

ALPHABETICAL INDEX

Names of authors are printed in SMALL CAPITALS, Subjects in lower-case roman, and Localities in *italics*.

The minerals, localities, and authors mentioned in the 27th List of new mineral names are not included in this index.

- Aberchirder, Banffshire*, granite, 847
Absarokite, *U.S.A. and Papua*, anal. of constituent minerals, 936
Actinolite, *Scotland*, anal., 819
Adularia, electron-optical study of, 1
Aegirine-augite, *Scotland*, anal., 819; manganooan, *India*, anal., opt., X-ray, paragenesis, 32
Agrinierite, *France*, anal., opt., X-ray, 781
Aguilarite, *New Zealand*, anal., synthesis, 961
Akaganéite, formation of during oxidation of biotite or vermiculite, 121
Åkermanite, stability field of, 635, 918
Åkermanite-anorthite system, 632; effective molecular weights of components in, 353
Åkermanite-anorthite-diopside system, 632, 897
Alafoteib, Egypt, psilomelane, 235
Albite, *Devon*, anal., 179; *Scotland*, anal., 819
Algarvia, São Miguel Island, Azores, olivine, 165
Alkalis, fractionation during spherulitic crystallization, 424
ALLEN (J. A.), anal., by, 791.
ALRICHS (J. L.), see FARMER (V. C.), 121
Allt Bealach, Choinnich, Borralan, Scotland, fenitized quartzites, amphibole, pyroxene, mica, 819
Alumite, *Mexico*, 541
Amapa, Brazil, pyrolusite pseudomorphous after manganite, 245
Amosite, anal., thermal decomposition, 583
Amphibole, *Scotland*, anal., 819; and see amosite, actinolite, crocidolite, crossite, cummingtonite, hornblende, magnesioriebeckite, pargasite, richterite, riebeckite
Amphibolites, *Ireland*, anal., factors controlling development of garnet in, 649; *West Pakistan*, with corundum altering to margarite, 106
Andalusite, *Austria*, anal., transformation to kyanite, 760
ANDERSON (B. W.), see VANCE (E. R.), 605, 721
Andızlık-Zimparalik area, Turkey, chromite, 'ferritchromit', 76
Anorthite-åkermanite system, 632; effective molecular weights of components in, 353; corrections to, 632
Anorthite-åkermanite-diopside system, 632, 897
Anorthoclase, *Iceland*, anal., 503
Anorthosite, *Labrador*, dense plagioclase glass in, 511
Antiphase structure in feldspars, 1
Antrim, Ireland, chlorophaeite, 205
Aragonite, determination of in mixtures with calcite and quartz, 481
Aratiatia, Taupo, New Zealand, rhyolitic lavas, 424
Ardclach, Nairnshire, granite, 847
Ardtun, Mull, Scotland, palagonite, 205
Argentite, *Mexico*, 541
Ashover, Derbyshire, fluorite, 459
Ashtonite, *Canada*, is strontian mordenite (on holotype material), 383
ASWATHANARAYANA (U.), see RAO (V. DIVAKARA), 678
Auburn mine, Minnesota, stilpnomelane, 693
AUCOTT (J. W.), see ENGIN (T.), 76
Augite, *Canary Isles*, hour-glass structure in, interpretation of, 251; *India*, with Ca-rich pigeonite, 975; *Greenland*, anal., opt., petrogenesis, oriented exsolved titanomagnetite in, 49
Axinite, *New Zealand*, manganooan, anal., opt., 374
AXON (H. J.) and SMITH (P. L.), Metallographic study of Ni-rich meteorites, 736; — and WAINE (C. V.), *The Angra dos Reis* (iron) meteorite, 94; Metallographic study of hexahedrites, 725
BABU (S. K.), Chlorapatite from *India*, 972
BALDANZA (B.) and LEVI-DONATI (G. R.), Shock-metamorphic effects in the *Ergheo* meteorite, 197
BANERJEE (S.), see VISWANATHAN (T. V.), 335
BARIAND (P.), see CESBRON (F.), 781
BARR (M. W. C.), see VRÁNA (S.), 837
Basalt, *Réunion*, anal., rhyodacite glass in, 152; *Réunion*, anal., glass in, melting relations, 344; *Skye* (olivine- —), anal., 811
BASTA (E. Z.) and SALEEB (W. S.), *Egyptian* manganese ores, 235
Bau mining district, Sarawak, Malaysia, anti-monian idocrase, 894
Bayerite, conditions for synthesis, electron diffraction, electron micrographs, 358
Beaverite, *Mexico*, 541
Bennachie, Aberdeenshire, granite, 847
Ben Rinnes, Banffshire, granite, 847
Berezov, Sverdlovsk, U.S.S.R., embreyite, 790
Berthagboy Bay, Canover, Connemara, Ireland, granite, 847
Beryl, solubility of in magnesia-cordierite, 523;

