

Contents

Introduction vii
Gillian R. Foulger, Lawrence C. Hamilton, Donna M. Jurdy, Carol A. Stein, Keith A. Howard,
Seth Stein, and Bruce Julian

WARREN B. HAMILTON’S APPROACH TO SCIENCE

1. *On the last paper of Warren B. Hamilton* 1
Lawrence C. Hamilton

2. *From crisis to normal science, and back again: Coming full “Kuhn cycle” in the career of Warren B. Hamilton* 7
Thomas Rossetter

3. *Rittmann’s heritage: A philosophical approach for current research* 21
Daniele Musumeci, Arnaldo Angelo De Benedetti, Stefano Branca, and Luigi Ingaliso

TECTONICS

4. *Icelandia* 29
Gillian R. Foulger, Laurent Gernigon, and Laurent Geoffroy

5. *Revisiting hotspots and continental breakup—Updating the classical three-arm model* 41
Carol A. Stein, Seth Stein, Molly M. Gallahue, and Reece P. Elling

6. *Linear magnetic anomalies and the limits of oceanic crust in oceans* 59
Laurent Geoffroy, Laurent Gernigon, and Gillian R. Foulger

7. *The African continental divide: Indian versus Atlantic Ocean spreading during Gondwana dispersal* 73
Alexander L. Peace and Jordan J.J. Phethean

8. *Volcano distribution and tectonics: A planetoidic perspective* 83
Edgardo Cañón-Tapia

9. *Cenozoic magmatism and plate tectonics in western North America: Have we got it wrong?* . . . 95
Allen F. Glazner

10. *Large-magnitude oceanic intraplate seismicity: Implications for lithosphere evolution* 109
Junjiang Zhu, Sanzhong Li, Huilin Xing, Changsheng Wang, Guoming Yang,
Zixiang Xiong, Shengsheng Zhang, and Xianzhi Cao
11. *Teleseismic tomography: Equation one is wrong* 121
Bruce R. Julian and Gillian R. Foulger
12. *Tectonic hydrogen and tectonic oxygen production through deforming piezoelectric minerals in the presence of water* 127
Huifang Xu, Kuang-Sheng Hong, Meiye Wu, and Seungyeol Lee
13. *Plate convergence, consumption, collision, coupling, capture, and formation of mantle waves—Linkages to global orogenesis and epeirogeny* 137
Thomas H. Anderson
14. *Detrital zircon record of the Mesoproterozoic Belt basin and implications for horizontal and vertical tectonic models* 159
Stuart D. Parker and Marc S. Hendrix
15. *Earthquake weather and climate change: Should we stress about the forecast?* 177
Miles P. Wilson, Gillian R. Foulger, Christopher Saville, Samuel P. Graham, and
Bruce R. Julian
16. *Dependence of discharge, channel area, and flow velocity on river stage and a refutation of Manning’s equation* 193
Robert E. Criss

PLANETARY

17. *Challenging the dipolar paradigm for Proterozoic Earth* 201
James W. Sears
18. *Links of planetary energetics to moon size, orbit, and planet spin: A new mechanism for plate tectonics* 213
Anne M. Hofmeister, Robert E. Criss, and Everett M. Criss
19. *How spin down and radioactive decay drive rocky planet evolution* 223
Robert E. Criss and Anne M. Hofmeister
20. *New mechanism for forming thick granitic continental crust at Phanerozoic convergent margins* 233
C.C. Lundstrom, X. Lin, K. Brueckel, C. Campe, X. Nan, K. Ortega, P. Akrie, M. Yu, and
S. Marshak
21. *Gravity field aspects for identification of cosmic impact structures on Earth* 251
Jaroslav Klokočník, Aleš Bezděk, and Jan Kostelecký
22. *Role of Earth-Moon rotational dynamics in the shaping of the surface of our planet* 261
Marcus P. Borom
23. *Terrestrial ejecta suborbital transport and the rotating frame transform* 271
Thomas H.S. Harris

24. *Postulating an unconventional location for the missing mid-Pleistocene transition impact: Repaving North America with a cavitated regolith blanket while dispatching Australasian tektites and giving Michigan a thumb* 293
Michael E. Davias and Thomas H.S. Harris
25. *Parent crater for Australasian tektites beneath the sands of the Alashan Desert, Northwest China: Best candidate ever?* 323
Jiří Mizera, Zdeněk Řanda, Václav Suchý, Vladimír Strunga, Jaroslav Klokočník, Jan Kostecký, Aleš Bezděk, and Zdeněk Moravec
26. *Geochemical indicators of a biogenic component in source materials of moldavites* 335
Jiří Mizera and Zdeněk Řanda
27. *Layered sediments on Mars deposited by impacts instead of by liquid water.* 347
Donald M. Burt

MAGMATISM

28. *Igneous activity in central-southern Italy: Is the subduction paradigm still valid?* 355
Michele Lustrino, Claudio Chiarabba, and Eugenio Carminati
29. *B" not D" as the source of intraplate volcanism* 371
Alan D. Smith
30. *Dense melt residues drive mid-ocean-ridge "hotspots"* 379
Jordan J.J. Phethean, Martha Papadopoulou, and Alexander L. Peace
31. *Does the British Isles Paleocene dike swarm reflect the former location of the Iceland hotspot?* 391
Ian W.D. Dalziel and Lawrence A. Lawver
32. *A peralkaline solution, hydrofracturing model for quartzofeldspathic veins and pegmatites* . . . 401
R.P. Wintsch and P. Resor
33. *Forearc magmatism along southwest Japan is caused by rupturing of the subducting slab* . . . 423
Hidehisa Mashima