

SELECTED REFERENCES

- Agashe, L.V. & Gupte, R.B. (1964) Volcanic vent of the Ghod Dam area; Jour. Univ. of Poona, 26.
- 
- (1968) Some significant features of the Deccan Trap; Geol. Soc. India, Seminar Vol., Mem. No. 2, 309-319.
- 
- (1969) Mode of eruption of the Deccan Trap basalts: Abstract, Int. Sym. on Deccan Traps and other Flood Eruptions, Univ. of Saugar, India, pp. 3-5.
- Auden, J.B. (1949) Dykes in Western India; Trans. Nat. Instt. Sci., India, 123-57.
- Ault, W.U., Eaton, J.P. & Richter, D.H. (1961) Lava temperatures in the 1959 Kilauea eruption and cooling lake; Geol. Soc. Amer. Bull., 72, No. 5, 791-794.
- Bailey, E.B., Clough, T.C., Wright, W.B., Richey, J.E., & Wilson, G.V. (1924) Tertiary and post-tertiary Geology of Mull, Loch Aline, and Oban; Mem. Geol. Surv. Scotland.
- Barth, T.F.W. (1931) Crystallization of pyroxenes from basalts: Amer. Min., 16, 195-208.
- 
- (1936) Crystallisation process of basalt; Amer. Jour. Sci., 31, 321-351.
- Billings, M.P. (1954) Structural Geology; 2nd Edition, Englewood Cliffs, N.J. Prentice Hall, 514 P.
- Blanford, W.T. (1869) On the traps and intertrappean beds of Western and Central India; Mem. Geol. Surv. Ind., 6, Pt. 2,

- Blanford, W.T. (1869) On the geology of Taptee and Lower Nerbuda valleys and some adjoining districts; Mem. Geol. Surv. India, 6, Pt.3.
- Bose, P.N. (1884) Geology of the lower Narmada valley between Nimawar and Kawant; Mem. Geol.Surv. India, 21,Pt.1.
- Bowen, N.L. (1928) The evolution of the igneous rocks. Princeton Univ. Press, 332 pp.
- \_\_\_\_\_ (1947) Magmas; Bull.Geol.Soc. Amer., 58, 263-280.
- Chatterjee, S.C. (1957) Geology of Pavagadh hill; Curr. Sci., 26, 7, 199-201.
- \_\_\_\_\_ (1961) Petrology of the lavas of Pavagadh Hill, Gujarat; Jour. Geol. Soc. Ind., 2, 44-52.
- \_\_\_\_\_ (1964) An alkali olivine-basalt sub-province in the Deccan Traps; 22nd Int. Geol. Cong., New Delhi, 35-41.
- \_\_\_\_\_ (1964) Petrochemistry of the lavas of Pavagadh Hill, Gujarat; Advancing Frontiers in Geol. and Geophy., pp. 385-397.
- Chatterjee, S.K. (1932) Petrology of the igneous rocks from the West Gir forest, Kathiawar; Jour. Geol., 40, No.2, 154-63.
- Cornwall, H.R., & Rose, H.J. (1957) Minor elements in Keweenaw lavas, Michigan; Geochim. et. Cosmochim. Acta, 11, 718-729.
- Crookshank, H. (1936) Geology of northern slopes of Satpuras beyond Morand and Sher river; Mem. Geol. Sur.Ind.,66, Pt.2.

- Cross, C.W. (1915) Lavas of Hawaii and their relations; U.S. Geol. Surv., Prof. Paper 88, 97 pp.
- Dave, S.S. (1963) Igneous complex of Western Saurashtra; Unpublished thesis for Ph.D., Univ. of Saugar.
- Davis, W.M. (1922) Peneplains and geographical cycles; Geol. Soc. Amer. Bull., 23, 587-598.
- Desai, S.D. (1964) Geology of the Girnar Hills, Saurashtra (Gujrat); Jour. M.S. Univ., Baroda, 13, No. 3, 13-20.
- Deshmukh, S.S. (1964) Geology of the area around Taljhari and Berhait, Rajmahal hills, Santhal Parganas, Bihar; Int. Geol. Cong., Rept. of 22nd Session, India, pp. 61-84.
- Drever, H.I. & Johnston, R. (1958) The petrology of picrite rocks in minor intrusions - A Hebridean group; Trans. Roy. Soc. Edin., 63, 459-499.
- Dutton, C.E. (1884) Hawaiian volcanoes; U.S. Geol. Survey, 4th Ann. Rept., 75-219.
- Edwards, A.B. (1942) Differentiation of the dolerites of Tasmania; Jour. Geol., 50, 451-480.
- Fermor, L.L. (1913) Preliminary note on garnet as a geological barometer and on an Infra-Plutonic Zone in the Earth's Crust; Rec. Geol. Surv. Ind., 43, 41-47.

