

## Memorial of George Baker October 10, 1908–August 29, 1975

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George Baker was born at Coventry, Warwickshire, England, on October 10, 1908, and died at Mt. Eliza, Victoria, Australia, on August 29th, 1975. As his mother died when he was seven months old, he was cared for by an aunt, then later was under the guardianship of a Quaker solicitor. George won a scholarship to Leominster Grammar School, and doing well in both studies and sport, ultimately became a school prefect. In March 1925 at the age of 16½ years, he crossed the world to Victoria, Australia, to be with relatives who had already migrated. His scientific career began when he was selected from about 80 applicants to be junior assistant at the Geology School, University of Melbourne, in the environs of which he was to work for over 43 years (April 1925 to August 1968).

Professor E. W. Skeats encouraged him, and he was allowed to attend lectures. He graduated B.Sc., then gained his M.Sc. for field and laboratory research on the granitic hills southwest of Melbourne called the You Yangs, their dykes and xenoliths. The qualities that characterized George Baker were his meticulous thoroughness, his dependability, and his courage in overcoming difficulties. When George became a lecturer, this same patience and thoroughness resulted in very high percentages of passes among his students. He took a personal interest in them all.

In 1948 there was a change in employment, though not in place of working. George was appointed as a Research Officer to the CSIRO Mineragraphic Section which was accommodated in the Geology School. He remained with CSIRO until his retirement in 1968 as a Senior Principal Research Scientist. His publications show the many kinds of investigation which he undertook. As a young man, tired after looking after a scientific conference, he studied a map to pick a place for a holiday. He chose Port Campbell, set off on his motorcycle, but while he was there he found some australites. For the rest of his life he continued to visit Port Campbell, writing



up its general geology and studying this exceptionally rich tektite strewnfield. His private collection of some 2500 specimens, including some unique specimens and all collected with typical Bakerian care, was generously donated to the National Museum of Victoria in Melbourne, where he was an Honorary Associate in Mineralogy. For many long years George spent most of his spare time preparing a monumental report on australites. In those days few believed that his studies were of any value, but fortunately this attitude was reversed in his lifetime as a result of the space programmes.

There was difficulty in getting so large a mon-

ograph published, but the National Museum of Victoria, after getting international advice on the value of the work, published it as Memoir 23, for which there was a considerable world demand. A Nuffield Special Study grant, awarded in 1967, allowed him and his wife to spend a year in England studying tektites, chiefly at the British Museum. Another vast assemblage of information was amassed, but has not been published.

George Baker shared the Syme Prize for Scientific Research in 1944. In 1956 the University of Melbourne conferred on him the degree of D.Sc., its most prestigious degree in science. George was a Fellow of the Mineralogical Society of America and the Meteoritical Society, a Life Member of the American Geophysical Union, the Mineralogical Society of Great Britain, and the Royal Society of Victoria (whose Research Medal he was awarded), and a Foundation Member of the Geological Society of Australia. He was Commissioner for Australia of the International Committee on Meteorites of the International Geological Commission.

George's devotion to earth sciences is reflected in the extent of his publications. He will always be remembered for his unique work on tektites, but in addition to his extensive work on economic minerals, he made a substantial contribution to the study of opaline silica phytoliths from soil and plants. In all, he published some 135 papers and monographs, amounting to over 2500 pages. In addition to this he contributed over 200 internal publications (*CSIRO Mineragraphic Reports*) to the work of the Mineragraphic Section. Despite all this work, his friendly and approachable nature was reflected in his obvious delight in always being ready to show and explain his magnificent collection of tektites to visitors. Few of us will forget not only his enthusiastic verbal annotations, but his stories of how they were found and collected, sometimes at considerable peril, from the crumbling and weathering cliff tops overlooking the Southern Ocean at Port Campbell!

