

Dr Michael Le Bas



Curriculum Vitae

Name: Michael John Le Bas

Date of birth: 31 May 1931

Place of birth: Valenciennes, France

Nationality: British

Academic Record

1952 BSc University College London, Geology with Chemistry & Mathematics

1956 PhD Cambridge University, Mineralogy & Petrology

Military Service

Military service at Limassol and Tobruk, operating army landing craft during the Suez campaign and, after the withdrawal of the British Army, remaining in Egypt with the Royal Navy under the protection of the UNO to assist in raising sunken shipping and the reopening the Suez Canal. Port Officer for military shipping at Aquaba for withdrawal of British garrison from Jordan. 1956-57. Cyprus and Near East medals.

Employment Record

1957-1961 Demonstrator in Mineralogy and Crystallography, Cambridge University

1961-1992 Lecturer, Senior Lecturer in Geology, Leicester University

1978-1979 Part-time Lecturer, Oxford University

1976-1980 Part-time Lecturer, Queen's University, Belfast

1989-1996 Tutor in Geology, Open University

1991-present Hon. Research Fellow in Mineralogy, Natural History Museum, London

1992-1993 Hon. Research Fellow, Leicester University

1995-present University Fellow, Leicester University

1995-2004 Hon. Visiting Research Fellow, Southampton University

1999-present Deputy Curator Blandford Museum

Society Memberships

Geologists' Association

The Geological Society of London

(Vice-President 1985-1986, Senior Fellow 2005)

The Mineralogical Society GB (Life Member 2005)

American Mineralogical Society (Senior Fellow 2004)

Geochemical Society

International Association of Volcanology

Dorset Natural History & Archaeological Society

Blandford & District Civic Society

Awards

Royal Society Scandinavian Research Visitor, Oslo 1968

Leverhulme Fellowship 1971-1972

William Waldorf Astor Foundation award, Hawaii 1976

Royal Society Lecture Tour of Japan fellowship 1978

British Council Lecture Tour of India 1983

Cope Medal of The Geological Society 1997

Editorships

Editorial Board Journal of Petrology (Oxford) 1977-1994

Chief Editor Journal of The Geological Society 1983-1995

UK Regional Editor of Mineralogy & Petrology (Vienna) 1992-1996

Blandford & District Civic Society Newsletter 1999-present

Conferences and Lecture Tours Beyond The U.K.

Organiser 6th Colloquium African Geology 1971

Chairman International Commission on Igneous Nomenclature: Moscow 1984, London 1985, Freiburg 1986, Copenhagen 1988, Washington 1989, Moscow and St Petersburg 1991, Berne 1994, Southampton 1996 and Prague 1999.

Dublin, Paris, Clermont Ferrand, Strasbourg, Grenoble, Brussels, Louvain, Mainz, Hambourg, Oslo, Rome, Padua, Bucharest, Moscow, St Petersburg, Nairobi, Harare, Bombay, Dehli, Roorkee, Madras, Peshawar, Sydney, Araxa, SaoPaulo. Washington DC, Chicago, Hawaii, Toronto, Montreal

Students

Supervised 23 research students and research assistants, and two postdoctoral fellows.

Publication – Thesis

Le Bas, M.J. 1955. The structure and petrology of the Carlingford complex, Co. Louth, Ireland. Ph.D. thesis Cambridge University pp. X + 272 and map.

Publication – Books

Le Bas, M.J. 1977. Carbonatite-nephelinite volcanism: an African case history. John Wiley & Sons, ix + 347 pp.

Le Bas, M.J. 1995 Editor. Milestones in Geology. Geological Society Memoir 16. The Geological Society 272 pp.