- Fermor, L.L. (1926) Basaltic lava penetrated by deep borings for coal at Bhusawal, Bombay Presidency; Rec. Geol. Surv. Ind., 58-Pt.2, 98-240.
- \_\_\_\_\_ (1935) On the chemical composition of the Deccan Trap flows of Linga, Chhindwara, C.P.; Rec. Geol. Surv. Ind., 68, 340-360.
- \_\_\_\_\_ (1938) Garnets and their role in nature; Special Publication No.6, Ind. Assoc. Cul. Sci., Calcutta.
- Fermor, L.L. & Fox, C.S. (1916) The Deccan Trap flows of Linga, Chhindwara Dist., C.P.; Rec. Geol. Surv. Ind., 47, Pt.2, 81-136.
- Foots, R. Bruce. (1876) The geological features of the South Maharatha country and adjoining districts: Mem. Geol. Sur., Ind., 12, Pt.1.
- Goldschmidt, V.M. (1937) Principles of distribution of chemical elements in minerals and rocks; Jour. Chem. Soc., 655-673.
- Green, J. & Poldervaart, A. (1958) Some basaltic provinces: Geochim. et Cosmochim. Acta, 13, 87-122.
- Green, D.H. & Ringwood, A.E. (1967) The genesis of basaltic magma; Contr. Mineralogy and Petrology, 15, 103-190.
- Harker, A. (1904) The Tertiary igneous rocks of Skye; Mem. Geol. Surv. United Kingdom.
- \_\_\_\_\_ (1917) Some aspects of igneous action in Britain; Quart. Jour. Geol. Soc., Lond., 73, 91-93.

- Hatch, F.H., (1961) Petrology of igneous rocks; 12th  
Wells, A.K. & Edition, Thomas Murby & Co.  
Wells, M.K.
- Hess, H.H. (1941) Pyroxenes of common mafic magmas;  
Amer. Min., 26, 515-535.
- 
- (1949) Chemical composition and optical  
properties of common clinopyroxenes; Amer. Min., 39,  
621-666.
- Holmes, A. (1931) The problem of association of  
the acid and basic rocks in  
central complexes; Geol. Mag.,  
242-255.
- Hortsman, E.L. (1957) The distribution of lithium,  
radium and cesium in igneous  
and sedimentary rocks; Geochim.  
et. Cosmochim. Acta, 12, 1-28.
- Jaggur, T.A. (1930) Distinction between pahoehoe, aa  
and block lavas; Volcano Letter,  
281, 1-3.
- 
- (1947) Origin and Development of Craters;  
Geol. Soc., Amer., Mem. 21.
- Johannson, A. (1937) A descriptive petrography of the  
igneous rocks; Vol.3, Univ.  
Chicago Press, Chicago. 328 pp.
- Joplin, G.A. (1965) The problem of the potash-rich  
basaltic rocks; Min. Mag., 34,  
(Tilley Volume), 266-275.
- Kalapesi, A.S. & (1935) The occurrence of some acid and  
Contractor, G.P. intermediate rock types in Salse-  
tte Island, Bombay; Quart. Jour.  
Geol. Min. Met. Soc. Ind., 7,  
183-191.