#### Publications of George Baker

- 1936 The petrology of the You Yangs granite. A study in contamination. *Proc. R. Soc. Vict.* **48**, 124–159.
- 1937 Orthite in some Victorian granitic rocks. *Proc. R. Soc. Vict.* **49**, 47–58.  
Tektites from the Sherbrook River district, east of Port Campbell. *Proc. R. Soc. Vict.* **49**, 165–177.
- 1938 Dacites and associated rocks at Arthur's Seat, Dromana. *Proc. R. Soc. Vict.* **50**, 258–278.
- 1939 (with A. Gordon and D. D. Rowe) Granite and granodiorite at Powelltown, Victoria, and their relationships. *Proc. R. Soc. Vict.* **51**, 31–44.
- 1940 An unusual australite form. *Proc. R. Soc. Vict.* **52**, 312–314.  
Some australite structures and their origin. *Mineral. Mag.* **25**, 487–494.  
Cordierite granite from Terip Terip, Victoria. *Am. Mineral.* **25**, 543–548.
- 1941 (with A.B. Edwards) The Bond Springs stony meteorite. *Mem. Natl. Mus. Vict.* No. 12, 49–57.  
Apatite crystals with coloured cores in Victorian granitic rocks. *Am. Mineral.* **26**, 382–390.
- 1942 The heavy minerals of some Victorian granitic rocks. *Proc. R. Soc. Vict.* **54**, 196–223.  
Sand stalagmites. *J. Geol.* **50**, 662–667.  
(with A.B. Edwards) The Pakenham meteorite. *Proc. R. Soc. Vict.* **54**, 7–16.
- 1943 (with H.C. Forster) The specific gravity relationships of australites. *Am. J. Sci.* **241**, 377–406.  
(with A.B. Edwards) Jurassic arkose in Southern Victoria. *Proc. R. Soc. Vict.* **55**, 195–228.  
Eocene deposits south-east of Princetown, Victoria. *Proc. R. Soc. Vict.* **55**, 237–254.  
Features of a Victorian limestone coastline. *J. Geol.* **51**, 359–386.  
(with A.B. Edwards) The Koraleigh stony meteorite. *Mem. Natl. Mus. Vict.* No. 13, 157–160.
- 1944 (with A.B. Edwards and J.L. Knight) The geology of the Wonthaggi coalfield, Victoria. *Proc. Australas. Inst. Min. Metall.* No. 134, 1–54.  
Flanges of australites. *Mem. Natl. Mus. Vict.* No. 14, 7–22.  
The geology of the Port Campbell district. *Proc. R. Soc. Vict.* **56**, 77–108.  
(with A.B. Edwards) The Cranbourne meteorites. *Mem. Natl. Mus. Vict.* No. 14, 23–35.
- 1945 Heavy black sands on some Victorian beaches. *J. Sediment. Petrol.* **15**, 11–19.  
Phosphate deposit near Princetown, Victoria. *J. Sediment. Petrol.* **15**, 88–92.  
Eclogite intrusion from the Cape Paterson volcanic neck in South Gippsland Victoria (Australia). *Am. Mineral.* **30**, 505–509.  
(with A.B. Edwards) Contact phenomena in the Morang Hills, Victoria. *Proc. R. Soc. Vict.* **56**, 19–34.
- 1946 Preliminary note on volcanic eruptions in the Goropu Mountains, south eastern Papua, during the period December, 1943 to August, 1944. *J. Geol.* **54**, 19–31.  
(with A.J. Gaskin) Natural glass from Macedon, Victoria, and its relationship to other natural glasses. *J. Geol.* **54**, 88–104.  
Some unusual shapes and features of australites (tektites). *Mem. Natl. Mus. Vict.* No. 14, 47–51.  
Microscopic quartz crystals in brown coal, Victoria. *Am. Mineral.* **31**, 22–30.
- 1947 (with A.C. Frostick) Pisoliths and oololiths from some Australian caves and mines. *J. Sediment. Petrol.* **17**, 39–64.
- 1948 (with F.L. Stillwell) Chromite in beach sands from Norries Head and Stradbroke Island. *Proc. Australas. Inst. Min. Metall.* No. 150–151, 33–38.  
(with A. Coulson) Metamorphic and volcanic rocks from the D'Entrecasteaux Islands. *Trans. Am. Geophys. Union*, **29**, 656–663.
- 1949 Note on volcanic rocks, with special reference to plagioclase feldspars, from Mt. Bogana, Bougainville Island, Solomon Islands. *Trans. Am. Geophys. Union*, **30**, 250–262.

