

Supplementary Material

Anton Linder Hales 1911–2006

Kurt Lambeck

Emeritus Professor of Geophysics, Research School of Earth Sciences, The Australian National University, ACT 2601, Australia. Email: kurt.lambeck@anu.edu.au

Publications of A. L. Hales 1935–1997

Hales, A. L. (1935) The thermal stability of the lower atmosphere, *Proceedings of the Royal Society of London A*, 151, 624-640.

Hales, A. L. (1936) Convection currents in the Earth, *Geophysical Supplements to the Monthly Notices of Royal Astronomical Society*, 3, 372-379.

Hales, A. L. (1937) Convection currents in geysers, *Geophysical Supplements to the Monthly Notices of the Royal Astronomical Society*, 4, 122-131.

Gane, P. G., Hales, A. L. and Oliver, H. O. (1946), A seismic investigation of the Witwatersrand earth tremors, *Bulletin of the Seismological Society of America*, 36, 49-80.

Hales A. L. and Gough, D. I. (1947) Blackett's fundamental theory of the earth's magnetic field, *Nature*, 160, 746.

Hales, A. L. (1953) The thermal contraction theory of mountain building (second paper), *Geophysical Supplement to the Monthly Notices to the Royal Astronomical Society*, 6, 458-466.

Hales, A. L. (1953) The thermal contraction theory of mountain building (second paper), *Geophysical Supplement to the Monthly Notices to the Royal Astronomical Society*, 6, 486-493.

Hales, A. L. (1956) The interior of the Earth, *Transactions of the South African Institute for Electrical Engineers*, 47, 248-257.

Graham, K. W. T. and Hales, A. L. (1957), Palaeomagnetic measurements on Karoo dolerites, *Advances in Physics*, 6, 149-161.

Hales, A. L. (1958) Geophysics in South Africa, *Geophysical Journal of the Royal Astronomical Society*, 1, 249-256.

Hales, A. L. and Sacks, S. I. (1959) Evidence for an intermediate layer from crustal structure studies in

of South Africa. I. Evidence for a genuine reversal of the earth's field in Triassic-Jurassic times, *Geophysical Journal of the Royal Astronomical Society*, 7, 23-39.

Van Zijl, J. S. V., Graham, K. W. T. and Hales A. L. (1962) The paleomagnetism of the Stormberg lavas of South Africa. II. The behaviour of the Earth's field during a reversal, *Geophysical Journal of the Royal Astronomical Society*, 7, 169-182.

Van Zijl, J. S. V., Graham, K. W. T. and Hales A. L. (1962) Palaeomagnetic evidence regarding the relative ages of the Stormberg lavas and the Karroo dolerites, *Transactions of the Geological Society of South Africa*, 65, 47-55.

Gough, D. I. and Hales, A. L. (1962) The gravity survey of the Republic of South Africa, Handbook 3, Part II, isostatic anomalies and crustal structure, Government Printers, Pretoria, 477 pp.

Harkrider, D. G., Press, F. and Hales, A. L. (1963) On detecting soft layers in the mantle with Raleigh waves, *Bulletin of the Seismological Society of America*, 53, 539-548.

Graham, K. W. T., Helsley, C. E. and Hales A. L. (1964) Determination of the relative continents from palaeomagnetic data, *Journal of geophysical Research*, 69, 3859-3900.

Graham, K. W. T. and Hales A. L. (1965) Surface-ship gravity measurements in the Agulhas Bank area, south of South Africa, *Journal of Geophysical Research*, 70, 4005-4011.

Taylor, J. H., Rutten, M. G., Hales, A. L. Shackleton, R. M., Nairn, A. E., Harland, W. B., Blackett, P. M. S., Bullard, E., and Runcorn, S. K. (1965) Discussion of continental reconstructions, *Philosophical Transactions of the Royal Society of London*, A258, 52-75.

Green, R. W. E. and Hales A. L. (1966) Seismic refraction measurements in the southwestern Indian Ocean, *Journal of Geophysical Research*, 71, 1637-1647.

Cleary, J. R. and Hales, A. L. (1966) An analysis of the travel times of P waves to North American stations in the distance range 32° to 100°, *Bulletin of the Seismological Society of America*, 56, 467-489.

Cleary, J. R. and Hales, A. L. (1966) Azimuthal v.,

Letters, 4, 305-309.

Hales, A. L. and Bloch, S. (1969) Upper mantle structure - are low velocity layers thin, *Nature*, 221, 930-933.

Hales, A. L. (1969) Gravitational sliding and continental drift, *Earth and Planetary Science Letters*, 6, 31-34.

Hales, A. L. (1969) A seismic discontinuity in the lithosphere, *Earth and Planetary Science Letters*, 7, 44-46.