Publications in Journals And Edited Books

1. M. J. Le Bas, 1955. Magmatic and amygdaloidal plagioclases. *Geological Magazine*, 92, 291-296. (and reply)
2. D.E. Coombe and L.C Frost, 1956. The nature and origin of the soils over the Cornish Serpentine. Mineralogical notes by M Le Bas and W Watters. *Jl Ecology*, 44 605-615.
3. M. J. Le Bas, 1959. The term eucrite. *Geol. Mag.*, 96, 497-502.
4. J. K. Charlsworth et al. 1960. The geology of North-East Ireland. *Proc. Geol. Assoc.*, 71, 429-459.
5. M. J. Le Bas, 1960. The petrology of the layered basic rocks of the Carlingford complex, Co. Louth. *Transactions of the Royal Society of Edinburgh*, 64, 169-200.
6. M. J. Le Bas, 1962. The role aluminum in igneous clinopyroxenes with relation to their parentage. *Amer. Jl. Sci.*, 260, 267-288.
7. M. J. Le Bas, 1963. On dating the British Tertiary igneous province. *Geol. Mag.*, 100, p. 379.
8. M. J. Le Bas, 1965. On the occurrence in Ireland of a lava related to hawaiite. *Proc. geol. Assoc.*, 76, 91-94.
9. M. J. Le Bas, 1965. The contamination of a gabbro by Carboniferous Limestone at Carlingford, Co. Louth. *Mineralogical Magazine*, 34, (Tilley Volume), 292-302.
10. M. J. Le Bas and J. A. Dixon, 1965. A new carbonatite in the Legetet Hills, Kenya. *Nature*, 207, p.68.
11. M. J. Le Bas, 1965. On the origin of the Tertiary granophyres of the Carlingford complex, Ireland. *Proc. Geol. Soc., London*, No. 1621, p. 65.
12. M. J. Le Bas, 1966. The intrusive and volcanic centres of the Wasaki area, Homa Bay, West Kenya. *Proc. Geol. Soc., London*, No. 1629, 25-26.

13. F. C. Green, T. D. Ford, M. J. Le Bas, J. Lush, G. A. Odell, H. Sadler and J. M. McD Whitaker, 1966. *Footpaths in Charnwood Forest. Trans. Leic. Lit. Philos. Soc., 60, 19pp.*
14. M. J. Le Bas, 1966. High load-pressure mineralogical relations in chondrites. *Nature, 211, 1355-1358.*
15. M. J. Le Bas, 1967. On the origin of the Tertiary granophyres of Carlingford complex, Ireland. *Proc. roy. Irish Acad., Vol. 65, Section B., No. 14, 325-338.*
16. J. H. McD Whitaker, T. D Ford and M. J. Le Bas, 1968. Venturing abroad: Kansas and Leicester Universities Exchange Visits. *Jl. Geological Education, Vol. 16, No. 3, 91-95.*
17. M. J. Le Bas, 1968. Caledonian igneous rocks. Chap. 3 in *The Geology of the East Midlands.* edit. P.C. Sylvester-Bradley and T.D. Ford, *Univ. Leicester Press, 41-58.*
18. M. J. Le Bas and P. A Mohr, 1968. Feldspathoidal rocks from the Cainozoic volcanic orovince of Ethiopia. *Geol. Rundschau, 58, 273-280.*
19. M. J. Le Bas, 1970. Trace elements in the gabbros, olivines, augites and magnetites of the Carlingford complex, Ireland. *Proc. Roy Irish Acad., 69, B, no. 11, 217-243.*
20. M. J. Le Bas and P. A Mohr, 1970. Tholeiite from the Simien alkali basalt centre, Ethiopia. *Geol. Mag., 107 523-529.*
21. M. J. Le Bas, 1970. A combined central and fissure-type phonolitic volcano in western Kenya. *Bull. Volcanol., 34(2), 518-536.*
22. M. J. Le Bas, 1970. The geochemistry of plagioclases from the gabbroic rocks of the Carlingford complex, Ireland. In: *West Commemorative Volume, Univ. Saugor, India, pp. 64-78.*
23. M. J. Le Bas, 1971. Per-alkaline volcanism, crustal swelling and rifting. *Nature Physical Science 230, 85-87.*
24. M. J. Le Bas, 1971. African events. Report on the 6th Colloquium on African Geology. *Nature, 230, 554-555.*
25. M. J. Le Bas, 1971. *Volcanological Research in the United Kingdom, 1960-1970: A Survey of Research Activities.* Compiled and edited. *Published by the Royal Society, 98 pages.*
26. M. J. Le Bas, 1971. Per-alkaline and alkaline igneous provinces and tectonic swells in Africa. *Jl. Geol. Soc. London, 127, 414.*
27. T. J. Halsall and M. J. Le Bas, 1972. The Tertiary dykes of Kildonan, S. Arran. *Jl. Geol. Soc. London, 127, 292-293.*
28. M. J. Le Bas, 1971. Cone sheets as a mechanism of uplift. *Geol. Mag., 108, 373-376.*
29. M. J. Le Bas, 1972. Caledonian igneous rocks beneath Central and Eastern England. *Proc. Yorks. geol. Soc., 39, 71-86.*