- Donegal*, anal., opt., density, cell-size, 328;
India, anal., 896
- BHANSALI (K. J.), see DE WYS (E. C.), 631
- BIGGAR, (G. M.), Diopside, lithium metasilicate, and the 1968 temperature scale, 768; — and O'HARA (M. J.), Melilite crystallization in the system $\text{CaO-MgO-Al}_2\text{O}_3\text{-SiO}_2$, 918
- Biotite, oxidation of, natural and artificial, 121; polarized spectra, interpretation of, 551; interpretation of hydroxyl content, 712; *Ontario*, anal., thermal decomposition, 583; *Scotland*, anal., 819
- Biphosphammite, *Western Australia*, anal., opt., X-ray, 965
- Birnessite, conditions for synthesis, conversion to cryptomelane, 493
- BLACK (P. M.), Tourmalines from *Cuvier Island, New Zealand*, 374
- Blackstairs Mtn, Kilttealy, Wexford, Ireland*, granite, 847
- Blanfordite, *India*, anal., opt., X-ray, paragenesis, 32
- Bohemia*, moldavites, 408
- Bolivarite, *Congo (Kinshasa)*, anal., opt., d.t.a., 418; *Spain*, trace elements, 418
- Bolsena, Italy*, latite, clinopyroxene, phlogopite, bytownite, labradorite, titanomagnetite, 936
- BOONE (G. M.) and FERNANDEZ (L. A.), Phenocrystic olivines from the eastern *Azores*, 165
- Boulangerite, *Cornwall*, 767
- BOUVIER (J. L.), anal. by, 512
- BOYD (R.), see PARSONS (I.), 295
- BRADSHAW (N.), An antimonian idocrase from the *Bau mining district, Sarawak*, 894
- BRICE (W. R.), see CHANG (L. L. Y.), 186
- BRIDGE (P. J.), Analyses of altered struvite from *Skipton, Victoria*, 381
- Broken Hill, New South Wales*, muscovite, mytmekite, 570
- Bronzite, *Sitathali meteorite*, opt., 335
- BROWN (G. C.), see PURTSCHHELLER (F.), 760
- BROWN (P. E.), The origin of the granitic sheets and veins in the *Loch Gaire* migmatites, 446
- BROWN (W. L.), Synthetic pyroxenes, 43; and see CESBRON (F.), 781
- Bushveld Complex, South Africa*, ceylonite, ilmenite, titanomagnetite, 863
- Bushveld-type orthopyroxene, *New Zealand*, anal., opt., orientation of the clinopyroxene lamellae in, 160
- BUTLER (J. C.), A Fortran IV plotting program utilizing an on-line printer, 899
- Bytownite, *Italy and Indonesia*, anal., 936
- CABRI (L. J.), and HARRIS (D. C.), Insizwaite and niggliite, 794
- $\text{Ca}(\text{Fe}^{3+}, \text{Al})_2\text{SiO}_6$ in iron-ore sinters, anal., X-ray, opt., 872
- Cairngorm, Inverness-shire*, granite, 847
- CALAS (G.), On the blue colour of natural banded fluorites, 977
- Calciotantalite, *Western Australia*, is a mixture of microlite and tantalite, 765
- Calcite, determination of in mixtures with aragonite and quartz, 481; *Egypt*, anal., 235
- Calcium silicates, $\text{Ca}_8\text{Si}_6\text{O}_{18}$ and kilchoanite, cryst.-structure, 26
- Calcium sulphosilicate in a lime kiln, anal., opt., X-ray, 968
- CALEF (C.), see DODD (R. T.), 324
- Camoola Reef, Maratoto Valley, New Zealand*, aguilarite, 961
- Carnsore Point, Wexford, Ireland*, granite, 847
- Castle Hill, Kilbirnie, Ayrshire*, tobermorite, 253
- Central province, Zambia*, Mg-chlorite-kyanite-quartz schist, talc-kyanite-quartz schist, kyanite-bronzite, gedritite, kyanite gedritite, 837
- ČERNÝ (P.), see RIEDER (M.), 190
- Cerro Morito, Agua Prieta, Sonora, Mexico*, alunite, argentite, beaverite, chalcocine, chenixite, cinnabar, covellite, libethenite, pseudomalachite, zapatalite, 541
- CESBRON (F.), BROWN (W. L.), BARIAND (P.), and GEFFROY (J.), Rameauite and agrinierite, 781
- Ceylon*, zircon, 605, 721
- Ceylonite, *Ireland*, chromian, anal., 957; *Norway*, anal., 435; *South Africa*, 863; *Sharps meteorite*, anal., 451
- Chalcocine, *Mexico*, 541
- CHAMPNESS (P. E.), The transformation manganite \rightarrow pyrolusite, 245
- CHANG (L. L. Y.) and BRICE (W. R.), The herzenbergite-teallite series, 186
- CHATTERJEE (A. C.), Levynite in the *Deccan traps*, 527
- CHAUDHRY (M. N.), Feldspars from the *Meldon aplite*, 179
- Chenevixite, *Mexico*, 541
- Chester, Massachusetts*, margarite, 317
- Chitaldrug*, granite, 678
- Chlorapatite (chlorian hydroxyapatite), *India*, anal., opt., X-ray, 972
- Chlorite-kyanite-quartz schist, *Zambia*, 837
- Chlorophaeite, identification criteria; *Antrim*, anal., X-ray; *Scotland, Oregon, Urals*, X-ray, 205
- Chromite, methods for anal. of, 882; *Ireland*, anal., 957; *Turkey*, anal., alteration, 76; vanadian aluminian, *Molteno meteorite*, 89
- Chvaletice, Czechoslovakia*, pyrophanite, 312
- CLARK (A. M.), Calciotantalite confirmed as a mixture, 765; anal. by, 791
- Cleavelandite, *India*, 896
- Cleengort Hill, Donegal, Ireland*, granite, 847
- Clinopyroxene, *Molteno meteorite*, 89; *Sharps meteorite*, 451; from shoshonitic rocks from

- Indonesia, Italy, New South Wales, Papua, and U.S.A.*, anal., 936; *Norway*, anal., 435; *Nigeria*, pseudomorphous after garnet (?), 579; and see aegirine-augite, augite, blanfordite, diopside, fassaite, pigeonite, spodumene
- Closepit, Mysore, India*, granite, 678
- Coalinga, Colorado*, coalingite, coalingite-K, 286
- Coalingite, California*, crystal structure, chem., 286
- Coalingite-K, California*, crystal structure, 286
- COATS (J. S.)*, and *WILSON (J. R.)*, The eastern end of the *Galway granite*, 138; and see *WILSON (J. R.)*, 801
- Cobar, New South Wales*, stilpnomelane, 693
- COCCO (G.)*, *FANFANI (L.)*, *NUNZI (A.)*, and *ZANAZZI (P. F.)*, The crystal structure of dundasite, 564
- Cohenite, Angra dos Reis (iron) meteorite*, 94
- Computer program: for plotting binary and ternary diagrams, 109; for plotting, utilizing on-line printer, 899
- Connemara, Ireland*, amphibolites, cummingtonite, garnet, hornblende, 649
- COOMBS (D. S.)*, see *REAY (A.)*, 383
- COOPER (A. F.)*, Piemontite schists from *New Zealand*, 64
- Cornubite, Shetland*, 626
- Cornwallite, Shetland*, 626
- Corundum, West Pakistan*, alteration to margarite, 106; *Nigeria*, 579
- Corundum Hill, North Carolina*, hornblende, 389
- Corvock, Mayo, Ireland*, granite, 847
- Covellite, Mexico*, 541
- Creetown, Kirkcubrightshire*, granite, 847
- Cristobalite, New Zealand*, 424; α - —, thermal expansion, 593
- Crockbrack, Pomeroy, Tyrone, Ireland*, granite, 847
- Crocidolite*, anal., thermal decomposition, 583
- Crocoite, Tasmania*, Raman spectrum, 249
- Crossite, Scotland*, anal., 819
- Crossdoney, Cavan, Ireland*, granite, 847
- Cryptomelane*, conditions for synthesis, formation of from birnessite, 493; *Egypt*, 235
- Crystal Falls, Minnesota*, stilpnomelane, 693
- Crystal field splitting, calculation of, 909
- Crystal structure determinations, significance tests in, 283
- Crystal structures: coalingite, 286; dundasite, 564; spencerite, 687; stilpnomelane, 693; kilchoanite, 26; yttritungstite, 261
- Cummingtonite, Tanzania*, anal., 58; *Ireland*, in amphibolite, anal., opt., 649; *India*, with hornblende, anal., opt., cell-size, 890
- Cuprite, Shetland*, 626
- Curraghmore Hill, Tullagher, Kilkenny, Ireland*, granite, 847
- CURRIE (K. L.)*, Anomalous plagioclase glass and plagioclase from *Mistastin Lake, Labrador*, 511
- Cuvier Island, New Zealand*, axinite, tourmaline, 374
- Cuyuna Range, Minnesota*, stilpnomelane, 693
- Dalmahoy Hill, Edinburgh*, chlorophaeite, 205
- DAS GUPTA (D. R.)*, see *VISWANATHAN (T. V.)*, 335
- DAS GUPTA (S. P.)*, Coexisting hornblende and cummingtonite from *India*, 890
- DAVIES (I.)*, see *FAWCETT (J. J.)*, 529
- DAVIS (R. J.)*, and *SMITH (G. W.)*, Yttritungstite, 261
- Dawros, Connemara, Ireland*, chromite, chromian ceylonite, 957
- DAWSON (J. B.)*, Eucolite from *Oldoinyo Lengai, Tanzania*, 385
- 'Deweylite', synthetic and natural (*Pennsylvania*), X-ray, d.t.a., infra-red spectra, nature of, 225
- DE WYS (R. C.)*, Corrections to the system anorthite-åkermanite-diopside, 632; Additional data on the stability of åkermanite, 635; Piercing-point analysis of the system anorthite-åkermanite-diopside, 897; — and *KAPADIA (C.)*, Effective molecular weights of components in the system anorthite-åkermanite, 353; — and *BHANSALI (K. J.)*, Variations in the optical properties of muscovite due to proton irradiation, 631
- Diamond*, genesis of, 636; α -particle irradiation of, 878
- Diopside, New Zealand*, anal., cell-size, orientation in host hypersthene, 160; *Norway*, anal., 435; *Labrador*, anal., 666; *Sitathali meteorite*, opt., 335; *Tanzania*, anal., 58; melting point, 768; manganoan, *India*, anal., opt., X-ray, paragenesis, 32
- Diopside-anorthite-åkermanite system*, 632, 897
- Discredited minerals*: ashtonite (on holotype specimen), 383; calciotantalite (on topotype material), 765; I.M.A. approved list of, 1962-72, 102
- DIXON (J. A.)*, see *KING (R. J.)*, 488
- DODD (R. T.)*, Calc-aluminous inlets in olivine of the *Sharps meteorite*, 451; — and *CALEF (C.)*, Twinning and intergrowth of olivine crystals in chondritic meteorites, 324
- Doochary, Donegal, Ireland*, granite, 847
- Dreenan, Beragh, Tyrone, Ireland*, granite, 847
- Dumortierite, Iran*, opt., 526
- Dundasite, Italy*, crystal structure, 564
- Dykes*, metamorphosed basic, *Labrador*, anal., mode, age, 666
- DYSON (D. J.)* and *JUCKES (L. M.)*, A silica-deficient pyroxene in iron-ore sinters, 872
- EASTON (A. J.)*, anal. by, 94
- Edenite* does not occur in igneous rocks, 389
- Einawei, Egypt*, ramsdellite, 235