- Kalapesi, A.S. & Dalal, H.S. (1942) Petrology of Trombay Island (Bombay); Quart. Jour. Geol. Min. Met. Soc., Ind., 14, 83-88.
- Kennedy, W.Q. (1931) The parent magma of the British tertiary Province. Summary of the progress of the Geological Survey of Great Britain for the year 1930, Pt. 2.
- \_\_\_\_\_ (1933) Trends of differentiation in Basaltic magmas; Amer. Jour. Sci., 25, 239-256.
- Kennedy, W.Q. & Anderson, E.M. (1938) Crustal layers and origin of Magmas; Bull. Volc. Ser. 2, Tome 3, 25-82.
- King, L.C. (1953) Cannons of land scape evolution; Bull. Geol. Soc. Amer., 64, 721-52.
- Krishnan, M.S. (1960) Geology of India and Burma: Higginbothams Ltd., Madras, 604 pp.
- \_\_\_\_\_ (1963) Deccan Trap volcanism: Bull. Nat. Geophysical Institute, Hyderabad, 1, 4-16.
- Krishna Rao, M. (1970) Behaviour of trace elements during the differentiation of basic igneous rocks in Cuddapah basin; Jour. Geol. Soc. Ind., 11, 358-372.
- Krishnamurty, P. (1967) Ankaramite flows and dykes of Amnavi area, West Rajpipla Hills, Gujarat State; Curr. Sci., 36, No. 24, 671-672.
- Kuno, H. (1936) On the crystallization of pyroxenes from rock magmas, with special reference to the formation of pigeonite; Jap. Jour. Geol. Geogr., 13, 141-150.

- Kuno, H. (1959) Origin of Cenozoic petrographic provinces of Japan and Surrounding areas; Bull. Volcanol. Ser.2, Tome 20, 37-76.
- \_\_\_\_\_ (1960) High-alumina basalt; Jour. Petro. 1, 121-145.
- Kuno, H.,  
Yamasaki, K.,  
Iida, C. &  
Nagashima, K. (1957) Differentiation of Hawaiian magmas; Japan, Jour. Geol. and Geophy., 28, 179-218.
- Kushiro, I., &  
Kuno, H. (1963) Origin of primary basalt magmas and classification of basaltic rocks: Jour. Petrology, 4, 75-89.
- Lacroix, A. (1916) La constitution des roches volcanique de l'extreme nord de Madagascar et de la Nosy be les ankara-trites de Madagascar en general; Compt. Rend., 163, 182-256.
- Macdonald, G.A. (1942) Petrography of Samoan Islands; Bull. Geol. Soc. Amer., 56, 1333-63.
- \_\_\_\_\_ (1944) The 1840 eruption and crystal differentiation in Kilauean magma column, Hawaii; Amer. Jour. Sci., 242, No.4, 179-189.
- \_\_\_\_\_ (1949) Hawaiian petrographic province; Bull. Geol. Soc. Amer., 60, Pt.3, 1541-1596.
- \_\_\_\_\_ (1953) Pahoehoe, aa, and block lava; Amer. Jour. Sci., 251, 169-191.

- Macdonald, G.A. (1955) Hawaiian Islands, Pt. 3 of catalogue of active volcanoes of the world including solfataras fields; Naples, Italy, Internat. Volcanol. Assoc., p.37.
- 
- (1967) Forms and structures of extrusive basaltic rocks; In Hess, H.H., and Poldervaart, A., Editors, Basalts; Vol.1, New York, Interscience, 1-61.
- Macdonald, G.A. (1955) Hawaiian volcanoes during 1954; & Eaton, G.P. U.S. Geol. Surv. Bull, 1061-B, 17-72.
- Macdonald, G.A. & (1964) Chemical composition of Hawaiian Lavas; Jour. Petro. 5, Pt.1, Katsura, T. 82-133.
- Marathe, S.S., (1969) Giant phenocryst basalts in the Karmakar, B.M., Deccan Trap; Abstract, Int. Symp. Kulkarni, S.R., on Deccan Traps and other Flood Sowani, P.V. & Eruptions, Univ. of Saugar, 18-20. Peshwa, V.V.
- Medlicott, J.G. (1860) On the geological structure of the central portion of the Nerbudda district; Mem. Geol. Surv., India, 2, 217-227.
- Mishra, K.K. (1969) Petrology of the picrite-basalt flows in the Igatpuri area, Nasik district, Maharashtra; Abstract, Int. Symp. on Deccan Traps and other Flood Eruptions, Univ. of Saugar, p. 23.