30. B. C King, M. J. Le Bas and D. S. Sutherland, 1972. The history of the alkaline volcanoes and intrusive complexes of eastern Uganda and western Kenya. *Jl. Geol. Soc. London*, 128, 173-205.
31. M.J. Le Bas, A. Mills and A. H. Rankin, 1972. Preliminary evidence on the nature and composition of carbonatite magma. *Nature*, 239 (5369), 215.
32. M. J. Le Bas, 1973. A norm for feldspathoidal and melilitic igneous rocks *Jl. Geol.*, 81, 89-96.
33. A. H. Rankin and M. J. Le Bas, 1973. A study of fluid inclusions in alkaline rocks with special reference to critical phenomena. *Jl. Geol. Soc. London*, 129, 319.
34. M. J. Le Bas, 1973. Petrographic descriptions of three suspected carbonatite specimens. In: Contributions to the geology of Mineral Resources in Iran. *geol. Surv. Iran, report 21*, 62.
35. A. H. Rankin and M. J. Le Bas, 1974. Nahcolite (NaHCO₃) in inclusions in apatites from some E, African ijolites and carbonatites. *Mineral, Mag.*, 39, 564-570.
36. A. H. Rankin and M. J. Le Bas, 1974. Liquid immiscibility between silicate and carbonate melts in naturally occurring ijolite magma. *Nature*, 250, 206-209.
37. M. J. Le Bas, 1974. Ardnamurchan, Centre 1. *Geol. Mag.*, 111, 449-450.
38. M. J. Le Bas, 1975. Volcanological Research in the UK., 1971-1975: A survey of research activities compiled on behalf of the Volcanological Subcommittee of the *Royal Society*, 93pp.
39. M. J. Le Bas, 1976. Carbonatites of western Kenya. Travaux de laboratoire des Sciences de la Terre, *Marseille, ser. B, No. 11*, 103-105.
40. M. J. Le Bas, J. Aspden and A. R. Woolley, 1977. Contrasting sodic and potassic glassy inclusions in apatite from an ijolite. *Jl. Petrology*, 18, 247-262.
41. S. R. Nockolds and M. J. Le Bas, 1977. Average calc-alkali basalt. *Geol. Mag.*, 114, 311-312.
43. M. J. Le Bas and T. J. Halsall, 1977. Minor intrusions and cyclic magmatic activity in the Carlingford complex, Eire. *Jl. Geol. Soc. London*, 134, 402.
44. M. J. Le Bas, 1978. REVIEW: Les Roches Volcaniques: Petrologie et Cadre Structural, by M. Girod et al. *Doin Editeurs*. 240 pp. In: *Science*, 201, 1219-1220.
45. Institute of Geological Sciences (part author). 1978. Geological map of the Mourne Mountains, N. Ireland, *Special Sheet (pt. of 60, 61, 71, 72), solid, 1:50,000 H.M.S.O.*
46. M. J. Le Bas, 1978. Nephelinite volcanism at plate interiors. *Bull. Volcanol.*, 41, 459-462.
47. M. J. Le Bas, 1978. Are olivine-poor nephelinites a primary melt product of the mantle? *Bull. Volcanol.*, 41, 463-465.