- Eirongwab, Egypt*, pyrolusite, todorokite, nsutite, 235
- Elba, Egypt*, manganese ores (pyrolusite, psilomelane, todorokite, nsutite, ramsdellite, cryptomelane), calcite, baryte, 235
- Elgerberg, Thuringia, Germany*, pyrolusite pseudomorphous after manganite, 245
- ELLIOTT (C. J.), *anal.*, by, 92; and see WOOLLEY (A. R.), 819
- ELSDON (R.), Clinopyroxenes from *Greenland*, 49; Iron-titanium oxides in the Upper Layered Series, *Kap Edvard Holm, Greenland*, 946; *anal.*, by, 51
- EMBREY (P. G.), see HEY (M. H.), 987
- Embreyite, *Siberia*, *anal.*, opt., X-ray, 790
- ENGIN (T.) and AUCOTT (J. W.), Chromites from south-west *Turkey*, 76
- ESSON (J.), *anal.* by, 345
- Eucolite, *Tanzania*, opt., 385
- Eucryptite, Ga-analogue of, synthesis, cell-dimensions, 43
- EVERETT (R. J.), *anal.* by, 382
- EWART (A.), Chemical changes accompanying spherulitic crystallization in rhyolitic lavas, *Central Volcanic Region, New Zealand*, 424
- FANFANI (L.), NUNZI (A.), and ZANAZZI (P. F.), Structure and twinning in spencerite, 687; and see COCCO (G.), 564
- FARMER (V. C.), RUSSELL (J. D.), MCHARDY (W. J.), NEWMAN (A. C. D.), ALRICHS (J. L.), and RIMSATE (J. H. Y.), Loss of protons and octahedral iron from oxidized biotites and vermiculites, 121
- Fassaite, *Sharps* meteorite, *anal.*, 451
- FASSOVÁ (M.), see RIEDER (M.), 190
- FAWCETT (J. J.), DAVIES (I.), and JAMES (R. S.), A modified closure for cold-seal pressure vessels, 529
- FEDIUKOVÁ (E.), see RIEDER (M.), 190
- Feldspar, staining technique for, 518; and see albite, anorthoclase, cleavelandite, microcline, orthoclase, plagioclase, potash feldspar
- Fenite, *Scotland*, *anal.*, mode, petr., origin, 819
- FERNANDEZ (L. A.), see BOONE (G. M.), 165
- Ferristilpnomelane, see stilpnomelane, 693
- 'Ferritchromit', *Turkey*, *anal.*, genesis, 76
- Ferrocapholite, *Italy*, 519
- Ferrostilpnomelane, see stilpnomelane, 693
- Feteiras, São Miguel Island, Azores*, olivine, 165
- Fitful, Shetland*, cornubite, cornwallite, cuprite, 626
- Fluorite, *Derbyshire* and *Durham*, cause of colour in blue, spectrum, trace elements, 459; cause of colour in blue, 977, 979
- FORBES (W. C.), Hydroxyl content of micas, 712
- Formigas Shoals, Azores*, olivine, 165
- FORSTER (Jacob), 1739-1806, biographical notes, 545
- Forsterite, corrected etymology, 545
- Four Peaks, Torngat Mtns., Labrador*, metamorphosed basic dykes, andesine, diopside, hornblende, hypersthene, 660
- Foxdale, Isle of Man*, granite, 847
- Foyers, Inverness-shire*, potash feldspars, 295
- Franklin, New Jersey*, stilpnomelane, 693
- French Ridge, New Zealand*, stilpnomelane, 693
- FRIPIAT (J. J.), see ROUXHET (P. G.), 583
- FRISCH (T.) and SCHMINCKE (H.-U.), Comment on 'Formation of the hour-glass structure in augite' by D. F. STRONG [*Min. Mag.* 37, 472], 251
- Frodalera, Lukmanier, Switzerland*, hornblende, 389
- FRONDEL (C.), Jacob Forster (1739-1806) and his connections with forsterite and palladium, 545
- FROST (M. J.), The *Molteno* meteorite, 89
- FYFE (W. S.), see PURTSCHELLER (F.), 760
- Gahnite, ferroan, *India*, *anal.*, *cryst.*, cell-size, 528
- Galway, Ireland*, alkali feldspars, 801; granite, 138, 801
- GANDHI (S. M.), Ferroan gahnite from *Maman-dur, Madras State, India*, 528
- Garividi, Andhra Pradesh, India*, sahlite, 377
- Garnet, *Labrador*, *anal.*, 666; *Nigeria*, replaced by clinopyroxene, 579; *Ireland*, *anal.*, conditions controlling occurrence of in amphibolite, 649
- GEFFROY (J.), see CESBRON (F.), 781
- Ghorijar, Sundargarh District, Orissa, India*, blanfordite, 32
- GIBB (F. G. F.), A differentiated ultrabasic sheet on *Sgurr Dearg, Isle of Skye*, 811; and see HENDERSON (C. M. B.), 670
- Gibbsite, conditions for synthesis, electron diffraction, electron micrographs, 358
- GILLARD (J. L.), see ROUXHET (P. G.), 583
- Gimi River, Jos, Nigeria*, clinopyroxene, corundum, zircon, 579
- GIRAUD (R.), *anal.* by, 784
- Glas Choille, Borralan, Scotland*, fenitized quartzites, amphibole, pyroxene, mica, 819
- Glass, in basalt, *Réunion*, *anal.*, 152, 344; in absarokite and shoshonite from *Italy, Indonesia, Papua*, and *U.S.A.*, *anal.*, 936
- Glauconite, *Isle of Wight*, microstructure, zoning, *anal.*, 215
- Glen Gairn, Aberdeenshire*, granite, 847
- Glenmacnass, Co. Wicklow, Ireland*, sillimanite, 763
- Glen Parva, Leicestershire*, vanadiferous nodules, volborthite, tangeite, 488
- Gneiss, *Norway*, contact metamorphism, 435
- Gonessa, Sardinia*, dundasite, 564
- Gowari Wadhona, Chhindwara District, Madhya Pradesh, India*, blanfordite, 32
- Grande Ronde, Oregon*, chlorophaeite, 205

