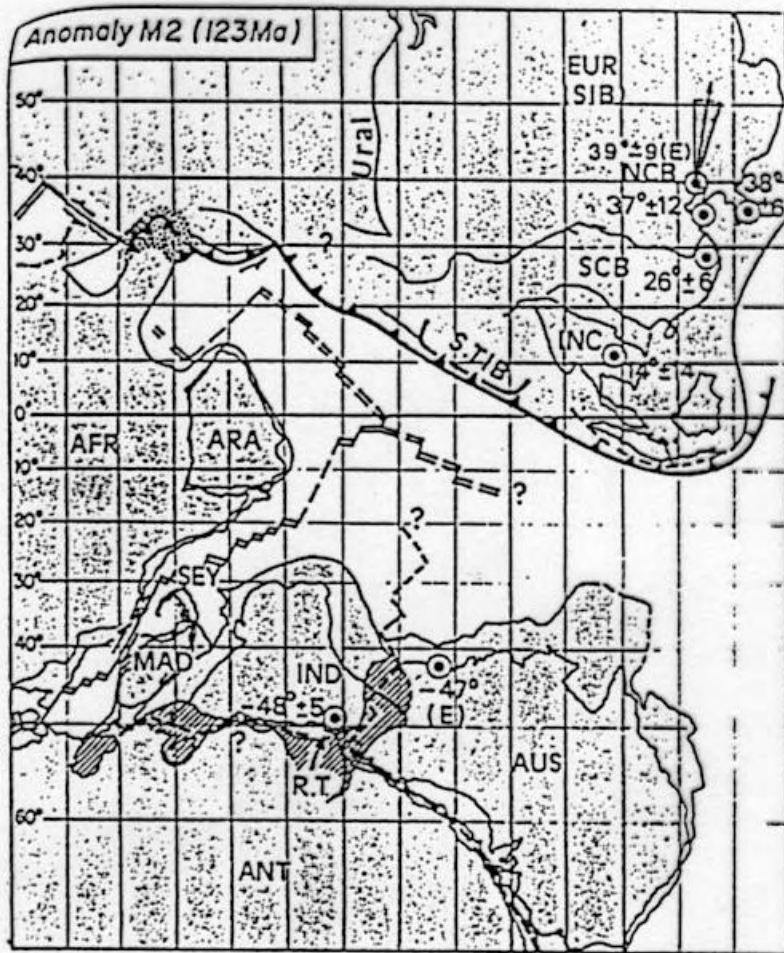


Cinématique R/A – océan indien

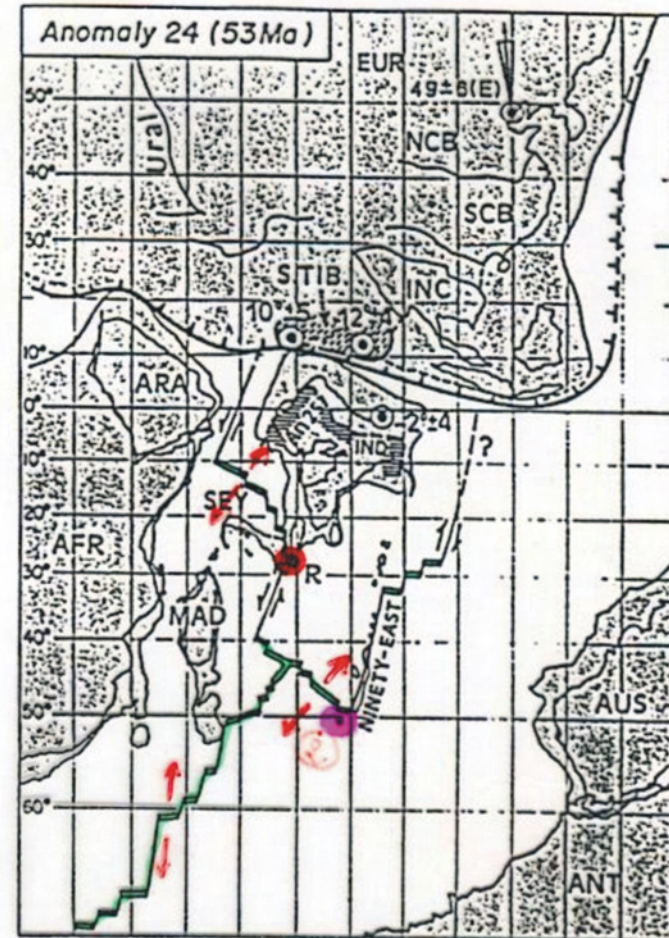
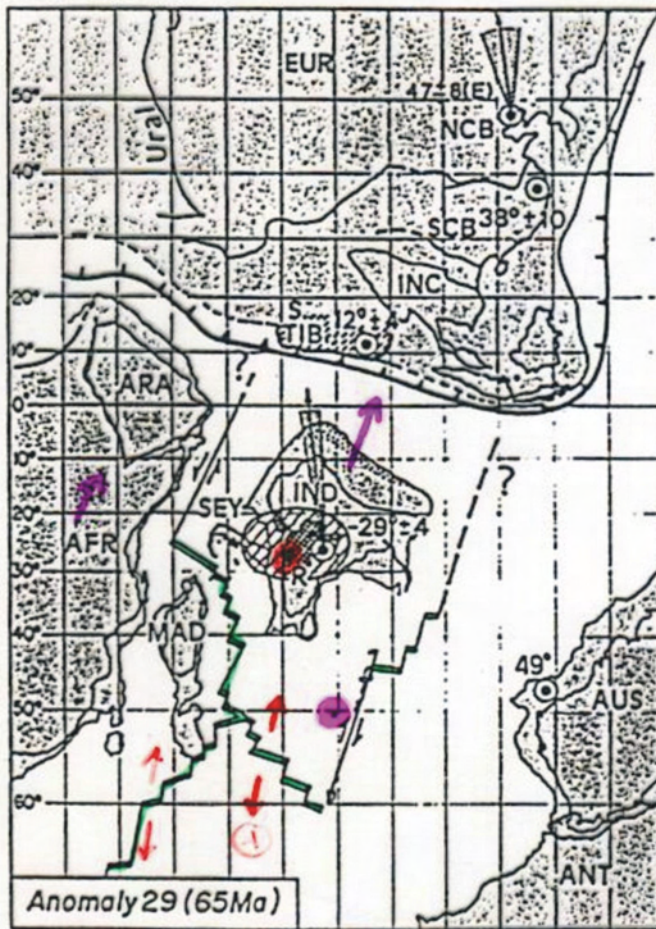