48. A. Streckeisen et al. 1979. Classification and nomenclature of volcanic rocks: lamprophyres, carbonatites and melilitic rocks. Recommendations and suggestions of the IUGS Subcommittee on the Systematics of Igneous Rocks. *Geology*, 7, 331-335.
49. M. J. Le Bas and C. D. Handley, 1979. Variation in apatite composition in ijolite and carbonatite igneous rocks. *Nature*, 279, 54-56.
50. M. J. Le Bas, 1979. Volcanological Research in the U.K. 1975-1979. Royal Society, pp. 1-87.
51. M. J. Le Bas, 1980. Alkaline magmatism and uplift of continental crust. *Proc. Geol. Assoc.*, 91, 33-38.
52. P. A. Sabine and M. J. Le Bas, 1980. Progress in 1979 on the nomenclature of pyroclastic materials. *Geological Magazine*, 117, 389-391.
53. M. J. Le Bas, 1980. The East African Cenozoic magmatic province. *Acad Naz. Lincei, Rome*, 47, 111-122.
54. M. J. Le Bas, 1981. Carbonatite magmas. *Miner. Mag.*, 44, 133-140.
55. M. J. Le Bas, 1981. The igneous basement of S. Britain with particular reference to the geochemistry of the pre-Devonian rocks of Leicestershire. *Transactions of the Leicester Literary and Philosophical Society*, 75, 41-57.
56. L. C. Silva, M. J. Le Bas and A. H. F. Robertson 1981. An oceanic carbonatite volcano on Santiago, Cape Verde Islands. *Nature*, 294, 644-5.
57. M. J. Le Bas and J. A. Aspden, 1981. The comparability of carbonatitic fluid inclusions in ijolites with natrocarbonatite lava. *Bulletin Volcanologique.*, 44 (3), 429-438.
58. M. J. Le Bas, 1981. Alkaline Volcanism and Metasomatism in East Africa. *Proceedings of the Edinburgh Geological Society*. 11, 5-6.
59. M. J. Le Bas, 1982. The Caledonian granites and diorites of England and Wales. In: *Igneous rocks of the British Isles*. Ed. D.S Sutherland, John Wiley and Sons, 191-201.
60. M. J. Le Bas, 1982. Quaternary to Recent volcanicity in Japan. *Proceedings of the geologists' Association*, 93, 179-194.
61. M. J. Le Bas, 1982. Geological evidence from Leicestershire on the crust of S. Britain. *Trans. Leic. Lit. Philos. Soc.*, 75, 54-67.
62. C. J. Stillman, H. Furnes, M. J. Le Bas, A. H. F. Robertson and J. Zielonka, 1982. The Geological history of Maio, Cape Verde Islands. *Journal of the Geological Society, London*, 139, 347-361.
63. J. G. Mitchell, M. J. Le Bas, J. Zielonka with H Furnes, 1983. On dating the magmatism of Maio, Cape Verde Islands. *Earth Planet. Sci. Letters*, 64, 61-76.

64. M. J. Le Bas, J. Durham and J.A Plant, 1983. IGBA and the National Geochemical Data Bank in the UK. *Computers and Geosciences*, 9, 513-521.
65. M. J. Le Bas, 1984. Oceanic carbonatites. in: Kimberlites. I. Kimberlites and Related Rocks. J. Kornprobst (ed), pp. 169-178. Elsevier Sciences Publ.
66. M. J. Le Bas, 1985. The formation of mugearitic magma by contamination. *Indian Mineralogist, Sukheswala Volume*, 108-123.
- 67 M. J. Le Bas, D. C Rex and C. J Stillman, 1985. The early magmatic chronology of Fuerteventura, Canary Islands. *Geol. Mag.*, 123, 287-298.
68. M. J. Le Bas, 1986. New format for the Journal; editorial. *Journal of the Geological Society, London*, 143, 1.
69. I. Mian and M. J. Le Bas, 1986. Sodic amphiboles in fenites from the Loe Shilman carbonatite complex, N.W. Pakistan. *Mineral Mag.*, 50, 187-197.
70. M. J. Le Bas, 1986. Building a useful geochemical data base. *Outlook on Research Libraries*, 8, 1-6.
71. M. J. Le Bas, R. W. Le Maitre, A. Streckeisen and B. Zanettin 1986. A chemical classification of volcanic rocks based on the total alkali-silica diagram. *Jl. Petrology*, 27, 745-750.
72. M. J. Le Bas, I. Mian and D. C. Rex, 1987. Age and nature of carbonatite emplacement in N Pakistan. *Geol Rundschau* 76, 317-323.
73. M. J. Le Bas, 1987. Nephelinites and Carbonatites. In: Alkaline Igneous Rocks. Eds J.G. Fitton and B.G.J. Upton, Spec. Pub. *Geol. Soc. London*, 30, 53-83.
74. M. J. Le Bas, 1987. Ultra-alkaline magmatism with or without rifting. *Tectonophysics*, 143, 75-84.
75. I, Mian and M.J. Le Bas, 1987. The biotite-phlogopite series in fenites from the Loe Shilman carbonatite complex, NW Pakistan. *Mineral Mag.*, 51, 397-408.
76. D.J Miller, J. A. Wolff, B.N. Turbeville and M.J. Le Bas, 1987. Trace element geochemistry of nephelinites and REE-depleted phonolites, Brava, Cape Verde Islands. *EOS*, 68, 1522.
77. B.N. Turbeville, J.A. Wolff and M.J. Le Bas, 1987. An oceanic nephelinite-phonolite-carbonatite association, Brava, Cape Verde Islands. *EOS*, 68, 1522.
78. M.J. Le Bas, R.W. Le Maitre, A. Streckeisen and B. Zanettin 1988. Chemical classification of volcanic rocks based on total Alkali - Silica diagram. *Dizhi Keji Dongtai*, 9, 25-29 (in Chinese).
- 79 M. J. Le Bas, 1989. Editorial. *Journal of the Geological Society, London*, 146, 1.
80. M. J. Le Bas, 1989. Diversification of carbonatite. In: K. Bell (ed) Carbonatites: genesis and evolution, *Unwin Hyman*, 428-447.
81. M. J. Le Bas, 1989. Petrogenesis of carbonatites and fenites: some recent developments. *Memoirs Geological Society of India*, No. 15, 137-144.