- 1950 Geology and physiography of the Moonlight Head district, Victoria. *Proc. R. Soc. Vict.* **60**, 17-43.  
Petrology of No. 3 tunnel, Kiwua hydroelectric scheme, Bogong, Victoria. *Proc. R. Soc. Vict.* **60**, 173-188.
- 1951 (with A.B. Edwards) Some occurrences of supergene iron sulphides in relation to their environments of deposition. *J. Sediment. Petrol.* **21**, 34-46.
- 1952 (with A.C. Frostick) Pisoliths, ooliths, and calcareous growths in limestone caves at Port Campbell, Victoria, Australia. *J. Sediment. Petrol.* **21**, 85-104.  
Opaque oxides in some rocks of the basement complex, Torricelli Mountains, New Guinea. *Am. Mineral.* **37**, 567-577.
- 1953 Composition of the lead-zinc ores at Captain's Flat, N.S.W. II. *Proc. Australas. Inst. Min. Metall.* No. 170, 103-131.  
Ilvaite and prehnite in micropegmatitic diorite, southeast Papua. *Am. Mineral.* **38**, 840-844.  
Natural sinters from Mt. Remarkable and Tempe Downs. *Trans. R. Soc. S. Aust.* **76**, 27-33.  
Naturally fused coal ash from Leigh Creek, South Australia. *Trans. R. Soc. S. Aust.* **76**, 1-20.  
The relationship of Cyclammina-bearing sediments to the Older Tertiary deposits southeast of Princetown, Victoria. *Mem. Natl. Mus. Vict.* No. 18, 125-134.
- 1954 (with A.B. Edwards) Scapolitization in the Cloncurry district of northwestern Queensland. *J. Geol. Soc. Aust.* **1**, 1-33.  
(with A.B. Edwards) Oxidation of stannite ore at the Sardine tin mine, Queensland. *Proc. Australas. Inst. Min. Metall.* No. 172, 65-79.  
Volcanic rocks of Aitape, New Guinea. *Proc. R. Soc. Queensland*, **64**, 15-44.
- 1955 Curvature-size relationships of Port Campbell australites, Victoria. *Proc. R. Soc. Vict.* **67**, 165-219.  
Australites from Harrow, Victoria. *Mineral. Mag.* **30**, 596-603.  
(with I.C. Cookson) Age of Nelson Bore sediments. *Aust. J. Sci.* **17**, 133-134.  
Basement complex rocks in the Cycloop Ranges-Sentani Lake region of Dutch New Guinea. Part I. *Nova Guinea*, **6**, 307-308.
- 1956 Sand drift at Portland, Victoria. *Proc. R. Soc. Vict.* **68**, 151-197.  
Pellet claystone from the Southern Coalfield, New South Wales. *Aust. J. Sci.* **18**, 126-127.  
Natural black glass resembling australite fragments. *Mem. Natl. Mus. Vict.* No. 20, 173-190.  
Nirranda strewnfield australites, south-east of Warrnambool, western Victoria. *Mem. Natl. Mus. Vict.* No. 20, 59-172.  
(with A.B. Edwards and K.J. Callow) Metamorphism and metasomatism at King Island scheelite mine. *J. Geol. Soc. Aust.* **3**, 55-98.  
Basement complex rocks in the Cycloops Ranges-Sentani Lake regions of Dutch New Guinea, Part II. *Nova Guinea*, **7**, 15-39.  
Basement complex rocks in the Cycloop Ranges-Sentani Lake region of Dutch New Guinea, Part III. *Nova Guinea*, **7**, 31-39.
- 1957 Alleged meteorite from Horsham, Victoria. *Mem. Natl. Mus. Vict.* No. 21, 72-78.  
(with E.D. Gill) Pleistocene emerged marine platform, Port Campbell, Victoria. *Quaternaria*, **4**, 14.
