

ALPHABETICAL INDEX

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

- Actinolite, *Wales*, opt., 124
 Aegirine, titanian, valency of Ti in, 553, 554
 Aegirine-augite, *Assynt, Scotland*, anal., 529 and M7
 Afwillite, *Ireland*, 529
 Alabandine, ferroan, meteoritic, anal., 487
 ALABASTER (C. J.), An occurrence of brucite at *Merehead quarry, Cranmore, Somerset*, 400
 ALEXANDER (P. O.) and PAUL (D. K.), Geochemistry and strontium isotopic composition of basalts from the *Eastern Deccan*, 165
 Ammonium calcium phosphate, *Western Australia*, 33
 Amphibole, see Hastingsite, Hornblende, Fluor-richterite
 Analcime, *New Zealand*, 398; *Isle of Arran*, mode of formation, stability relations, 534
 Anhydrite, *Israel*, 233
 Antigorite, *Western Australia*, anal., X-ray, paragenesis, 313
 Antimonite, *Iran*, alteration to stibiconite, 127
 Apatite, *Uganda*, in carbonatite, inclusions in, 155; Cl-rich hydroxy-fluor-, a guide to porphyry copper deposits, 288; *Assynt, Scotland*, Cl-poor, anal., 529 and M7; and see Fluorapatite, Francolite
 Aphaltalite, *Western Australia*, 33
 Apophyllite, *Somerset*, 410
 Appinite, *Jersey*, mode, anal., petrogenesis, 183
 APPLEMAN (D. E.), see DUNN (P. J.), 437
 Archerite, *Western Australia*, anal., opt., 33
Arisaig, Inverness-shire, tholeiite dykes, 273
 ASHWORTH (J. R.), Petrogenesis of migmatites in the *Huntly-Portsoy area, north-east Scotland*. A reply, 295
 AXON (H. J.) and NASIR (M. J.), A metallographic and microprobe examination of a metallic nodule from the Bondoc Peninsula meteorite, 121 (Syn.), M1

Bad na h'Achlaise, Assynt, Sutherland, fenite, microcline, richterite, aegirine-augite, M7
 BAILEY (D. K.), see PRICE (W. F.), 551
 BAILEY (S. W.) and RILEY (J. F.), An unusual chlorite from *Western Australia*, 541
 BALTAZIS (E.) and WOOD (B. J.), Paragonite in chloritoid schists from *Stonehaven, Scotland*, 211
 BARBER (C.), see DICKSON (J. A. D.), 145
 Basalt, eastern *Deccan, India*, anal., Rb/Sr ratios, 165; *Gulf of Aden*, 193; *Antarctica and Iceland*, reaction with sea-water, 217; classification of, 239
 BATTEY (M. H.) and DAVIDSON (W.), Exsolution of plagioclase from clinopyroxene in a pyroxenite from *Jotunheimen, Norway*, 513
 BAYLISS (P.), X-ray powder data for villamaninite, 545
 BECKINSALE (R. D.), BOWLES (J. W. F.), PANKHURST (R. J.), and WELLS (M. K.), Rb-Sr age studies and geochemistry of acid veins in the *Freetown complex, Sierra Leone*, 501
 BEVAN (A. W. R.), BEVAN (J. C.), and FRANCIS (J. G.), Amphibole in the Mayo Belwa meteorite, 531
 BEVAN (J. C.), see BEVAN (A. W. R.), 531
Big Bend National Park, Texas, darapskite, halite, 548
 BIGGAR (G. M.), Disadvantages of Pt₉₅Au₅ as a container for silicate melts, 555
 BISH (D. L.), see BRINDLEY (G. W.), 443
 BISHOP (A. C.), CRIDDLE (A. J.), and CLARK (A. M.), Plumbian tennantite from *Sark, Channel Islands*, 59
 BLASI (A.), Calculation of T-site occupancies in alkali feldspars from redined lattice constants, 525 (Syn.), M14
 BLAUER (H. M.), *anal.*, by, 506
 Blixite, *Somerset*, 406
 BOCCHIO (R.), 3T muscovite from a staurolite-zone south-alpine gneiss, *Cermeledo, Italy*, 400
 Boehmite, *New Zealand*, in syenite, anal., opt., cryst., X-ray, 398
 Bondoc Peninsula meteorite, metallic nodule with silicate inclusions, anal., opt., cooling history, 121 (Syn.), M1
 Boracite, see Iron-boracite
Boulby mine, Loftus, Saltburn, Yorkshire, iron-boracite, 404
 BOWLES (J. F. W.), A method of tracing the temperature and oxygen-fugacity histories of complex magnetite-ilmenite grains, 103, with appendix on probable errors, M16; and see BECKINSALE (R. D.), 501
 Breithauptite, *Greenland*, anal., opt., 77
 BRIDGE (P. J.), Archerite, a new mineral, 33; and see NICKEL (E. H.), 37
 BRINDLEY (G. W.), BISH (D. L.), and WAN (H.-M.), The nature of kerolite, its relation to talc and stevensite, 443
Broken Hill, New South Wales, plagioclase, 469; gneiss, M20
 BROWN (G. M.) and PECKETT (A.), Fluorapatites from *Skaergaard*, 227
Brown's Island, (Motukorea), Waitemata Harbour, Auckland, New Zealand, motukoreaite, 389 (Syn.), M21
 Brucite, *Somerset*, anal., opt., alteration, 406