82. M. J. Le Bas and R. K. Srivastava, 1989. Mineralogy and geochemistry of the Mundwara carbonatite dykes, Sirohi District, Rajasthan, India. *Neues Jahrbuch Mineral. Abh.*, 160 (2) 207-227.
83. M. J. Le Bas and J. Durham. 1989. Scientific communication of geochemical data and the use of computer databases. *Jl. Documentation*, 45, 124-138.
84. M. J. Le Bas, 1989. Nephelinitic and basanitic rocks. *Jl. Petrology*, 30, 1299-1312
85. R.W. Le Maitre, P. Bateman, A. Dudek, J. Keller, J. Lameyre, M. J. Le Bas, P.A. Sabine, R. Schmid, H. Sorensen, A. Streckeisen, A.R. Woolley, and B. Zanettin., 1989. A classification of Igneous Rocks and Glossary of Terms: Recommendations of the International Union of Geological Sciences Subcommittee on the Systematics of Igneous Rocks. *Blackwell Scientific Publications, Oxford*, 193 pp and chart.
86. K.A. Hoernle, G. Tilton, M.J. Le Bas and H. Staudigel, 1989. A plume origin for Fuerteventura (Canary Islands) carbonatites. *EOS*, 70, 503.
87. L.B. Clarke and M.J. Le Bas, 1990. Magma mixing and metasomatic reaction in silicate-carbonate liquids at the Kruidfontein carbonatite volcanic complex, Transvaal. *Mineralogical Magazine*, 54, 45-56.
88. M.J. Le Bas and A. Streckeisen, 1991. The IUGS systematics of igneous rocks. *Journal of the Geological Society*, 148, 825-833.
89. M.J. Le Bas and A. Streckeisen, 1991. IUGS systematics of igneous rocks. *Zap. Obs. Mineral. All-Union USSR*, 120, 1-20. (in Russian)
90. M.J. Le Bas, 1991. Nephelinitic and basanitic rocks. *Guowai Dizhi Keji (Overseas Geological Sciences & Technology)*, 2, 18-25. (in Chinese)
91. R.W. Le Maitre, P. Bateman, A. Dudek, J. Keller, J. Lameyre, M.J. Le Bas, P.A. Sabine, R. Schmid, H. Sorensen, A. Streckeisen, A.R. Woolley, and B. Zanettin, 1991. A classification of Igneous Rocks and Glossary of Terms: Recommendations of the International Union of Geological Sciences Subcommittee on the Systematics of Igneous Rocks. Translated by Dr Wang Bixiang. *Publishing House of Chinese Academy of Geological Sciences*, 253 pp. (in Chinese)
92. M.J. Le Bas, 1991. Review of "Carbonatites: genesis and evolution" by K. Bell (ed), (Unwin Hyman). *Mineralogical Magazine*, 54, 349.
93. I Mian and M.J. Le Bas, 1991. Feldspar solid solution series in fenites from Loe Shilman carbonatite complex, NW Pakistan. *Geological Bulletin of the University of Peshawar*, 21, 71-83 (for 1988).
94. M.J. Le Bas, 1991. Review of "Volcanoes of North America" by C.A. Word and J. Kienle. *Geophysical Journal International*, 105, 809-810.
95. M.J. Le Bas, 1991. Review of "Lamprophyres" by N.M.S. Rock (Blackie). *Mineralogical Magazine*, 55, 296.