- Role of australites in aboriginal customs. *Mem. Natl. Mus. Vict.* No. 22, 1-26.
- 1958 Tellurides and selenides in the Phantom lodes, Great Boulder Mine, Kalgoorlie, Australas. *Inst. Min. Metall.* F.L. Stillwell Anniv. Vol., 15-40.  
(with G.W. Leeper) Phytoliths in Victorian soils. *Aust. J. Sci.* **21**, 84.  
The role of aerodynamical phenomena in shaping and sculpturing Australian tektites. *Am. J. Sci.* **256**, 369-383.  
Stripped zones at cliff edges along a high wave energy coast, Port Campbell, Victoria. *Proc. R. Soc. Vict.* **70**, 175-179.  
Phillip Island in Picture and Story. In J.W. Gliddon, Ed., *The Evolution of Phillip Island*. Wilkes and Co. Ltd., Melbourne, Chapter 18.
- 1959 Contrast in the opal phytolith assemblages in two Victorian soils. *Aust. J. Bot.* **7**, 88-96.  
(with L.H.P. Jones and I.D. Wardrop) Cause of wear in sheep's teeth. *Nature*, **184**, 1583-1584.  
Australites from Kanagulk, Telangatuk East and Toolondo, western Victoria. *Mem. Natl. Mus. Vict.* No. 24, 69-89.  
Fossil opal phytoliths and phytolith nomenclature. *Aust. J. Sci.* **21**, 305-306.  
Opal phytoliths in some Victorian soils and "red rain" residues. *Aust. J. Bot.* **7**, 64-87.  
Rodingite in nickeliferous serpentine, near Beaconsfield, northern Tasmania. *J. Geol. Soc. Aust.* **6**, 21-35.  
Tektites. *Mem. Natl. Mus. Vict.* No. 23, 313 p.
- 1960 Comments on the recent letter on "Moldavites and similar tektites from Georgia, U.S.A." *Geochim. Cosmochim. Acta*, **19**, 232-233.  
Hook-shaped opal phytoliths in the epidermal cells of oats. *Aust. J. Bot.* **8**, 69-74.  
Some Australian occurrences of microspherular pyrite. *Neues. Jahrb. Miner. Abh.* **94**, 564-583.  
Origin of tektites. *Nature*, **185**, 291-294.  
Phytolitharien. *Aust. J. Sci.* **22**, 392-393.  
Tektites. *Grolier Society's Encyclopedia*, New York.  
Phytoliths in some Australian dusts. *Proc. R. Soc. Vict.* **72**, 21-40.  
Fossil opal phytoliths. *Micropaleontology*, **6**, 79-85.
- 1961 Einige Erscheinungen des Ätzverhaltens der Australite. *Chem. Erde*, **21**, 101-117.  
(with L.H.P. Jones and I.D. Wardrop) Opal phytoliths and mineral particles in the rumen of the sheep. *Aust. J. Agric. Res.* **12**, 462-472.  
Opal phytoliths from sugar cane, San Fernando, Philippine Islands. *Mem. Queensland Mus.* **14**, 1-12.  
Opal phytoliths and adventitious mineral particles in wheat dust. *CSIRO Mineragraphic Invest. Tech. Pap.* No. 4.  
(with L.H.P. Jones) Opal in the animal body. *Nature*, **189**, 682-683.  
(with L.H.P. Jones and A.A. Milne) Opal uroliths from a ram. *Aust. J. Agric. Res.* **12**, 473-482.  
A naturally etched australite from Narembeen, Western Australia. *J. Proc. R. Soc. West. Aust.* **44**, 65-68.  
Portland's all-weather harbour—the gateway to western Victoria. *Aust. Sci.* **1**, 107-113.  
A perfectly developed hollow australite. *Am. J. Sci.* **259**, 791-800.  
Studies of Nelson bore sediments, Western Australia. *Vict. Geol. Surv. Bull.* No. 58.