 BRÜCK (P. M.), see OPPENHEIM (M. J.), 402
Bulong, Western Australia, antigorite, lizardite, 313; pyrrhotine, magnetite, ilmenite, chalcopyrite, pentlandite, violarite, 473
 BURKE (E. A. J.), see OEN (I. S.), 77
 BUSECK (P. R.) and HOLDSWORTH (E.), Phosphate minerals in pallasites, 91
 BUTLER (B. C. M.), Al-rich pyroxene and melilite in a blast-furnace slag and a comparison with the Allende meteorite, 493

Callowhill Upper, Newtown Mt. Kennedy, Co. Wicklow, Ireland, eskolaite, 402
 CAMERON (E. P.), see FRENCH (W. J.), 239
 CANN (J. R.), WINTER (C. K.), and PRITCHARD (R. G.), A hydrothermal deposit from the floor of the *Gulf of Aden*, 193
 Carbonatite, *Uganda*, inclusions in apatite in as evidence of formation conditions, 155
Carr Boyd Rocks, Western Australia, morenosite, nickel-blödite, 37

- Carter's mine, Madison County, North Carolina*, kerolite, 443
- Cassiar mine, British Columbia*, chrysotile, 453
- CAWTHORN (R. G.), Petrological aspects of the correlation between potash content of orogenic magmas and earthquake depth, 173
- Celadonite, *Stirlingshire*, anal., alteration, 481
- Centennial of the Mineralogical Society, report, 3
- Cermeledo, Dazio, Italy*, muscovite-3T, 400
- Cerolite, see Kerolite
- CESBRON (F. P.), see WILLIAMS (S. A.), 288
- Chalybite, see Siderite (of Haidinger)
- Chenevixite, *Mexico*, anal., opt., X-ray, 27; *Arizona*, 27
- CHENHALL (B. E.), PEMBERTON (J. W.), PHILLIPS (E. R.), and STONE (I. J.), The lower quartzofeldspathic gneiss at *Broken Hill, New South Wales*, M20; and see PHILLIPS (E. R.), 469
- CHISHOLM (J. E.), see RODGERS (K. A.), 389, M21
- Chlorite, see Clinochlore, Sheridanite
- Chloritoid, *Scotland*, anal., 211; — schist, *Scotland*, anal., 211
- Chloroxiphite, *Mendips*, crystal structure, 357
- Christmas mine, Gila County, Arizona*, ruizite, 429
- Chrome-picotite, *New Caledonia*, anal., 391
- Chromite, *Norway*, cubic and non-cubic, anisotropic, magnetic, anal., X-ray, 351; *New Caledonia*, anal., 391, 395; and see Magnochromite, Chrom-picotite, Picrochromite
- Chrysotile, *Canada, Rhodesia, and California*, thermal decomposition, 453
- Chuquicamata, Chile*, metavoltine, 371
- Claringbullite, *Katanga and Zambia*, anal., opt., X-ray, 433
- CLARK (A. M.), see BISHOP (A. C.), 59; DAVIS (R. J.), 123, M10; COUPER (A. G.), 411; FEJER (E. E.), 433; HODKINSON (I. P.), 131
- Clinochlore, nickelian, *Western Australia*, X-ray, formula, 541
- Clinopyroxene, see Aegirine, Aegirine-augite, Diopside, Sahlite
- Coalinga mine, California*, chrysotile, 453
- Columbite, *Cornwall*, anal., sp. gr., 131; *Iran*, anal., sp. gr., 132
- Comb layering, laboratory duplication of, 323
- Computer program for electron-probe data, 414
- Cornubite, *Arizona*, 27
- Corsair, Western Australia*, antigorite, lizardite, 313
- COUPER (A. G.) and CLARK (A. M.), Stokesite crystals from two localities in *Cornwall*, 411; and see FEJER (E. E.), 433
- CRIDDLE (A. J.) and SYMES (R. F.), Mineralization at *Tj Coch, Glamorgan*: the second occurrence of pyrobelonite, 85; and see BISHOP (A. C.), 59; DAVIS (R. J.), 123, M10
- Crushing, effect of on release of gases from rock on heating, 551
- Darapskite, *Texas*, anal., opt., X-ray, genesis, 548
- Dashkasan, Hamadan, Iran*, antimonite, stibiconite, 127
- Datolite, *Somerset*, 410
- Daubr elitic, meteoritic, anal., 201 and 487
- DAVIDSON (W.), see BATTEY (M. H.), 513
- DAVIS (G. R.), see MOESKOPS (P. G.), 473
- DAVIS (R. J.), CLARK (A. M.), and CRIDDLE (A. J.), Palladseite, a new mineral, 123 (Syn.), M10; and see RODGERS (K. A.), 389, M21
- Deception Island, Antarctica*, basalt, volcanic ash, 217
- DELIENS (M.), Review of the hydrated oxides of U and Pb, 51
- DICKSON (J. A. D.) and BARBER (C.), Chemical variation in a partially dolomitized Visean limestone bed, *Isle of Man*, 145
- Diopside, *New Caledonia*, 391; chromian, *New Caledonia*, anal., opt., 395; *Marangudzi*, anal., opt., cell-size, 111; meteoritic, anal., 201; fassaitic, from blast-furnace slag, anal., 493; *Norway*, 513; Mayo Belwa meteorite, anal., 487
- Diorite, *Papua*, anal., 528 (Syn.), M19
- Dippin sill, Isle of Arran*, analcime in dolerite, 534