96. M.J. Le Bas and A.L. Streckeisen, 1991. The IUGS systematics of igneous rocks. *Guowai Dizhi Keji (Overseas Geological Sciences & Technology)*, 8, 1-12. (in Chinese)
97. M. J. Le Bas, 1992. Editorial. *Journal of the Geological Society, London*, 149, 1.
98. M.J. Le Bas, R.W. Le Maitre and A.R. Woolley, 1992. The construction of the Total Alkali-Silica chemical classification of volcanic rocks. *Mineralogy and Petrology*, 46, 1-22.
99. M.J. Le Bas, 1992. The petrography of the Shetland tonsbergite. *The Shetland Naturalist*, 1, 51-56.
100. M.J. Le Bas, 1992. Review: Outline and Geology of Guernsey by R.A.Roach et al. *Geology Today*, 8, 115.
101. N.A. Hodgson and M.J. Le Bas, 1992. The geochemistry and cryptic zonation of pyrochlore from San Vicente, Cape Verde Islands. *Mineralogical Magazine*, 56, 201-214.
102. M.J. Le Bas, J. Keller, Tao Kejie, F. Wall, Williams, C.T. and Zhang Peishan, 1992. Carbonatite dykes at Bayan Obo, Inner Mongolia, China. *Mineralogy and Petrology*, 46, 195-228.
103. M.J. Le Bas, J. Keller, Tao Kejie, F. Wall, Williams, C.T. and Zhang Peishan, 1992. Carbonatite dykes at Bayan Obo, Inner Mongolia, China. (Extended abstract) *Scientia Geologica Sinica*, 12, (Special Volume) 130-138. (in Chinese)
104. M. J. Le Bas, 1993. Editorial. *Journal of the Geological Society, London*, 150, 1-2.
105. F.Wall, M.J. Le Bas and R.K. Srivastava, 1993. Calcite and carbocernaite exsolution and cotectic textures in a Sr,REE-rich carbonatite dyke from Rajasthan, India. *Mineralogical Magazine*, 57, 495-513.
106. M.J. Le Bas, 1993. Review: British Tertiary Volcanic Province. by C.H. Emeleus and M.C Gyopari. Geological conservation Reviews, 4. Chapman & Hall, 1992. 259 pp. In; *Journal of Petrology*, 34 1060-1061.
107. M.J. Le Bas, 1993. Review: Introduction to Mineral Sciences, by A. Putnis, 1992. *Cambridge University Press, Cambridge, New York*, xxii+457pp. And *Optical Mineralogy: Principles and Practice*, by C.D.Gribble, & A.J.Hall, 1992. *UCL Press, London*, xv+303pp. In: *Times Higher Educational Supplement*, Sept. 3 1993, 18a
108. M.J. Le Bas, 1993. Memorial to Felix Chayes. *Geological Society of America, Obituaries 1993 pp.* 27-30.
- 109 R.V.Srivastava, F. Wall and M.J. Le Bas, 1993. Sr-REE rich carbonatite dyke from Sarnu-Dandali, Barmer, Rajasthan. *Current Science*, 65, 170-171.
110. M.J. Le Bas, 1993. The hidden mountains of Leicestershire. *Trans. Leic. Lit. Philos. Soc.*, 87, 33-35.
111. L.B.Clarke M.J. Le Bas and Spiro, B. 1994. Rare earth, trace element and stable isotope fractionation of carbonatites at Kruidfontein, Transvaal, S. Africa. *Proceedings of the Fifth*

Kimberlite Conference Vol. 1. Kimberlite, related rocks and mantle xenoliths. *Companhia de Pesquisa de Recursos Minerais, Brasilia*, 236-251 (for 1992).

112. M.J. Le Bas, 1994. Review: Using geochemical data: evaluation, presentation, interpretation. by H.R. Rollinson. Longman Scientific and Technical. 1993, xxvi + 352 pp. In: *Mineralogical Magazine*, 58 (3), 523.

113 M.J. Le Bas, 1994. Review: The Rocks and Scenery of Guernsey by Mick de Pomerai and Andy Robinson, *La Société Guernesaise*, 1994, 72 pp. In: *Geology Today*, 10 (4), 160.

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121. M.J. Le Bas. 1996. Mount Bardon volcanism. *Transactions of the Leicester & Literary Philosophical Society.*, 90, pp. 26-34.

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Igneous Rocks and Glossary of Terms: Recommendations of the International Union of Geological Sciences Subcommission on the Systematics of Igneous Rocks. *Translated by Dr S.V. Efremova. Published by NEDRA, Moscow. 248 pp. (in Russian)*

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