Bloch, S., Hales, A. L. and Landisman, M. (1969) velocities in crust and upper mantle of southern Africa from multi-

76, 7249-7259.

Hales, A. L. (1971) The travel times of P seismic waves and their relevance to the upper mantle velocity distribution, *Tectonophysics*, 13, 447-482.

Hales, A. L. and Nation, J. B. (1972) A crustal structure profile on the Agulhas Bank, *Bulletin of the Seismological Society of America*, 62, 1029-1051.

Hales, A. L. and Herrin, E. (1972) Travel times of seismic waves, in *The Nature of the Solid Earth* (E. C. Robertson, J.

Dziewonski, A. M., Hales, A. L. and Lapwood, E. R. (1975) Parametrically simple earth models consistent with geophysical data, *Physics of the Earth and Planetary Interiors*, 10, 12-48.

Goncz, J. H., Hales, A. L. and Muirhead, K. J. (1975) Analysis to extended period of Rayleigh and Love dispersion across Australia, *Geophysical Journal of the Royal Astronomical Society*, 41, 81-105.

Meyer, R. P., Mooney, W. D., Hales, A. L., Helsley, C. E., Woollard, G. P., Hussong, D. M. and Ramirez, J. E. (1975) Refraction observations across a leading edge, Malepo Island to the Columbian Cordillera occidental, In *Geophysics of the Pacific Ocean Basin and its Margin*, *Geophysical Monograph*, 19, American Geophysical Union, Washington, 105-132.

Hales, A. L. (1977) ScS travel time residuals and the difference between continents and oceans, *Earth and Planetary Science Letters*, 33, 249-254.

Mills, J. M. and Hales, A. L. (1977) Great-circle Rayleigh wave attenuation and group velocity: I. Observations for periods between 150 and 600 seconds for seven great circle paths, *Physics of the Earth and Planetary Interiors*, 14, 109-119.

Mills, J. M. and Hales, A. L. (1978) Great-circle Rayleigh attenuation and group velocity: II. Observations for periods between 50 and 200 seconds for non-great circle paths and global averages for periods of 50 to 600 seconds, *Physics of the Earth and Planetary Interiors*, 17, 209-231.

Hales A. L. and Rynn, J. M. W. (1978) A long-range controlled source seismic profile in northern Australia, *Geophysical Journal of the Royal Astronomical Society*, 55, 633-644.

Christie, D. R., Muirhead, K. J. and Hales, A. L. (1978) On solitary waves in the atmosphere, *Journal of Atmospheric Sciences*, 35, 805-825.

Christie, 7 -2.707 12.8 (r) averag8

than 650 km in the mantle, *Physics of the Earth and Planetary Interiors*, 23, 304-313.

Hales, A. L. and Muirhead, K. J. (1980) The ratio of the travel times for S and P at distances less than 10°. *Bulletin of the Seismological Society of America*, 70, 823-829.

Hales, A. L., Maki-Lopez, L. and Muirhead, K. J. (1981) The times of origin and depths of focus of intermediate and deep focus earthquakes: model calculations, *Bulletin of the Seismological Society of America*, 71, 1539-1552.

Hales, A. L. (1981) The upper mantle velocity distribution, *Physics of the Earth and Planetary Interiors*, 25, 1-11.

Hales, A. L. (1981) Geodynamics: the unanswered questions, in *Evolution of the Earth*, Geodynamic Series, 5, (R.J. O'Connell and W.S. Fyfe. editors), American Geophysical Union, 4-5.

Hales, A. L. and Maki-Lopez, L. (1982) Hypocentral parameters, *Physics of the Earth and Planetary Interiors*, 30, 131-134.

Drummond, B. J., Muirhead, K. J. and Hales, A. L. (1982) Evidence for a seismic discontinuity near 200 km depth under a continental margin, *Geophysical Journal International*, 70, 67-77.

Hales, A. L. (1986) Geophysics on three continents, *Annual Review of Earth and Planetary Sciences*, 14, 1-20.

Hales, A. L. (1988) Geophysical research in South Africa, 1937-1962, *South African Geophysical Association Yearbook 1988*, 17-21.

Hales, A. L. (1991) Upper mantle models and the thickness of the continental lithosphere, *Geophysical Journal International*, 105, 355-363.

Hales, A. L. (1992) Speculations about crustal evolution, *Journal of Geodynamics*, 16, 55-64.

Hales, A. L. (1995) Amplitudes of core waves near the PKP caustic, from nuclear-explosions in the south-pacific recorded at the laboratoire de detection et geophysique network in France – comment, *Bulletin of the Seismological Society of America*, 85, 957-958.

Hales, A. L. (1997) The Anelasticity of the Earth; how much do we know about Q? *In Upper Mantle Heterogeneities from Active and Passive Seismology* (K. Fuchs, editor), 173-186, Kluwer Academic Publishers.