- DONALDSON (C. H.), Laboratory duplication of comb layering in the *Rhum* pluton, 323; Kaersutite overgrowths on aluminous titanogite in the *Qaersut* sill, 297
- Donathite, *Norway*, a doubtful species, 351
- Dravite, *Wales*, anal., opt., X-ray, cell-size, 124; chromian, *India, Finland, Maryland, and Urals*, anal., zoning, 408
- DUGGAN (M.), anal. by, 29, 31; and see WILLIAMS (S. A.), 429
- Dun Mtn., New Zealand*, pentlandite, 345
- DUNHAM (Sir K. C.), Progress in mineralogy, 6
- DUNN (P. J.), Chromium in dravite, 408; Perhamite, a new Ca-Al silicophosphate, and a re-examination of vis ite, 437
- Earthquake depth, correlation with K₂O content of magmas, implications of, 173
- EASTON (A. J.), GRAHAM (A. L.), and HUTCHISON (R.), Abundance of F in stony meteorites, 417; and see GRAHAM (A. L.), 201, 487
- ELDERFIELD (H.), GUNNLAUGSSON (E.), WAKEFIELD (S. J.), and WILLIAMS (P. T.), Basalt-sea-water interactions, 217
- Electron-probe, computer program to process data, 417
- ELLIOTT (C. J.), see RAADE (G.), 65; FEJER (E. E.), 433
- ELSDON (R.), see OPPENHEIM (M. J.), 402
- Enstatite, Mayo Belwa meteorite, anal., 487; *New Caledonia*, 391
- Eskolaite, *Ireland*, 402
- Etchison, Maryland*, chromian dravite, 408
- EWING (R. C.), see HILL (C. A.), 548
- Farringtonite, occurrence in pallasites, anal., 91
- FEJER (E. E.), CLARK (A. M.), COUPER (A. G.), and ELLIOTT (C. J.), Claringbullite, a new hydrated copper chloride, 433; and see RAADE (G.), 65
- Feldspars, alkali, calculation of T-site occupancies in, 525 (Syn.), M14
- Fenite, *Assynt, Scotland*, 529 (Syn.), M7
- FERGUSON (A. K.), Titanium in aegirines. A comment on: Crystallization trends of pyroxenes from the alkaline rocks of *Tenerife, Canary Islands*, by P. W. Scott, 553
- Ferric alkali sulphates, artificial, 371
- Ferrinatrite, *Sierra Gorda* and artificial, crystal structure, 375, M6 (App.)
- Ferromanganese oxide, *Gulf of Aden*, anal., 193

- FINNEY (J. J.), GRAEBER (E. J.), ROSENZWEIG (A.), and HAMILTON (R. D.), The structure of chloroxiphite, 357
 Fluorapatite, chlorian, *Greenland*, anal., 227
 Fluorine, determination and abundance of in stony meteorites, 417
 Fluor-richterite, Mayo Belwa meteorite, anal., X-ray, 433
 Forsterite, meteoritic, anal., 201
 Forsterite chondrites, a new class of meteorite, 201
 Fourmarierite, X-ray, summary of diagnostic data on, 51
 FRANCIS (J. G.), see BEVAN (A. W. R.), 531
 Francolite, *Yorkshire*, anal., cell-size, 287 (Syn.), M4
Franklin Furnace, New Jersey, willemite, 71
Freetown complex, Sierra Leone, acid veins in, Rb-Sr data, 501
 FRENCH (W. J.) and CAMERON (E. P.), The relationship of the order of crystallization of basalt melts to their classification and the definition of rock series, 239; —, HASSAN (M. D.), and WESTCOTT (J. E.), A celadonite-vermiculite series from the volcanic rocks of the *Ochils, Stirlingshire*, 481
 FROST (M. T.), A new interactive computer program to process electron-microprobe data, 414
- Gabbro, *Marangudzi*, anal., norm, mode, conditions of cryst., 111; *Wales*, altered, anal., 124
Galdhøpiggen, Jotunheimen, Norway, diopside, hypersthene, magnetite, olivine, hercynite, plagioclase, 513
 Garnet, see Grossular, Spessartine
 Geothermometer, magnetite-ilmenite, 103, 257; muscovite-paragonite, 211; plagioclase-alkali-feldspar, 253
 GIBB (F. G. F.), see HENDERSON (C. M. B.), 534
 GIBSON (I. L.), see MATTEY (D. P.), 273
Glomsrødskollen mine, Modum, Norway, ktenasite, unidentified Cu-Zn-Al sulphate, 65
 Gneiss, *Broken Hill, New South Wales*, anal., petr., M20
Goles Mtn., Yugoslavia, kerolite, 443
 GOLESTANEH (F.) and JONES (M. P.), Stibiconite as an alteration product of antimonite, *West Iran*, 127
Govea, Brazil, quartz, 301
 GRAEBER (E. J.), see FINNEY (J. J.), 357
 GRAHAM (A. L.), EASTON (A. J.), and HUTCHISON (R.), Forsterite chondrites; the meteorites Kakangari, Mount Morris (Wisconsin), Pontlyfni, and Winona, 201; — — — The Mayo Belwa meteorite: a new enstatite achondrite fall, 487; and see EASTON (A. J.), 417
 Grossular, *Israel*, anal., 233
 GRUNDY (H. D.), see HAWTHORNE (F. C.), 43
 Guanine, *Western Australia*, 33