- Granite, *Galway, Ireland*, petrology, anal., trace elements, genesis, 138; *Caledonian, Scotland and Ireland*, anal., regional variation in, 847; *Mysore*, mode, trace elements, history, 678
- Grantown, Morayshire*, granite, 847
- GREEN (J. M.), see MACKENZIE (K. J. D.), 459
- Greenbushes, Western Australia*, holtite, 21
- Greenhills, Bluff Peninsula, South Island, New Zealand*, diopside, hypersthene, 160
- Grenier, Austria*, margarite, 317
- GRIFIN (W. L.), Mineral reactions at a peridotite-gneiss contact, *Jotunheimen, Norway*, 435
- Grundarmön, Setberg, Iceland*, acid tuff, sanidine, 503.
- GUNATILAKA (H. M.) and TILL (R.), Quantitative determination of calcium carbonate minerals by X-ray diffractometer, 481
- GUPTA (B. P.), anals. by, 36, 38
- Haast River, South Westland, New Zealand*, piemontite, spessartine, tremolite, tourmaline, 64
- HALL (A.), New data on Caledonian granites, 847; — and TAYLOR (J. D.), Vaterite in gasteropod egg-shells, 521; — and WALSH (J. N.), The beryls of the *Rosses district, Donegal*, 328
- Hammersley Range, Western Australia*, stilpnomelane, 693
- HARRIS (D. C.), see CABRI (L. J.), 894
- HASLAM (H. W.) and WALKER (B. G.), A metamorphosed pyroxenite from *Tanzania*, 58
- Hausmannite, conditions for synthesis, 493
- Helmsdale, Sutherland*, granite, 847
- Helvine, *India*, anal., cell-size, 974
- HENDERSON (C. M. B.) and GIBB (F. G. F.), Plagioclase-Ca-rich-nepheline intergrowths from the *Marangudzi complex, Rhodesia*, 670
- Herzenbergite-teallite series, melting points, cell-sizes, 186
- HEWSON (P. E.), anals., by, 382
- HEY (M. H.) and EMBREY (P. G.), 27th List of new mineral names, 987
- HOBSON (G. M.), Boulangerite from *Port Gaverne, Cornwall*, 767
- HOCKLEY (J. J.), see KALOCSAI (G. I. Z.), 618
- Holtite, *Australia*, anal., opt., X-ray, 21
- Hornblende, composition range of, evaluation of 1500 anals., 389; *North Carolina, France, India, Switzerland, and Tanzania*, anals., 389, 405; *Norway*, anal., 435; *Labrador*, anal., age, 666; *India*, with cummingtonite, anal., opt., cell-size, 890; *Ireland*, in amphibolite, conditions for occurrence, anal., opt., 649; determination of water in, 389; *Tanzania*, anal., 58
- Hosdurga, Mysore, India*, granite, 678
- Huli, Mysore, India*, augite, Ca-rich pigeonite, 975
- Hydrosodalite, thermal expansion, 593
- Hydroxyapatite, chlorian, *India*, anal., opt., X-ray, 972
- Hydroxyl, loss of during oxidation of biotite and vermiculite, 121
- Hypersthene, *Labrador*, anal., 666; *Molteno meteorite*, 89; *New Zealand*, anal., opt., cell-size, orientation of diopside lamellae in, 160; *Tanzania*, anal., 58
- Iceland*, chlorophaeite, palagonite, 205
- Idocrase, antimonian, *Sarawak*, anal., opt., cell-size, 894
- Ilfeld, Harz*, manganite, 245
- Ilmenite, *South Africa*, anal., cell-size, 863; *Greenland*, anal., 946
- Insizwaite, *South Africa*, anal., opt., X-ray, 794
- International Mineralogical Association: Report of Commission on New Minerals and Mineral Names, 102
- Iron, loss of from biotites and vermiculites on oxidation, 121
- JAMES (R. S.), see FAWCETT (J. J.), 529
- JAN (M. Q.), KEMPE (D. R. C.), and SYMES (R. F.), Chromian tourmaline from *West Pakistan*, 756; — — and TAHIRKELI (R. A. K.), Corundum, altering to margarite, from *West Pakistan*, 106
- JOPLIN (G. A.), KISS (E.), WARE (N. G.), and WIDDOWSON (J. R.), Chemical data on members of the shoshonite association, 936
- Jothvad, Gujarat, India*, blanfordite, 32
- Jotunheimen, Norway*, peridotite, gneiss, hornblende, olivine, pyroxene, spinel, 435
- JUCKES (L. M.), see DYSON (D. J.), 872
- Kacharwali, Nagpur District, Maharashtra, India*, blanfordite, 32
- Kaimes, Edinburgh*, chlorophaeite, 205
- Kajlidongri, Jhabua District, Madhya Pradesh, India*, blanfordite, 32; helvine, 974
- KALOCSAI (G. I. Z.) and HOCKLEY (J. J.), Titrimetric analysis for silica, 618
- KAPADIA (C.), see DE WYS (E. C.), 353
- Kap Edvard Holm, Kangerdlugssuaq Fjord, Greenland*, augite, 49; ilmenite, rutile, titanomagnetite, 946
- KEMP (A.), anals. by, 394, 650, 652
- KEMPE (D. R. C.), see JAN (M. Q.), 106, 756
- KENNAN (P. S.), Exsolved sillimanite in granite, 763
- Khetri copper belt, Rajasthan, India*, cummingtonite, hornblende, 890
- Kilchoanite, crystal structure, 26
- KING (R. J.) and DIXON (J. A.), A new occurrence of vanadium minerals in *Leicestershire*, 488
- Kippure Mtn., Wicklow, Ireland*, granite, 847
- KISS (E.), see JOPLIN (G. A.), 936
- KNOWLES (C. R.), see WAI (C. M.), 627

- KOBE (W.), see MAIN (J. V.), 961
Kobokobo, Kivu, Congo (Kinshasa), bolivarite, 418
- KONTA (J.), Shape analysis of moldavites and their impact origin, 408
- Kramat Pulai, Kinta, Perak, Malaysia*, yttritungstite, 261
- KRZANOWSKI (W. J.), and NEWMAN (A. C. D.), Computer simulation of cation distribution in mica, 926
- Kushalnagar, Coorg District, Mysore, India*, hornblende, 389
- Kyanite, *Austria*, anal., transformation of andalusite to, 760
- Kyanite gedritite and kyanite-bronzite gedritite, *Zambia*, 837
- Labradorite, *Italy and Indonesia*, anal., 936
- LACHANCE (G. R.), *anal.* by, 515
- LAHIRI (D.), Helvine in the gondite of *Kajlidongri, India*, 974
- Lamar River, Yellowstone Park, U.S.A.*, absarokite, clinopyroxene, potash feldspar, 936
- LANGER (K.), see POVONDRA (P.), 523
- Latites, *Italy and Indonesia*, anal. of minerals in, 936
- LEAKE (B. E.), On aluminous and edenitic hornblendes, 389; Garnetiferous amphibolites from *Connemara*, 649
- Lepidomelane, polarized spectra, interpretation of, 551
- Leucite, thermal expansion of, 593
- LEVI-DONATI (G. R.), see BALDANZA (B.), 197
- Levyne, *India*, opt., 527
- Lewalolo, Lomben, Lesser Sunda Is., Indonesia*, shoshonite, bytownite, labradorite, clinopyroxene, olivine, titanomagnetite, glass, *anal.*, 936
- Libethenite, *Mexico*, 541
- Lithium-iron micas, *Czechoslovakia and Germany*, relation of cell-size and optical data to composition, 190
- Lithium metasilicate, melting point, 768
- Loch Ailsh, Assynt, Scotland*, potash feldspars, 295
- Loch Coire, Sutherland*, migmatite, 446
- Loch Loyal, Tongue, Scotland*, potash feldspars, 295
- Lomba da Cruz, São Miguel Island, Azores*, olivine, 165
- Loyne, Borralan, Scotland*, fenitized quartzites, amphibole, pyroxene, mica, 819
- LYONS (P. C.), Staining of feldspars on rock-slab surfaces for modal analyses, 518
- Lýsusgard, Iceland*, obsidian, sanidine, 503
- Maaden-e-Tala, Kohrud, Kashan, Iran*, dumortierite, 526
- McCONNELL (J. D. C.), Electron-optical study of phase transformations, 1
- MCCURRY (P.), Relationship between optical properties and occurrence of black tourmalines from *Nigeria*, 369
- MCHARDY (W. J.) and THOMSON (A. P.), Conditions for the formation of bayerite and gibbsite, 358; and see FARMER (V. C.), 121
- MACKENZIE (K. J. D.), The possible role of sulphur in the colouration of Blue John fluorite, 979; — and GREEN (J. M.), Cause of colouration in Blue John, 459
- McKENZIE (R. M.), Syntheses of birnessite, cryptomelane, and other manganese oxides, 493
- Macon Co., North Carolina*, hornblende, 389
- Magnesia-cordierite, solubility of beryl in, 523
- Magnesioriebeckite, *India*, anal., opt., 376; *Scotland*, anal., 819
- MAIN (J. V.), RODGERS (K. A.), KOBE (H. W.), and WOODS (C. P.), Aguilarite from *New Zealand*, 961
- MAJUMDAR (A. J.), see SPEAKMAN (K.), 225
- Mamandur, South Arcot District, Madras, India*, ferroan gahnite, 528
- Manganese ores, *Egypt*, mineralogy, anal., origin, 235
- Manganese sodium oxide, $\text{Na}_2\text{Mn}_2\text{O}_{10}\cdot 4\text{H}_2\text{O}$, synthesis, anal., X-ray, conversion to todorokite analogues, 493
- Manganite, conditions for synthesis, 493; *Germany*, transformation to pyrolusite, microstructure of the pseudomorphs, 245
- Manganosite, synthesis, 493
- Mantle, mechanism for formation of water in, 712
- Maraturu, Anakapalle, Andhra Pradesh, India*, sahlite, 377
- Margarite, corundum and staurolite altering to, *West Pakistan*, 106; synthetic, opt., X-ray, 317; *Turkey, Austria, and Massachusetts*, anal., 317; stability limit, distinction from paragonite and muscovite, 317
- Margnac, France*, agrinierite, rameauite, 781
- Marangudzi, Rhodesia*, syenite (pulaskite), plagioclase, Ca-rich nepheline, 670
- Matet Ongwab, Egypt*, cryptomelane, 235
- MARX (P. C.), Pyrrhotine and the origin of terrestrial diamonds, 636
- Meldon, Devon*, albite, orthoclase, 179
- Melilite, composition and stability field of, 918; and see åkermanite
- Merkenstein, Arusha, Tanzania*, hornblende, 389
- Metastability, conditions for, 1
- Meteorites; chondrites, twinning and intergrowth of olivine in, 324; hexahedrites, metallography, 725; Ni-rich, metallography, 736