Besse et Courillot, JGR

Cinématique R/A – océan indien

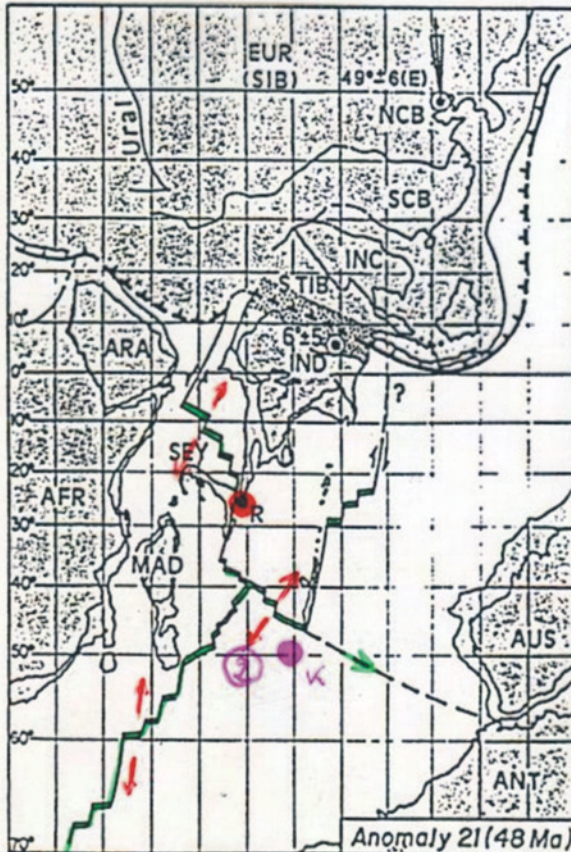


Cinématique R/A – océan indien



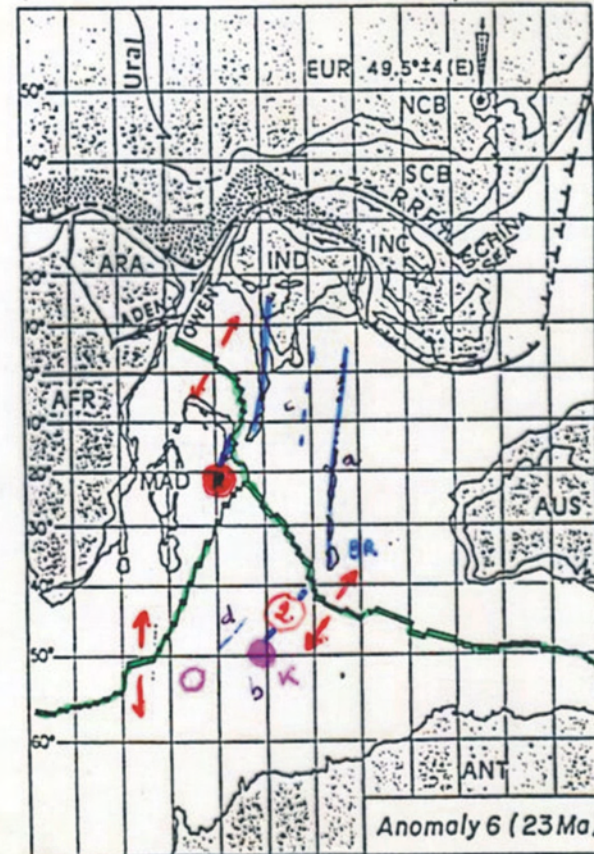
Besse et Courtilot, JGR

Cinématique R/A – océan indien



Besse et Courtilot, JGR

R
↓



a: 35-100 Pa 90°E
 b: plateau K: ~110 Pa. c: 85°E.
 d: 0-70 Pa 70-100 Pa