Gulf of Aden, basalt, ferromanganese oxide, smectite, 193
 GUNNLAUGSSON (E), see ELDERFIELD (H.), 217
 Gypsum, *Israel*, 233
- HAMILTON (R. D.), see FINNEY (J. J.), 357
 HAN (K. N.), see SMITH (L. K.), 385
Hanter Hill, Radnorshire, Wales, tourmaline, actinolite, altered gabbro, 124
Harris, Outer Hebrides, tholeiite dykes, 273
 HASSAN (M. D.), see FRENCH (W. J.), 481
 Hastingsite, sub-silicic, crystal structure, 43
 Hausmannite, *Wales*, opt., 85
 HAWTHORNE (F. C.) and GRUNDY (H. D.), The crystal structure of a sub-silicic hastingsite, 43
- HENDERSON (C. M. B.) and GIBB (F. G. F.), Formation of analcime in the *Dippin sill, Isle of Arran*, 534; — and TAYLOR (D.), The thermal expansion of tugtupite, 130
Hepworth Iron Co. quarry, Penistone, Yorkshire, francolite, magnesian siderite, 287 (Syn.), M4
 Hercynite, *Norway*, anal., 513
 HILL (C. A.) and EWING (R. C.), Darapskite, a new occurrence, in *Texas*, 548
Himalayan thrust zone, metamorphism in, 528 (Syn.), M18
 HODKINSON (I. P.) and CLARK (A. M.), Columbite from *St. Austell, Cornwall*, 131
 Högbomite, *Central Australia*, anal., opt., X-ray, 385
 HOLDSWORTH (E.), see BUSECK (P. R.), 91
 HOLGATE (N.), Tourmaline from amphibolitized gabbro at *Hanter Hill, Radnorshire*, 124
 Hornblende, *Papua*, zoned, anal., 528 (Syn.), M19
 HORNE (J. E. T.), Report on the Society's Centennial Year, 3
 HOSSAIN (M. T.), Pyroxenes from the *Marangudzi gabbros*, 111
Hot Springs, Arkansas, quartz, 301
Humboldt mine, Santa Cruz County, Arizona, luethcite, chenevixite, 27
 HUNTINGDON (A. T.), see PRICE (W. F.), 551
Huntly, Aberdeenshire, migmatites, 272, 275
 HUSLER (J. N.), anal. by, 549
 HUTCHISON (R.), see GRAHAM (A. L.), 201; EASTON (A. J.), 417
 Hydrocerussite, *Somerset*, 406
 Hydrogrossular, *Israel*, 233
 Hydromagnesite, *Somerset*, 406
 Hypersthene, *Marangudzi*, anal., opt., cell-size, 111; *Norway*, anal., 513
- Igdllunguaq, Ilimaussaq, Greenland*, breithauptite, löllingite, nickeline, westerveldite, 77
Ilimaussaq, Greenland, willemite, arfvedsonite, chkalovite, neptunite, naujakasite, natrolite, analcime, 71
 Ilmenite, *Freetown gabbro, Sierra Leone*, intergrowths with magnetite, anal., 103; *Western Australia*, anal., 541
 I.M.A.-I.U. Cr. Joint Committee on Nomenclature of Polytypes, Report, 2
 Iron-boracite, *Yorkshire*, anal., opt., cell-size, cryst., transformation temperature, 404
Itabira, Minas Gerais, Brazil, palladseite, 123 (Syn.), M10
- JAN (W. Q.) and SYMES (R. F.), Piemontite schists from *Upper Swat, Pakistan*, 537
Janggun mine, Bonghwa, Korea, janggunite, nsutite, todorokite, rhodochrosite, 519
 Janggunite, *Korea*, anal., opt., X-ray, D.T.A., 519
 JONES (M. P.), see GOLESTANEH (F.), 127
- Kaavi, Finland*, chromian dravite, 408
Kaersut, Greenland, see Qaersut
 Kaersutite, *Greenland*, anal., overgrowth on titanaugite, 297
Kamariza mine, Laurium, Greece, ktenasite, 65
Kambalda, Western Australia, nickel-blödite, 37
Kambouwe, Mina M'sesa, Katanga, Zaïre, claringbullite, 433

- Kerolite, *Czechoslovakia, North Carolina, Poland, and Yugoslavia*, anal., infra-red, X-ray, relation to talc and stevensite, 433
- KEY (C. H.), Origin of appinitic pockets in the diorites of *Jersey*, 183
- KHALILI (H.), Columbite from the *Mashad* pegmatites, *Iran*, 132
- Khwaza Khela, Pakistan*, piemontite, spessartine, 537
- KIEFT (C.), see OEN (I. S.), 77
- Killala Bay, Inishcrone, Co. Sligo, Ireland*, killalaita, 363, 546
- Killalaita, *Antrim*, 546; crystal structure, 363
- KIM (S. J.), Janggunita, a new manganese hydroxide from *Korea*, 519
- King mine, Rhodesia*, chrysotile, 453
- KODAMA (H.), An electron-diffraction study of a microcrystalline muscovite and its vermiculitized products, 461
- Kremze, Czechoslovakia*, kerolite, 443
- Ktenasite, *Greece*, X-ray, 65; *Norway*, opt., anal., X-ray, infra-red, 65
- Kunkeltown, Pennsylvania*, quartz, 301
- Kvanefeld, Ilimaussaq, Greenland*, tugtupite, 130
- La Madeleine, Plaine des Lacs, New Caledonia*, chromite, 391
- LANGTHALER (G.), anal. by, with method, 341, 344
- Las Animas, Sonora, Mexico*, chenevixite, 27
- LAWSON (F.), see SMITH (L. K.), 385