- Mishra, K.K. (1969) Dykes around Igatpuri area, Nasik district, Maharashtra State; Vasundhara, Jour. Geol. Soc., Univ. of Saugar, 5, 51-54.
- Muir, I.D., Tilley, C.E. & Scoon, J.H. (1957) Contribution to the petrology of Hawaiian basalt. The picrite-basalts of Kilauea; Amer. Jour. Sci., 255, 241-253.
- Muir, I.D. & Tilley, C.E. (1963) Contribution to the petrology of Hawaiian basalts. II, The tholeiitic basalts of Mauna Loa and Kilauea; Amer. Jour. Sci., 261, 111-126.
- Murata, K.J. & Richter, D.H. (1961) Magmatic differentiation in the Uwekahuna laccolith, Kilauea caldera, Hawaii; Jour. Petrology, 2, 424-437.
- \_\_\_\_\_ (1966) Chemistry of the lavas of the 1959-60 eruption of Kilauea volcano, Hawaii; U.S. Geol. Surv. Bull. Prof. Paper 537-A.
- Naidu, P.R.J. (1960) Optic axial angles of pyroxenes of Deccan Traps; Indian Mineralogist, 1, 68-75.
- Nichols, R.L. (1936) Flow units in basalts; Jour. Geol., 44, 617-630.
- Nickolds, S.R. & Allen, R. (1953) The geochemistry of some igneous rocks series; Geochim. et Cosmochim. Acta, 4, 105-144.
- \_\_\_\_\_ (1954) The geochemistry of some igneous rocks series, Pt.2; Geochim. et Cosmochim. Acta, 5, 245-285.

- Wickolds, S.R. & Allen, R. (1956) The geochemistry of some igneous rocks series, Pt.3; *Geochim. et Cosmochim. Acta*, 9, 34-77.
- 
- (1970) Trace elements in some Deccan Traps; West Commemoration Volume, pp.265-66.
- Nickolds, S.R. & Mitchell, R.L. (1948) The geochemistry of some Caledonian plutonic rocks; *Trans. Roy. Soc. Edin.*, 61, 533-575.
- Noe-Nygaard, A. (1962) The geology of the Faeroes; *Quart. Jour. Geol.Soc.*, London, 118, 375-383.
- Noe Nygaard, A. & Rasmussen, J. (1968) Petrology of a 3,000 metres sequence of basaltic lavas in the Faeroe Islands; *Lithos*, 1, 286-304.
- Oldham, R.D. (1863) *Manual of the Geology of India*; 2nd Edition.
- Pascoe, E.H. (1964) *A Manual of Geology of India and Burma*; Vol. III.
- Patterson, E.M. (1950) Evidence of fissure eruption in the tertiary lava plateau of North-East Ireland; *Geol. Mag.*, 87, 42-52.
- Poldervaart, A. (1962) Aspects of basalt petrology; *Jour. Geol. Soc. India*, 3, 1-14.
- 
- (1964) Chemical definition of alkali basalts and tholeiites; *Bull. Geol. Soc. Amer.*, 75, 229-232.
- Poldervaart, A. & Hess, H.H. (1951) Pyroxenes in the crystallization of basaltic magma; *Jour. Geol.*, 59, 472-489.

- Powers, H.<sup>A</sup>. (1955) Composition and origin of basaltic magma of the Hawaiian Islands; *Geochim. et Cosmochim. Acta*, 7, 77-107.
- Rankama, K.K. & Sahama, T.G. (1950) *Geochemistry*; University of Chicago Press, Chicago.
- Richter, D.H. & Murata, K.J. (1966) Petrography of the lavas of the 1959-60 eruption of Kilauea volcano, Hawaii; *U.S. Geol. Surv. Bull., Prof. Paper 537-D*.
- Ringwood, A.E. (1955) Principles governing trace element distribution during magmatic crystallization; *Geochim. Cosmochim. Acta*, 7, 189-202 and 242-254.
- Ringwood, A.E. & Green, D.H. (1966) An experimental investigation of gabbro - eclogite transformation and some Geological implications; *Tectonophysics*, 3 (5), 383-428.
- Sharma, C.V. (1963) The petrology and the structure of the Deccan Trap flows of Pavagadh Hill, Gujarat (India); Unpublished thesis for Ph.D., Univ. of Saugar.
- Shimizu, J. & Kuno, H. (1960) Notes of rock-forming minerals; (14), Anorthoclase phenocrysts in trachyte from Puu Anahulu, Hawaii Island; *Jour. Geol. Soc. Japan*, 66, 547-548.
- Simpson, E.W. (1954) On the graphical representation of differentiation trends of igneous rocks; *Geol. Mag.*, 91, 238-244.
- Sinha, R.<sup>C</sup>. & Karkare, S.G. (1964) *Geochemistry of the Deccan basalts; A study of the behaviour of major*