Meteorites:

- Angra dos Reis (iron), metallographic study, anal., Ga-Ge class, 94, 725
- Bustee, composition of metal and schreibersite in, 627
- Cape of Good Hope, 736
- Cowra, 736
- Chinga, 736
- Deep Springs, 736
- Ergheo, shock-metamorphism, 197
- Hex River Mountains, 725
- Hoba, 736
- Indian Valley, 725
- Klondike, 736
- Lombard, 725
- Monahans, 736
- Morradal, 736
- Okano, 725
- Oktibbeha County, anal., schreibersite (anal.), flight-heating effect, 623
- Pinon, 736
- Puripica, 725
- San Cristobal, 736
- Santa Catharina, 736
- Scottsville, 725
- Sharps, inclusions in the olivine of, 451
- Shingle Springs, 736
- Sitathali, descr., anal., mode, 335
- South Byron, 736
- Tlacotepec, 736
- Warburton Range, 736
- Weaver Mountains, 736
- Mica, computer simulation of cation distribution in, 926; and see biotite, lepidomelane, muscovite, phlogopite
- Microcline, *Greenland* and *Scotland*, distribution in intrusive sequences, obliquity, 295; *Eire*, anal., opt., obliquity, 801
- Midhyrna*, *Setberg*, *Iceland*, obsidian, anorthoclase, sanidine, 503
- Migmatites, *Scotland*, origin of granitic sheets and veins in, 446
- MILLEDGE (H. J.), see VANCE (E. R.), 878
- Milne Bay*, *East Papua*, absarokite, clinopyroxene, 936
- Mineral names, I.M.A. decisions on alternative, 102
- Minerals new to *Britain*: tangeite, 488; volborthite, 488
- Mistastin Lake*, *Labrador*, anorthosite, plagioclase, plagioclase glass, 511
- Moldavites, *Bohemia* and *Moravia*, shape analysis, impact origin, 408
- Molteno*, *Cape Province*, *South Africa*, meteorite, 89
- MOLYNEUX (T. G.), Titanomagnetite and ilmenite from the *Bushveld Complex*, 863
- Monterano*, *Bracciano*, *Italy*, toscanite, clinopyroxene, 936
- Monticellite, *Sharps* meteorite, anal., 451
- Moravia*, moldavites, 408
- Mordenite, strontian (ashtonite), *Canada*, anal., X-ray, 383
- MORGAN (W. C.), and TAYLOR (F. C.), Metamorphosed basic dykes in *Labrador*, 666
- MOSSMAN (D. J.), Pyroxenes from the Greenhills complex, *New Zealand*, 160
- Murra-el-elvey*n cave, *Nullarbor plain*, *Western Australia*, biphosphammite, 965
- Muscovite, interpretation of hydroxyl content of, 712; effect of proton irradiation on the optics of, 631; *New South Wales*, replacing potash feldspar, 570
- Myrmekite, *New South Wales*, mechanism of formation, 570
- Nepheline, *Rhodesia*, Ca-rich, anal., intergrowths with plagioclase, 670
- Nero Hill*, *Masailand*, *Tanzania*, cummingtonite, diopside, hornblende, hypersthene, pyroxenite, 58
- NÉTILLARD (A.), anals. by, 323
- Netra*, *Balaghat District*, *Madhya Pradesh*, *India*, blandfordite, manganoan aegirine-augite, 32
- Newberyite, *Victoria*, *Australia*, directly formed and pseudomorphous after struvite, 381
- NEWMAN (A. C. D.), see FARMER (V. C.), 121, and KRZANOWSKI (W. J.), 926
- New minerals: aluminium analogue of ferritungstite, 261; agrinierite, 781; embreyite, 790; insizwaite, 794; holtite, 21; rameauite, 781; zapatalite, 541; I.M.A. Commission on, report of, 102
- New mineral names, 27th List of, 987; I.M.A. Commission on, decisions of, 102
- Niggliite, *South Africa*, anal., opt., X-ray, 794
- Nomenclature of minerals, I.M.A. Commission on, 102
- Nsutite, *Egypt*, 235
- NUNZI (A.), see COCCO (G.), 564, and FANFANI (L.), 687
- Obsidian, *Iceland*, anal., 503
- O'HARA (M. J.), see BIGGAR (G. M.), 918
- OKA (S. S.), see SATHE (R. V.), 975
- Oldoinyo Lengai*, *Tanzania*, eucolite, 385
- Olivine, twinning and intergrowth in chondritic meteorites, 324; *Azores*, anal. X-ray, 179; from shoshonitic rocks from *Papua* and *Indonesia*, anal., 936; *Skye*, anal., opt., zoning, 811; *Sitathali* meteorite, opt., X-ray, 335; *Sharps* meteorite, anal., inclusions in, 451; *Norway*, anal., 435
- Olivine-basalt, *Skye*, anal., 811
- ONUMA (K.) and YAGI (K.), The join $\text{CaMgSi}_2\text{O}_6$ - $\text{Ca}_2\text{MgSi}_2\text{O}_7$ - $\text{CaTiAl}_2\text{O}_6$ in the system CaO - MgO - Al_2O_3 - TiO_2 - SiO_2 and its bearing on titanpyroxenes, 471