- LEACH (T. M.) and RODGERS (K. A.), Electron-probe investigation of some chrome-spinels from southern *New Caledonia*, 391
- Lime Creek, north-west Queensland*, cobaltian pentlandite, pyrrhotine, chalcopyrite, 345
- Limestone, *Isle of Man*, variation in partially dolomitized, 145
- Lipari Isles, Italy*, obsidian, 551
- Lizardite, *Western Australia*, anal., X-ray, paragenesis, 313
- Löllingite, *Greenland*, anal., 77
- Lord Brassey mine, north-west Tasmania*, pentlandite, 345
- Lough Skillicore, Isle of Man*, partially dolomitized limestone, illite, dickite, 145
- Luetheite, *Arizona*, anal., opt., cryst., X-ray, 27
- Madeni Zakh, Iran*, metavoltine, 371
- Magnetite, *Western Australia*, Ni content, 473; *Norway*, anal., 513; *Freetown gabbro, Sierra Leone*, intergrowth with ilmenite, 103
- Magnochromite, *New Caledonia*, anal., 391
- Mandamus complex, New Zealand*, analcime, boehmite, 398
- Marangudzi, Rhodesia*, gabbro, ortho- and clinopyroxene, 111
- MARRINER (G. F.), see MATTEY (D. P.), 273
- MARTIN (C. J.), The thermal decomposition of chrysotile, 453
- Mashad, Khorassan, Iran*, columbite, 132
- MASON (D. R.), Zoned amphibole in the *Yirri* intrusive complex, *Manus Island, Papua New Guinea*, 528 (Syn.), M19
- Massif du Sud, New Caledonia*, chromite, chromian diopside, pyroxenite, 395
- Masuyite, X-ray, summary of diagnostic data on, 51
- MATTEY (D. P.), GIBSON (I. L.), MARRINER (G. F.), and THOMPSON (R. N.), The diagnostic geochemistry, relative abundance, and spatial distribution of high-calcium, low-alkali tholeiite dykes in the Lower Tertiary swarm in *Skye*, 273
- Maus's salt (mausite), dehydration to ferrinatrite, relation of their structures, 375
- Mausite, see Maus's salt
- Mayo Belwa meteorite, *Nigeria*, descr., anal., classif., 487; enstatite, diopside, and amphibole (fluor-richterite) in, 531
- Melilite from blast-furnace slag, gehlenite-rich, anal., 493
- Menahamiya, Jordan Valley, Israel*, gypsum, anhydrite, magnetite, hematite, pyrite, hydrogrossular, grossular, diopside, 233
- Mendez de Pimental, Brazil*, quartz, 301
- Mendips, Somerset*, chloroxiphite, 357
- Merehead quarry, Cranmore, Somerset*, blixite, hydromagnesite, hydrocerussite, 406; datolite, apophyllite, 410
- Merrillite, see 'Whitlockite'
- Metavoltine, *Iran* (topotype) and *Chile*, anal., X-ray, formula, 371
- Metavoltine (?) of Bandy is metavoltine, 371
- METCALF-JOHANSEN (J.), Willemite from the *Ilimaussaq* alkaline intrusion, 71
- Meteorites: Barwell, 417; Bondoc Peninsula, 121 (Syn.), M1; Kakangari, 201; Khor Temiki, 417; Mayo Belwa, 417, 493, 531; Mocs, 417; Mount Morris (Wisconsin), 201; Oakley (stone), 417; Ohuma, 417; Pontlyfni, 201; Winona, 201
- Meteorites: forsterite chondrites, a new class, 201; iron, group IIIAB, relation to pallasites, 265; stony, determination and abundance of F in, 417; see also Pallasites
- Microcline, *Assynt, Sutherland*, anal., 529 (Syn.), M7
- Migmatite, *north-east Scotland*, petrogenesis, 292, 295
- MILNE (J. K.), SAUNDERS (M. J.), and WOODS (P. J. E.), Iron-boracite from the English Zechstein, 404
- Minas Gerais, Brazil*, quartz, 301
- Mine Anna Madeleine, Plaine des Lacs, New Caledonia*, chromite, 391
- Mineralogical Society Centennial Year, report, 3
- Mitridatite, *South Dakota*, crystal structure, 527 (Syn.), M8
- MOESKOPS (P. G.), Serpentine minerals from the *Western Australian* nickel belt, 313; — and DAVIS (G. R.), Unusual sulphide replacement textures in altered olivine-rich rock of the *Bulonga* complex near *Kalgoorlie, Western Australia*, 473
- Montmorillonite, *Iceland*, anal., 217
- MOORE (A. C.), Zinc-bearing chromite (donathite?) from *Norway*: a second look, 351
- MOORE (P. B.), Mitridatite, a remarkable octahedral sheet structure, 527 (Syn.), M8
- Morro Velho, Brazil*, quartz, 301
- Motukorea, see Brown's Island*
- Motukoreaite, *New Zealand*, anal., opt., sp. gr., D.T.A., X-ray, 389 (Syn.), M21
- Mount Cobalt, Cloncurry, north-west Queensland*, smolyaninovite, 385
- Mount Colin, north-west Queensland*, pentlandite, 345
- Muscovite, electron-diffraction study, vermiculitization,