- and trace elements in the basaltic flows of India; 22nd Int. Geol. Cong., Ind., pp. 85-103.
- Sinha, R.C. & (1964) Geochemistry of the volcanic rocks  
Tiwari, B.D. of Pavagadh hill; 22nd Int. Geol. Cong., Ind., pp. 104-125.
- Sinha, R.C. & (1968) Geochemistry of the basic rocks  
Krishna Rao, M. around Pulivendla, Andhra Pradesh; Jour. Geochem. Soc. Ind., 3, 25-52.
- Smith, F.G. (1963) Physical Geochemistry: Addison  
Wesley Pub. Co.
- Sowani, P.V. & (1966) An olivine bearing basalt flow at  
Peshwa, V.V. Purandar; Jour. Univ. of Poona, No. 30, 113-116.
- Subba Rao, S. (1964) The geology of igneous complex of  
Girnar hill, Gujarat State, India; Unpublished Ph.D. Thesis, Univ. of Saugar.
- \_\_\_\_\_ (1965) The parental magma of the Deccan  
Trap region; Bull. Geol. Soc. Ind., 2, No. 2, 43-47.
- Sukheswala, R.N. & (1958) Deccan basalts of the Bombay area,  
Poldervaart, A. India; Bull. Geol. Soc. Amer., 63, 1475-1494.
- Sukheswala, R.N. & (1962) Deccan Traps and the associated  
Sethna, S.F. rocks of the Bassein area; Jour. Geol. Soc., Ind., 3, 125-146.
- Sukheswala, R.N. (1963) Note on the carbonatite of Amba  
& Udas, G.R. Dongar (Gujarat State) and its economic potentialities; Science and Culture, 29, 563-568.

- Sykes, W.H. (1833) On the geology of a portion of  
(Col.) Dukhun, East Indies; Trans. Geol.  
Soc. Lon., Vol.4, Sep. Series.  
Quoted from Geological papers on  
Western India. Editor M.J.Carter,  
pp. 89-115.
- Thronton, C.P. (1956) Application of the differentiation  
& Tuttle, O.F. index to petrological problems:  
Abstract, Bull. Geol. Soc. Amer.,  
67, 1738-39.
- \_\_\_\_\_ (1960) Chemistry of Igneous Rocks. I,  
Differentiation Index; Amer. Jour.  
Sci., 258, 664-684.
- Tilley, C.E. (1950) Some aspects of magmatic evolution;  
Quart. Jour. Geol. Soc. Lond., 113,  
37-61.
- \_\_\_\_\_ (1961) The occurrence of hypersthene in  
Hawaiian basalts: Geol. Mag., 98,  
257-260.
- Tiwari, B.D. (1967) The Geochemistry of the volcanic  
rocks of Pavagadh, Gujarat:  
Published Ph.D.Thesis, Banaras  
Hindu University.
- Tomkeieff, S.I. (1937) Petrochemistry of the Scottish  
Carboniferous-Permian rocks: Bull.  
Volcanol., Ser.2, 1, 59-87.
- Turekian, K.K. & (1967) Distribution of the elements in some  
Wedepohl, K.H. major units of the earth's crust:  
Geol. Soc. Amer. Bull., 72, 175-192.
- Turner, F.J. & (1960) Igneous and Metamorphic Petrology:  
Verhoogan, J. 2nd Edition, McGraw Hill Book Co.,  
Inc., New York, 598. p.