- Opal Creek, Yellowstone Park, U.S.A.*, shoshonite, clinopyroxene, 936
- OPPENHEIM (M. J.), Plotting of diagrams by computer, 109
- Orangie Bay, Papua*, absarokite, clinopyroxene, 936
- Orthoclase, *Eire*, anal., opt., 801; *Meldon*, anal., X-ray, 179; *Rhodesia*, micropertite, anal., 670; *Scotland* and *Greenland*, distribution in intrusive sequences, 295
- Orthopyroxene, *Norway*, anal., 435; calculation of transition energies of Fe^{2+} in, 909; and see bronzite, hypersthene
- Ötztal, Austria*, andalusite, kyanite, 760
- Outeiro Alto, Tronqueira, São Miguel Island, Azores*, olivine, 165
- Palagonite, identification criteria, 205; *Iceland*, anal., X-ray, 205; *Scotland*, X-ray, 205
- Palladium, notes on history of discovery of, 545
- Pamirs, U.S.S.R.*, quartz, 679
- Pargasite, *Indonesia*, anal., 936
- Park, Nairnshire*, granite, 847
- PARSONS (I.) and BOYD (R.), Distribution of potassium feldspar polymorphs in intrusive sequences, 295
- Partridgeite, conditions for synthesis, 493
- PASTOR-RODRIGUEZ (J.) and TAYLOR (H. F. W.), Crystal structure of coalingite, 286
- Pedreira, São Miguel Island, Azores*, olivine, 165
- Penticton, British Columbia*, strontian mordenite (ashtonite), 383
- Peridotite, Norway*, contact metamorphism, 435
- Peristerite exsolution, 1
- Peterhead, Stirling, Aberdeenshire*, granite, 847
- Phase transformation, electron-optical study of, I
- PHILLIPS (E. R.), RANSOM (D. M.), and VERNON (R. H.), Myrmekite and muscovite developed by retrograde metamorphism at *Broken Hill, New South Wales*, 570
- Phlogopite, polarized spectra, interpretation of, 551; tetrasilicic, synthesis, stability, cell-dimensions, 712; *Scotland*, anal., 819; *Indonesia* and *Italy*, anal., 936
- PÍCHOVÁ (A.), see RIEDER (M.), 190
- Piemontite, calculation of transition energies of Mn^{3+} in, 909; *New Zealand*, anal., opt., cell-size, X-ray, 64
- Pigeonite, Ca-rich, *India*, anal., opt. origin, 975
- Pilbara, Western Australia*, 'calcioantalite' (microlite + tantalite), 765
- Piton de la Fournaise, Réunion*, basalt, 344
- Piton des Neiges, Réunion*, basalt, 344
- Plagioclase, *Labrador*, anal., opt., 511; *Rhodesia*, anal., intergrowth with nepheline, 670; in shoshonitic rocks from *Indonesia* and *Italy*, anal., 936
- Plagioclase glass, *Labrador*, pseudomorphous and dense, anal., opt., mechanism of formation, 511
- Pleonaste, see ceylonite
- Plotting, computer program for, 899
- Pollucite, thermal expansion, 593
- Polyolithionite, *Czechoslovakia* and *Germany*, relation of cell-size and optics to composition, 190
- Poplar Creek, British Columbia*, stilpnomelane, 693
- Ponta do Arnel, São Miguel Island, Azores*, olivine, 165
- Pontevedra, Spain*, bolivarite, 418
- Port Gaverne, Cornwall*, boulangerite, 767
- Port Kembla, New South Wales*, shoshonite, clinopyroxene, 936
- Potash feldspar, distribution of polymorphs in intrusive sequences, 295; *Eire*, anal., trace elements, opt., obliquity, 801; *U.S.A.*, anal., 936
- POVONDRÁ (P.) and LANGER (K.), The miscibility of magnesia-cordierite and beryl, 523; anal. by, 315
- Praia, Santa Maria Island, Azores*, olivine, 165
- Pregibbsite, synthesis, nature of, 358
- Pressure vessels, cold-seal, modified closure for, 529
- PRYCE (M. W.), Holtite, a new mineral, 21; Biphosphammite, a second occurrence, 965; Calcium sulphosilicate in lime-kiln wall coating, 968
- Pseudoboehmite, synthesis, nature of, 358
- Pseudomalachite, *Mexico*, 541
- Psilomelane, *Egypt*, anal., trace elements, 235
- Puklen, Nunarsuit, Greenland*, potash feldspars, 295
- Pulaskite, *Rhodesia*, anal., mode, 670
- PURTSCHELLER (F.), BROWN (G. C.), and FYFE (W. S.), Controls of the retrograde transformation of andalusite to kyanite, 760.
- Pyrolusite, conditions for synthesis, 493; *Egypt*, anal., trace elements, 235; pseudomorphous after manganite, *Brazil, Germany*, and synthetic, microstructure, 245
- Pyrophanite, *Czechoslovakia*, anal., opt., hardness, X-ray, 312; *Norway*, anal. 312
- Pyroxene, see orthopyroxene, clinopyroxene, aegirine-augite, augite, blanfordite, diopside, hypersthene, pigeonite, sahlite, spodumene
- Pyroxenite, metamorphosed, *Tanzania*, anal., petrology, 58
- Pyrrhotine as reducing agent in origin of diamond, 636
- Quartz, α - and β -, thermal expansion, 593; *New South Wales*, host control of recrystallization, 83; *Pamir*, surface structure, 379
- Quartzite, *Scotland*, fenitized, anal., petrology, 819
- Queenstown, Western Otago, New Zealand*, stilpnomelane, 693
- QURESHY (M. N.), see RAO (V. DIVAKARA), 678