- 461; *Stonehaven, Scotland*, anal., 211; -3T, *Italy, Japan, and Washington*, anal., opt., cell-size, 400
Mussartût, Greenland, willemite, 71
- Naco, Sonora, Mexico*, chenevixite, 27
 Nahcolite, *Uganda*, as inclusions in apatite, 155
 NASIR (M. J.), see AXON (H. J.), 121 (Syn.), M1
 NASSAU (K.) and PRESCOTT (B. E.), Smoky, blue, greenish yellow, and other irradiation-related colors in quartz, 301
 NATHAN (Y.), see NISSENBAUM (A.), 233
Nausahi, Keonjhar District, Orissa, India, chromian dravite, 408
 NAWAZ (R.), A second occurrence of kyllalaitite, 546
Nchanga, Zambia, claringbullite, 433
 NELSON (C. S.), see RODGERS (K. A.), 389 (Syn.), M21
 New minerals: Archerite, 33; Claringbullite, 433; Janggunitite, 519; Luetheite, 27; Motukoreaite, 389 (Syn.), M21; $(\text{NH}_4)_2\text{Ca}(\text{HPO}_4)_2 \cdot 2\text{H}_2\text{O}$, 33; Nickel-blödite, 37; Palladseite, 123 (Syn.), M10; Perhamite, 437; Ruizite, 429
 Newberyite, *Western Australia*, 33
Newry Hill, Newry, Maine, perhamite, 437
 NICKEL (E. H.) and BRIDGE (P. J.), Nickel-blödite, a new mineral, 37
 Nickel-blödite, *Western Australia*, anal., opt., X-ray, 37
 Nickeline, *South Greenland*, anal., opt., phase relations, 77
 NISSENBAUM (A.), NATHAN (Y.), and SASS (E.), Contact metamorphism in an evaporitic sequence of the *Jordan Valley*, 233
 Nsutite, *Korea*, 519
- Obsidian, *Lipari Isles*, effect of crushing on release of volatiles from, 551
 OEN (I. S.), BURKE (E. A. J.), and KIEFT (C.), Westerveldite from *Igdlinguaq, South Greenland*, 77
 Oldhamite, in blast-furnace slag, 493; in the Mayo Belwa meteorite, 487
 Olivine, *Norway*, anal., 513; meteoritic, anal., 201; *New Caledonia*, anal., 391
 OPPENHEIM (M. J.), BRÜCK (P. M.), ELSDON (R.), SYNGE (F. M.), WEAVER (A.), and WARREN (W. P.), Eskolaite from *Co. Wicklow, Ireland*, 402
 Orthopyroxene, see Hypersthene
Outukumpu, Finland, chromian dravite, 408
 Oxammite, *Western Australia*, 33
 Oxygen barometry using Fe-Ti oxides, 103, 257; probable errors in, M16
- Palladium selenides, review of, M10
 Palladseite, *Brazil*, anal., opt., X-ray, 123 (Syn.), M10
 Pallasites, relation to group IIIAB iron meteorites, 265; phosphates in, 91
 PANKHURST (R. J.), see BECKINSALE (R. D.), 501
 Paragonite, *Stonehaven, Scotland*, occurrence in chloritoid schist, anal., 211
Patagonia, Santa Cruz County, Arizona, luetheite, chenevixite, 27
 PAUL (D. K.), see ALEXANDER (P. O.), 165
 PEARSON (M. J.), Francolite in a concretion from argillaceous sediments, *Yorkshire*, 287 (Syn.), M4
 PECKETT (A.), see BROWN (G. M.), 227
 PEMBERTON (J. W.), see CHENHALL (B. E.), M20; PHILLIPS (E. R.), 469
- Penryn Granite Co. quarry, Halvosso, Cornwall*, stokesite, 411
 Pentlandite, *New Zealand, Queensland, and Tasmania*, anal., cell-size, paragenesis, correlation of cell-size and composition, 345
 Perhamite, *Maine*, anal., opt., X-ray, 437
Petrogale Cave, Western Australia, archerite, apthitalite, guanine, newberyite, $(\text{NH}_4)_2\text{Ca}(\text{HPO}_4)_2 \cdot 2\text{H}_2\text{O}$, oxammite, stercorite, syngenite, weddellite, whitlockite, unidentified, 33
 PHILLIPS (E. R.), CHENHALL (B. E.), STONE (I. J.), and PEMBERTON (J. W.), An intergrowth of calcic labradorite in a plagioclase quartz-biotite gneiss from *Broken Hill, New South Wales*, 469; and see CHENHALL (B. E.), M20
 Phosphates in pallasites, 91
 Picrochromite, *New Caledonia*, anal., 391, 395
 Piemontite, *Pakistan*, anal., opt., 537
Pirogues Valley, New Caledonia, chromite, enstatite, 391
 Plagioclase, *Norway*, anal., 513; *New South Wales*, intergrowths of, anal. of domains in, 469; meteoritic, anal., 201
 Plombierite, *Ireland*, 546
 Polytypes, nomenclature of, report of I.M.A.-I.U. Cr. Committee, 2
 Portlandite, *Ireland*, 546
Portsoy, Banffshire, migmatites, petrogenesis of, 292, 295
 Potash contents of magmas, correlation with earthquake depth, implications of, 173
 POWELL (M.) and POWELL (R.), Plagioclase-alkali-feldspar geothermometry revisited, 253; and see POWELL (R.), 257
 POWELL (R.) and POWELL (M.), Geothermometry and oxygen barometry using Fe-Ti oxides: a reappraisal, 257; and see POWELL (M.), 253
 PRESCOTT (B. E.), see NASSAU (K.), 301
 Presidential address, 6