- Australite von Wingellina, West-Australian. *Chem. Erde*, **21**, 118–130.  
A complete oval australite. *Proc. R. Soc. Vict.* **74**, 47–54.
- 1962 Volumenbeziehungen von wohlerhaltenen Australit- Knöpfen,-Linsen und-Kernen zu ihren primären Formen. *Chem. Erde*, **21**, 269–320.  
The present state of knowledge of the “age-on-earth” and the “age-of-formation” of australites. *Georgia Miner. Newsl.* **15**, 62–83.  
Accretionary growth structures, southwest Victorian coast, Australia. *Mem. Natl. Mus. Vict.* No. 25, 17–48.  
The largest known australite and three smaller specimens from Warralakin, Western Australia. *J. Proc. R. Soc. West. Aust.* **45**, 12–17.  
Detrital heavy minerals in natural accumulates with special reference to Australian occurrences. *Australas. Inst. Min. Metall.* Monograph No. 1, 146p.  
Bright bolide observed August 5, 1961, in Australia. *Meteorit. Bull.* **24**, 5–6.
- 1963 Australite button with internal bubble cavity containing secondary iron oxides. *Chem. Erde*, **23**, 146–151.  
Form and sculpture of tektites. In, J.A. O’Keefe, Ed., *Tektites*, Chicago University Press, p. 1–24.  
Exfoliation from the anterior surface of a flanged australite button, Port Campbell, Victoria, Australia. *Chem. Erde*, **23**, 152–165.  
Disc-, plate-, and bowl-shaped australites. *Meteoritics*, **2**, 36–49.  
Australite buttons. *Geotimes*, **7**, 26–27.  
Round australite core from Graball, Western Australia. *J. Proc. R. Soc. West. Aust.* **46**, 57–62.  
Bright bolide over Eastern Victoria, Australia. *Meteorit. Bull.* **28**, 6.
- 1964 A thin, flanged, boat-shaped australite from Port Campbell, Victoria, Australia. *Meteoritics*, **2**, 139–147.  
(with A.A. Baker) Hay-silica glass from Gnarkeet, western Victoria. *Mem. Natl. Mus. Vict.* No. 26, 21–45.  
Memorial to Frank Leslie Stillwell (1888–1963) *Bull. Geol. Soc. Am.* **75**, 45–52.  
Alleged newly-fallen australite, You Yangs, Victoria. *Geochim. Cosmochim. Acta*, **28**, 995–997.  
(with A. Gittins and T.H. Donnelly) Nickel-rich ataxite from Corowa, New South Wales. *Geochim. Cosmochim. Acta*, **28**, 1377–1388.
- Australites from Nurrabel, Western Victoria. *Mem. Natl. Mus. Vict.* No. 26, 47–75.
- 1965 Dumbbell-shaped australite from Port Campbell, Victoria. *Meteoritics*, **2**, 325–355.  
(with H.G. Golding) Detrital mineralogy in the economic appraisal and beneficiation of alluvial deposits. *Eighth Commonw. Min. Congress, Proc.* p. 240–253.
- 1966 (with P.L. C. Grubb) Unusual vesical calculi of whewellite. *J. Urol.* **38**, 510–521.  
External form and structure of some hollow australites. *Geochim. Cosmochim. Acta*, **30**, 607–615.  
The largest known dumbbell-shaped australite. *J. Proc. R. Soc. West Aust.* **49**, 59–63.  
Hollow australite button with flange, Hordern Vale, Otway Peninsula, Western Victoria. *Meteoritics*, **3**, 35–53.
- 1967 Australites. *The Encyclopedia of Atmospheric Sciences and Astrogeology*, Reinhold Publishing Corp. p. 107–111.  
A second large dumbbell-shaped australite, Ongerup, Western Australia, with notes on two other large australites. *J. Proc. R. Soc. West. Aust.* **50**, 113–120.  
Structure of well-preserved australite buttons from Port Campbell, Victoria, Australia. *Meteoritics*, **3**, 179–217.
- 1968 Micro-forms of hay-silica glass and of volcanic glass. *Mineral. Mag.* **36**, 1012–1023.  
Six well-preserved australites from the Port Campbell-Princetown region Western Victoria. *Meteoritics*, **4**, 43–56.  
Australites from Princetown, Victoria. *Mem. Natl. Mus. Vict.* No. 28, 23–37.  
Australites from NNE of Morgan, South Australia. *Mem. Natl. Mus. Vict.* No. 28, 39–76.
- 1969 Australites from Mulka, Lake Eyre region, South Australia. *Mem. Natl. Mus. Vict.* No. 29, 65–79.  
Five large australites from Victoria, Australia, and their relationship to other large forms. *Mem. Natl. Mus. Vict.* No. 29, 53–64.
- 1972 (with W.J. Cappadona) Smallest known complete australite. *Mem. Natl. Mus. Vict.* No. 33, 131–135.  
Largest australite from Victoria, Australia. *Mem. Natl. Mus. Vict.* No. 33, 125–130.
- 1973 Australites from the Murray-Darling confluence region, Australia. *Mem. Natl. Mus. Vict.* No. 34, 199–207.  
Dr. Isabel Clifton Cookson (Biography of an Australian Botanist) *J. Geol. Soc. Aust., Spec. Publ. No. 4*.  
Obituary of Dr. Isabel Clifton Cookson (1893–1973). *Rev. Paleobot. Palynol.* **16**, 133–135.

*American Mineralogist*, Volume 61, pages 522–527, 1976

### Memorial of Walter Frederick Hunt September 6, 1882–December 19, 1975

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Walter F. Hunt, Roebling medalist, Editor of *The American Mineralogist* for 35 years, its first Emeritus Editor, and Emeritus Professor of Mineralogy of the University of Michigan, died after several years of physical incapacitations at the age of 93 in Ann Ar-

bor, Michigan, on December 19, 1975. Fortunately he had been hospitalized but briefly prior to his death. A hip broken in a fall had been successfully repaired, but he died of subsequent complications.

Born in Hartwell, Ohio, the son of Henry and Ida