- Rajagarh, Ajmer, India*, chlorian hydroxyapatite, 972
- RAMASAMY (R.), see SARAVANAN (S.), 376
- Ramdongri, Nagpur District, Maharashtra, India*, manganian aegirine-augite, 32
- Rameauite, *France*, anal., opt., X-ray, 781
- Ramsdellite, *Egypt*, 235
- RANSOM (D. M.), Host control of recrystallized quartz grains, 83; and see PHILLIPS (E. R.), 570
- RAO (A. T.) and RAO (K. S. R.), Sahlite from the *Eastern Ghats, India*, 377
- RAO (K. B.), Beryl and cleavelandite from *Bihar, India*, 896
- RAO (K. S. R.), see RAO (A. T.), 377
- RAO (V. D.), ASWATHANARAYANA (U.), and QURESHY (M. N.), Trace elements in the *Closepet granite, India*, 678
- REAY (A.) and COOMBS (D. S.), Ashtonite, a strontian mordenite, 383
- REED (S. J. B.), The *Oktibbeha County* iron meteorite, 623
- RÉUNION, basalt, 152, 344
- Rhabdite, see schreibersite
- Rhyolite, *New Zealand*, anals., spherulitic crystallization in, 424; alkalic, *Iceland*, anals., feldspar relations in, 503
- Ribeira do Guilherme, Nordeste, São Miguel Island, Azores*, olivine, 165
- Richterite, *Scotland*, anal., 819
- Riebeckite, *Scotland*, anal., 819
- RIEDER (M.), PÍCHOVÁ (A.), FASSOVÁ (M.), FEDIUKOVÁ (E.), and ČERNÝ (P.), Lithium-iron micas from the *Erzbebirge*, 190
- RIMSALTE (J. Y. H.), see FARMER (V. C.), 121
- RITCHIE (J. A.), anals. by, 432
- Rivervale lime kiln, Western Australia*, calcium sulphosilicate, 968
- ROBBINS (D. W.), and STRENS (R. G. J.), Polarized spectra of trioctahedral micas, 551
- RODGERS (K. A.), Analysis of chromite, 882; and see MAIN (J. V.), 961
- ROEVER (E. W. F. DE) and BEUNK (F. F.), Ferrocapholite associated with lawsonite-albite facies rocks from near *Sanginetto, Calabria, Italy*, 519
- Rola, Hazaribagh, Bihar, India*, beryl, cleavelandite, 896
- Roque Nublo volcanics, Gran Canaria*, augite, 251
- Rosses district, Donegal, Ireland*, beryl, 328
- ROTHSTEIN (A. T. V.), Spinels from the *Dawros peridotite, Connemara, Ireland*, 957
- ROUXHET (P. G.), GILLARD (J. L.), and FRIPIAT (J. J.), Thermal decomposition of amosite crocidolite, and biotite, 583
- ROY (SUPRIYA), Blanfordite, manganian diopside, and manganiferous pyroxene, 32
- RUSHTON (D. R. A.), Arsenates of copper from *Shetland*, 626
- RUSSELL (J. D.), see FARMER (V. C.), 121
- Rutile, *Greenland*, 946
- SABZEHEI (M.), Dumortierite from *Iran*, 526
- Sahlite, *India*, anal., opt., 377; *Scotland*, anal., 819
- SALEEB (W. S.), see BASTA (E. Z.), 235
- Salmo, British Columbia*, spencerite, 687
- Saltora, West Bengal, India*, hornblende, 389
- Samalpatti, Dharmapuri District, Tamilnadu, India*, magnesioriebeckite, 376
- Sanidine, *Iceland*, from rhyolites, anal., 503
- Sanginetto, Calabria, Italy*, ferrocapholite, 519
- Santa Maria Island, Azores*, olivine, 165
- SARAVANAN (S.) and RAMASAMY (R.), Magnesioriebeckite from *Samalpatti, Tamilnadu, India*, 376
- SATHE (R. V.) and OKA (S. S.), High-calcic pigeonite from *Huli, India*, 975
- Schiller effects, 1
- SCHMINCKE (H.-U.), see FRISCH (T.), 251
- Schreibersite, *Angra dos Reis* (iron) meteorite, 94; *Oktibbeha County* meteorite, anal., 623; *Bustee* meteorite, anal., 627
- Scolecite, *Thailand*, cell-size, space-group, X-ray, 72
- SCOON (J. H.), anal. by, 345
- SEN GUPTA (N. R.), see VISWANATHAN (T. V.), 335; anals. by, 892
- Sgurr Dearg, Skye*, olivine basalt, 811
- Shock-metamorphism, *Ergheo* meteorite, 197
- Shoshonite, *Indonesia*, anal. of rock and constituent minerals, 936; *Italy, U.S.A., New South Wales*, anal. of minerals in, 936
- Siderophyllite, *Czechoslovakia* and *Germany*, relation of cell-size and optical data to composition, 190
- SIGURDSSON (H.), Feldspar relations in *Icelandic* alkalic rhyolites, 503
- Silica, determination of by distillation as SiF₄ and titration, 618
- Silicates, framework, thermal expansion, 593
- Sillimanite, *Eire*, exsolved from myrmekite in granite, 763
- Sitapatore, Balaghat District, Madhya Pradesh, India*, blanfordite, 32
- Skipton Cave, Mt. Widderin, Ballarat, Victoria, Australia*, newberyite, struvite, 381
- SMELLIE (J. A. T.), Glass standards for X-ray fluorescence analysis, 614
- SMITH (G. W.) and WALLS (R.), Unit cell of scolecite, 72; and see DAVIS (R. J. D.), 261
- SMITH (P. L.), see AXON (H. J.), 736
- Sodalite, thermal expansion, 593
- Sodium manganese oxide, Na₂Mn₅O₁₀·4H₂O, synthesis, anal., X-ray, conversion to todorokite analogues, 493
- SPEAKMAN (K.) and MAJUMDAR (A. J.), Synthetic 'deweylite', 225

- Spencerite, *Canada*, crystal structure, twinning, 687
- Spessartine, *New Zealand*, opt., cell-size, partial anal., 64
- Spinel, methods for anal. of, 882; *Norway*, anal., 435; *Sharps* meteorite, anal., 451; *Ireland*, anal., 957; and see *ceylonite*, *chromite*
- Spodumene, Sc, V, Cr, and Fe analogues of, synthesis, cell dimensions, 43
- β -Spodumene, synthetic, 43; Ga analogue of, synthesis, 43
- Staining technique for feldspars in rock slabs, 518
- Standard melting points, corrections to, 768
- Staurolite, *West Pakistan*, altering to margarite, 106
- Stilpnomelane, crystal structure, cell contents, 693; *New Zealand*, X-ray, 699; *Minnesota* and *New South Wales*, cell dimensions, density, 693
- STOKES (K. R.), *Chlorophaeite* and *palagonite*, 205
- Stoksund, Norway*, *pyrophanite*, 312
- STRENS (R. G. J.), see ROBBINS (D. W.), 551; WOOD (B. J.), 909
- Stromboli, Italy*, *shoshonite*, *clinopyroxene*, 936
- Struvite, *Victoria, Australia*, anal., alteration to *newberyite*, 381
- Sudhan Hurki, Balaghat District, Maghya Pradesh, India*, *manganoan diopside*, 32
- Swat, West Pakistan*, *chromian tourmaline*, 756
- Syenite, Rhodesia*, anal., 670
- SYMES (R. F.), anal. by, 791; and see JAN (M. Q.), 756; WOOLLEY (A. R.), 819
- System: *anorthite-åkermanite*, 353, 632; *anorthite-åkermanite-diopside*, 632, 635, 897; $\text{CaO-MgO-Al}_2\text{O}_3\text{-TiO}_2\text{-SiO}_2$, 471; $\text{CaMgSi}_2\text{O}_6\text{-Ca}_2\text{MgSi}_2\text{O}_7\text{-CaTiAl}_2\text{O}_6$, 471
- TAHIRKELI (R. A. K.), see JAN (M. Q.), 106
- Talc-kyanite-quartz schists, *Zambia*, 837
- Tangeite, Leicestershire*, 488
- Tapah, Kinta, Perak, Malaysia*, *yttrotungstite*, 261
- Tasmania*, *crocoite*, 249
- TAYLOR (D.), Thermal expansion of framework silicates, 593; The relationship between Si-O distances and Si-O-Si bond angles in the silica polymorphs, 629
- TAYLOR (F. C.), see MORGAN (W. C.), 666
- TAYLOR (H. F. W.), The crystal structure of *kilchoanite*, 26; and see PASTOR-RODRIGUEZ (J.), 286
- TAYLOR (J. D.), see HALL (A.), 521
- Teallite-herzenbergite series, melting points, cell-sizes, 186
- Temperature scales, collation and correction of, 768
- Thailand*, *scolecite*, 72
- THOMPSON (R. N.), see TILLEY (C. E.), 344
- THOMSON (A. P.), see MCHARDY (W. J.), 358
- Three Rock Mtn., Sandysford, Dublin*, *granite*, 847
- TILL (R.), see GUNATILAKA (H. A.), 481
- TILLEY (C. E.), THOMPSON (R. N.), WADSWORTH (W. J.), and UPTON (B. G. J.), Melting relations of lavas from *Réunion*, 344
- Timurgara, Dir, West Pakistan*, *corundum*, *margarite*, *staurolite*, 106
- Tirodi, Balaghat District, Madhya Pradesh, India*, *blanfordite*, *manganoan aegirine-augite*, 32
- Titanaugite, Nigeria*, 579
- Titanomagnetite, South Africa*, cell-size, anal., 863; *Indonesia and Italy*, anal., 936; *Greenland*, anal., 946
- Tobermorite, Ayrshire*, anal., 523
- Todorokite*, conditions for synthesis of analogues with Cu, Co, or Ni replacing Mn^{2+} , 493; *Egypt*, anal., trace elements, 235
- Tokodjain, Lamawolo, Lesser Sunda Is., Indonesia*, *latite*, *clinopyroxene*, *bytowntite*, *labradorite*, *pargasite*, *phlogopite*, *titanomagnetite*, *glass*, 936
- Toscanite, Italy*, anal. of minerals in, 936
- Tourmaline, New Zealand*, opt. 64; *New Zealand*, zoned, anal., opt., 374; *Nigeria*, black, relation of optics to occurrence, 369; *West Pakistan*, *chromian*, anal., opt., *paragenesis*, 756
- Treak Cliff Cavern, Castleton, Derbyshire*, *fluorite*, 459
- Tremolite, New Zealand*, opt., 64
- Tridymite*, thermal expansion, 593
- Tullow Hill, Carlow, Ireland*, *granite*, 847
- UPTON (B. G. J.) and WADSWORTH (W. J.), *Rhyodacite glass in Réunion basalt*, 152; and see TILLEY (C. E.), 344
- Urals, U.S.S.R.*, *chlorophaeite*, 205
- VACHEY (H.), anal. by, 785
- VADILLO (P. S.), Surface structures of *Pamir quartz*, 379
- Vanadiferous nodules, Leicestershire*, 488
- VANCE (E. R.), and ANDERSON (B. W.), *Metamict Ceylon zircons*, 605; Differences among low *Ceylon zircons*, 721; — and MILLEDGE (H. J.), α -particle irradiation of diamond, 878
- VAN WAMBEKE (L.), The uranium-bearing mineral *bolivarite*, 418
- Vaterite* in gastropod egg-shells, 521
- VELDE (B.), The stability and natural occurrence of *margarite*, 317
- Vermiculite*, oxidation of, 121
- VERNON (R. H.), see PHILLIPS (E. R.), 570
- VISWANATHAN (T. V.), SEN GUPTA (N. R.), DAS GUPTA (D. R.), and BANERJEE (S.), The *Sitathali meteorite*, 335
- Viterbo, Italy*, *latite*, *glass*, 936
- Volborthite, Leicestershire*, 488
- VRÁNA (S.) and BARR (M. W. C.), Talc-kyanite-quartz schists and other high-pressure assemblages from *Zambia*, 837