 PRICE (W. F.), HUNTINGDON (A. T.), and BAILEY (D. K.), The effect of crushing on the release of volatile components from heated obsidian, 551
 PRITCHARD (R. G.), see CANN (J. R.), 193
 Progress in mineralogy (50-year summary), 6
 Pyrite, *Western Australia*, Ni content of, 473
 Pyrobelonite, *Wales*, anal., opt., 85
 Pyroxene, coexisting ortho- and clino-, partition of elements between, 111; and see Clinopyroxene, Orthopyroxene
 Pyroxenite, *New Caledonia*, 395
 Pyrrhotine, *Western Australia*, anal., 473
- Qaersut (= Kaersut), Greenland*, kaersutite, titanaugite, sahlite, 297
 Quartz, *Arkansas, Brazil, Pennsylvania*, and synthetic, absorption spectra, irradiation colours, decolorization, 301
- RAADF (G.), ELLIOTT (C. J.), and FEJER (E. E.), New data on ktenasite, 65
Ramberget, Hestmona, Norway, chromite, 351
 RANKIN (A. H.), Fluid inclusion evidence for the formation conditions of apatite from the *Tororo* carbonatites, 155
Reykjanes, Iceland, basalt, smectite, 217
 Rhodochrosite, *Korea*, 519

- Rhum*, comb-layered harrisite, 323
 Richterite, *Assynt, Scotland*, anal., 529 (Syn.), M7; — (fluor-richterite), Mayo Belwa meteorite, anal., X-ray, 531
 RILEY (J. F.), The pentlandite group, 345; and see BAILEY (S. W.), 541
 Rio Grande do Sul, Brazil, quartz, 301
 Rivière des Pirogues, New Caledonia, chromite, olivine, 391
 ROCK (N. M. S.), A new occurrence of fenite from the Loch Borrolan alkaline complex, *Assynt*, 529 (Syn.), M7
 RODGERS (K. A.), Chromite in pyroxenite from the *Massif du Sud, New Caledonia*, 395; — DAVIS (R. J.), CHISOLM (J. E.), and NELSON (C. S.), Motukoreaite, a new mineral from *Auckland, New Zealand*, 389 (Syn.), M21; and see LEACH (T. M.), 394; BEVAN (J. C.), 391
 Rødøya, Hestmona, Norway, chromite, 351
 Romanëchite, Wales, 85
 Rosenhahnite, *New Zealand*, anal., 394
 ROSENZWEIG (A.), see FINNEY (J. J.), 357
 ROY (S. SINHA), Metamorphism in a *Himalayan thrust zone*, 528 (Syn.), M18
 Ruizite, *Arizona*, anal., opt., cryst., X-ray, 429
- Sagar, Madhya Pradesh, India*, basalts, 165
 Sahlite, *Greenland*, anal., 297
 Santa Cruz County, *Arizona*, luethite, chenevixite, cornubite, 27
 Sark, *Channel Isles*, plumbian tennantite, 59
 SASS (E.), see NISSENBAUM (A.), 233
 SAUNDERS (M. J.), see MILNE (J. K.), 404
 Schneeberg, *Saxony*, smolyaninovite, 385
 SCHULTZ (P. K.), anal. by, 346
 SCORDARI (F.), The metavoltine problem: metavoltine from *Madeni Zakh and Chuquicamata*, and a related artificial compound, 371; The crystal structure of ferrinatrinite and its relationship to Maus's salt, 375, with Appendix on H-bonding, M6
 SCOTT (E. R. D.), Geochemical relationships between pallasites and iron meteorites, 265
 SCOTT (P. W.), Titanium in aegirines—A reply, 554
 Serpentine, see Antigorite, Lizardite
 Shabani mine, *Rhodesia*, chrysotile, 453
 SHELLEY (D.), SMALE (D.), and TULLOCH (A.), Boehmite in syenite from *New Zealand*, 398
 Sheridanite, *Central Australia*, anal., opt., cell-size, 337
 SHREVE (P. A.), anal. by, 493
 Siderite (of Daubrée), see Meteorites (iron)
 Siderite (of Haidinger), *Yorkshire*, magnesian, anal., 287 (Syn.), M4
 Sierra Gorda, *Chile*, metavoltine, 371; ferrinatrinite, 375
 Silicate melts, Pt₉Au₅ not a good container for, 555
 Skaergaard, *Greenland*, fluorapatite, 227
 Skye, tholeiite dykes, 273
 Sleat, *Skye*, tholeiite dykes, 273
 SMALE (D.), see SHELLEY (D.), 398
 Smectite, *Gulf of Aden*, anal., 193
 SMITH (L. K.), HAN (K. N.), and LAWSON (F.), On the occurrence of smolyaninovite in the *Mount Cobalt* deposit, *north-west Queensland*, 385
 Smolyaninovite, *Queensland*, anal., opt., X-ray, 385; *Saxony*, 385
 Spessartine, *Pakistan*, anal., 537
 Stanfieldite, occurrence in pallasites, anal., 91
 Stercorite, *Western Australia*, 33
 Stibiconite, *Iran*, 127
 Stokesite, *Cornwall*, anal., opt., cryst., 411
 STONE (I. J.), see CHENHALL (B. E.), M20; PHILLIPS (E. R.), 469
 Stonehaven, *Aberdeenshire*, chloritoid, paragonite, muscovite, 211
 Strangways Range, *Central Australia*, hōgbomite (zincian), sheridanite, 337
 Sultan Basin, *Snohomish County, Washington*, muscovite-3T, 400