- Tyrrell, G.W. (1926) The petrography of Jan Mayen: Roy. Soc. Edin. Trans. 54, 747-765.
- \_\_\_\_\_ (1937) Flood basalts and fissure eruptions: Bull. Valcano., Ser.2, 107-111.
- \_\_\_\_\_ (1958) The principles of petrology: Mathuen & Co. Ltd., London.
- Vemban, N.A. (1947) Differentiation trends in the Deccan Traps: Proc. Ind. Acad. Sci., 25, 75-118.
- \_\_\_\_\_ (1954) Determination of feldspars in some apharic Deccan Traps: Rec. Geol. Surv. Ind., 83, 479-80.
- Vinogradov, A.P. (1962) Average content of chemical elements in the principal types of igneous rocks of the earth crust: Geochemistry, 7, 641-664.
- Wadia, D.N. (1953) Geology of India: 3rd Edition, Macmillan & Co., London, 531 pp.
- Wager, L.R. (1956) A chemical definition of fractionation stages as a basis for comparison of Hawaiian, Hebridean, and other basic lavas: Geochim. et. Cosmochim. Acta, 9, 217-248.
- Wager, L.R. & Mitchell, R.L. (1951) The distribution of trace elements during strong fractionation of basic magmas- a further study of the Skaergaard intrusion, East Greenland: Geochim. et Cosmochim. Acta, 1, 129-208.
- Wakhaloo, S.N. (1967) On the nature of volcanic eruption and of differentiation of the Girnar Igneous complex, Junagarh, Kathiawar Peninsula, India: Symp. Upp. Man. Proj. Geophy. Res. Ins. Hyderabad, 430-49.

- Walker, F. & Davidson, U.E. (1936) A contribution to the geology of the Faeroes: Trans. Roy. Soc., Edin., 58.
- Walker, F. & Nicolaysen, L.O. (1954) The petrology of Mauritius: Colonial Geology and Mineral Resources, 4.
- Walker, G.P.L. (1960) Zeolite zones and dyke distribution in relation to the structure of the basalts of eastern Iceland: Jour. Geology, 68, 515-528.
- \_\_\_\_\_ (1960) The amygdale minerals in the Tertiary lavas of Iceland: III, Regional distribution, Min. Mag. 32, 505-27.
- \_\_\_\_\_ (1969) Some observations and interpretations of the Deccan Traps: Unpublished Report, Univ. Saugar, pp.1-22.
- Washington, H.S. (1922) Deccan Traps and other plateau basalts: Bull. Geol. Soc. Amer., 33, 765-804.
- \_\_\_\_\_ (1923) Petrology of the Hawaiian Islands, IV, The formation of Aa and pahoehoe: Amer. Jour. Sci., 6, 409-423.
- Waters, A.C. (1955) Volcanic Rocks and the Tectonic cycle: Geol. Soc. Amer., Sp. Paper, 62, Crust of the earth, A.Poldervaart(ed.), 703-22.
- West, W.D. (1952) A note on the pyroxene of the Deccan Traps: Quart. Jour. Geol. Min. Met. Soc. Ind., 24, 153-57.
- \_\_\_\_\_ (1958) The petrography and petrogenesis of forty-eight flows of the Deccan Trap penetrated by borings in Western India: Trans. Nat. Ins. Sci., Ind. 4, No.1, 1-56.
- \_\_\_\_\_ (1959) The source of Deccan Trap flows: Jour. Geol. Soc. Ind., I, 44-52.

- West, W.D. & (1964) The geomorphology of the country  
Choubey, V.D. around Sagar and Katangi, M.P.:  
Jour. Geol. Soc. Ind., 5, 41-55.
- Wilcox, R.E. & (1958) Metadolerite dyke swarms in  
Poldervaart, A. Bakersville Roan Mountain area,  
North Carolina: Bull. Geol. Soc.  
Amer., 69, 1323-1368.
- Wilkinson, J.F.G. (1959) The geochemistry of differentiated  
teschenite sill: Geochim. et  
Cosmochim. Acta, 16, 123-150.
- Wyllie, P.J. & (1962) The petrology of picrite rocks in  
Drever, H.I. Minor Intrusions - a picrite sill  
on the Islands of Soay (Hebrides):  
Trans. Roy. Soc. Edin., 65, 8,  
155-177.
- Yoder, H.S. & (1957) Basalt magmas: Ann. Rept. Geophy.  
Tilley, C.E. Lab. Carnegie Inst. Washington,  
Year Book 56, 1956-57, pp.156-161.
- \_\_\_\_\_ (1962) Origin of basalt magmas. An experi-  
mental study of natural and synthe-  
tic rock system: Jour. Petro., 3,  
342-352.
-