- WADSWORTH (W. J.), see UPTON (B. G. J.), 152;
TILLEY (C. E.), 344
- WAI (C. M.) and KNOWLES (C. R.), The metal phase of the *Bustee* enstatite chondrite, 627
- WAINE (C. V.), see AXON (H. J.), 94, 725
- WALKER (B. G.), see HASLAM (H. W.), 58
- WALLS (R.), see SMITH (G. W.), 72
- WALSH (J. N.), see HALL (A.), 328
- WAMBEKE (L. VAN), see VAN WAMBEKE (L.)
- WARE (N. G.), see JOPLIN (G. A.), 936
- Water, determination of in amphiboles, 389
- Waterfall Gorge, Insizwa, South Africa*, insizwaite, niggliite, 794
- Weardale, Co. Durham*, fluorite, 459
- WEBB (A. ST. J.), Tobermorite from *Ayrshire*, 253
- WIDDOWSON (J. R.), see JOPLIN (G. A.), 936
- WILKINS (R. W. T.), The Raman spectrum of crocoite, 249
- WILLIAMS (S. A.), Zapatalite, a new mineral, 541; Embreyite, a new mineral, 790
- WILSON (J. R.) and COATS (J. S.), Alkali feldspars from the *Galway* granite, 801; and see COATS (J. S.), 138
- WOOD (B. J.) and STRENS (R. G. J.), Calculation of crystal-field splitting, 909
- WOODS (C. P.), see MAIN (C. V.), 961
- WOOLLEY (A. R.), SYMES (R. F.), and ELLIOTT (C. J.), Fentitized quartzites from the *Borrallan* complex, 819
- WRIGHT (J. B.), Natural garnet-pyroxene transformation, *Nigeria?*, 579
- WYS (E. C. DE), see DE WYS (E. C.)
- X-ray fluorescence, glass standards for, 614
- X-ray powder data: aegirine-augite, mangoan, 34; agrinierite, 783; biphosphammite, 967; blanfordite, 34; calcium sulphosilicate, $\text{Ca}_5(\text{SiO}_3)_2\text{SO}_4$, 970; $\text{Ca}(\text{Fe}^{3+}, \text{Al})_2\text{SiO}_6$, 875; chlorophaeite, 205; diopside, mangoan, 34; embreyite, 793; ferrostilpnomelane, 699; holtite, 24; hydroxyapatite, chlorian, 973; insizwaite, 797; margarite, 319; mordenite, strontian, 383; $\text{Na}_2\text{Mn}_5\text{O}_{10} \cdot 4\text{H}_2\text{O}$, 500; niggliite, 799; palagonite, 205; piemontite, 69; pyrophanite, 315; rameauite, 793; scolecite, 74; vaterite, 522; yttritungstite, 261; zapatalite, 543
- YAGI (K.), see ONUMA (K.), 471
- Yttritungstite, *Malaysia*, partial anal., X-ray, chem., crystal structure, 261
- ŽÁK (L.), Pyrophanite from *Chvaletice (Bohemia)* 312
- ZANAZZI (P. F.), see COCCO (G.), 564, and FANFANI (L.), 687
- Zapatalite, *Mexico*, anal., opt., X-ray, 541
- Zaria region, Nigeria*, tourmaline, 369
- Zircon, *Nigeria*, 579; *Ceylon*, metamict, density, X-ray, refr. ind., spectrum, presence of tetragonal ZrO_2 , effect of heating, 605, 721
- ZUMPE (H.), Microstructures in glauconite, 215

BOOK REVIEWS

- ADAMS (J. A. S.) and GASPERINI (P.), Gamma-ray Spectrometry of Rocks, 536
- ANDERSON (B. W.), Gem Testing (8th edn.), 907
- BARTH (T. F. W.), CORRENS (C. W.), and ESKOLA (P.), Die Entstehung der Gesteine — Ein Lehrbuch der Petrogenese, 120
- BATTEY (M. H.), Mineralogy for Students, 983
- BLOSS (F. D.), Crystallography and Crystal Chemistry, 903
- BOLLMANN (W.), Crystal defects and crystalline interfaces, 645
- BOTTLEY (E. P.), Rocks and Minerals, 532
- CHAYES (F.), Ratio correlation, 904
- CHIZHIKOV (D. M.) and SHCHASTLIVYI (V. P.), transl. ELKIN (E. M.), Tellurium and the tellurides, 646
- CLIFFORD (T. N.) and GASS (I. G.), editors, African Magnetism and Tectonics. A volume in honour of W. Q. Kennedy, 258
- CLOUD (P.), Adventures in Earth History, 771
- COES (L., JR.), Abrasives, 777
- DESAUTELS (P. E.), The Gem Kingdom (with special photography by Lee Boltin), 908
- DOE (B. R.), Lead isotopes, 387
- ENERGLYN (Lord) and BREARLEY (L.), Analytical Geochemistry, 776
- ERNST (W.), Geochemical Facies Analysis, 644
- FAST (J. D.), Entropy, 534
- FRANTESSON (E. V.), The Petrology of the Kimberlites, 118
- GARD (J. A.), editor, The Electron-optical Investigation of Clays, 779
- GASS (I. G.), SMITH (P. J.), and WILSON (R. C. L.), editors, Understanding the Earth: A Reader in the Earth Sciences, 257
- GAY (P.), The crystalline State, 982
- HARTSHORNE (N. H.) and STUART (A.), Practical Optical Crystallography, 2nd edn., 111
- HINTZE (CARL), Handbuch der Mineralogie. CHUDOBA (KARL F.), Gesamtregister für die Bände I/1-4 und II sowie Ergänzungsbände I, II und III, 532