 SYMES (R. J.), Datolite and apophyllite from the *Mendips*, 410; and see JAN (M. Q.), 537; CRIDDLE (A. J.), 85
 SYNGE (F. M.), see OPPENHEIM (M. J.), 402
 Syngenite, *Western Australia*, 33
- Taenite, anal., 201
 TAYLOR (D.), see HENDERSON (C. M. B.), 130
 TAYLOR (H. F. W.), The crystal structure of kilaalite, 363
 Tennantite, *Sark*, plumbian, anal., opt., paragenesis, 59
 Tholeiite, *Skye* and *Harris*, high-Ca, low-alkali, anal., classification, distribution, 273
 THOMPSON (R. N.), see MATTEY (D. P.), 273
 Titanaugite, *Greenland*, anal., 297
 Todorokite, *Korea*, 519
 Tourmaline, see Dravite
 Troilite, meteoritic, anal., 201; titanian, meteoritic, 487
 Tugtupite, *Greenland*, cell-size, thermal expansion, 130
 TULLOCH (A.), see SHELLEY (D.), 398
 Tŷ Coch, *Glamorgan*, pyrobelonite, vanadinite, hausmannite, romanëchite, 85
- U-Pb oxides, summary of data on, 51
 Unidentified minerals: phosphates in pallasites, 91; Cu-Zn-Al sulphate, *Norway*, 65; 'unknown A', *Western Australia*, X-ray data, major P, K, Ca, Mg, 33
 Unnamed minerals: (NH₄)₂Ca(HPO₄)₂·2H₂O, 33; and see unidentified minerals
- Værnes, *Norway*, chromite, 351
 Vallée de la Rivière Bleue, *New Caledonia*, chromite, diopside, 391
 Vanadinite, *Wales*, anal., opt., 85
 Vandendriesscheite, X-ray, summary of diagnostic data, 51
 Vaternish, *Skye*, tholeiite dykes, 273
 Vermiculite, *Stirlingshire*, anal., 481
 Villamaninite, *Spain*, X-ray, 545
 Violarite, *Western Australia*, anal., 473
 Visé, *Liège, Belgium*, viséite, 437
 Viséite, *Belgium*, anal., 437
 Volcanic ash, *Antarctica*, leaching of, 217
- Wairere, New Zealand*, rosenhahnite, 394
 WAKEFIELD (S. J.), see ELDERFIELD (H.), 217
 WAN (H.-M.), see BRINDLEY (G. W.), 443
 WARREN (W. P.), see OPPENHEIM (M. J.), 402
 WEAVER (A.), see OPPENHEIM (M. J.), 402
 Websterite (of Brongniart), syn. of aluminite
 Websterite (of Williams), anal., petr., history, 513
 Weddellite, *Western Australia*, 33
 WELLS (M. K.), see BECKINSALE (R. D.), 501
 WESTCOTT (J. E.), see FRENCH (W. J.), 481

- Westerveldite, *Greenland*, anal., opt., X-ray, phase relations, 77
- Wheat Cock Zawn, *Cornwall*, stokesite, 411
- White Elephant pegmatite, *Custer, South Dakota*, mitridatite, M8
- 'Whitlockite' (= merrillite), occurrence in pallasites, anal., 91
- Whitlockite, *Western Australia*, 33
- Willemite, *Greenland*, anal., opt., cryst., twinning, X-ray, 71; *New Jersey*, anal., X-ray, 71
- WILLIAMS (P. T.), see ELDERFIELD (H.), 217
- WILLIAMS (S. A.), Luethite, a new mineral, 27; — and CESBRON (F. P.), Rutile and apatite; useful prospecting guides for porphyry copper deposits, 288; — and DUGGAN (M.), Ruizite, a new mineral from *Christmas, Arizona*, 429
- WILSON (A. F.), A zincian högbomite and some other högbomites from the *Strangways Range, Central Australia*, 337
- WINTER (C. K.), see CANN (J. R.), 193
- Wiry, *Poland*, kerolite, 443
- Wölsendorffite, X-ray, summary of diagnostic data, 51
- WOOD (B. J.), see BALTATZIS (E.), 211
- Woodbine Well, *South Windora, Western Australia*, nickelian clinocllore, 541
- WOODS (P. J. E.), see MILNE (J. K.), 404
- X-ray powder data: boehmite, 399; chenevixite, 30; chromite, 351; claringbullite, 435; dravite, 124; fluorrichterite, 532; fourmarierite, 53; högbomite, zincian, 342; janggunitite, 522; ktenasite, 66; luethite, 29; masuyite, 54; metavoltine, 372; motukoreaite, M22; nickel-blödite, 39; palladseite, M12; perhamite, 438; ruizite, 430; smolyaninovite, 387; vandendriesscheite, 52; villamaninite, 545; westerveldite, 81; willemite, 74; wölsendorffite, 55; unnamed 'mineral A', 33; (K, Na)₈(H₃O)₂Fe₆³⁺(SO₄)₁₂O₂.15H₂O, 372
- YARDLEY (B. W. D.), Petrogenesis of migmatites in the *Huntly-Portsoy area, north-east Scotland* a discussion, 292

BOOK REVIEWS

- ANDERSON (B. W.), *Gemstones for Everyman* (1976), 135
- BATES (D. E. B.) and KIRKALDY (J. F.), *Field Geology in Colour* (1976), 427
- BAUMANN (L.), *Introduction to Ore Deposits* (1976), 140
- BROWN (J. COGGIN) and DEY (A. K.), *The Mineral and Nuclear Fuels of the Indian Subcontinent and Burma: a guide to the study of the coal, oil, natural gas, uranium and thorium resources of the area* (1975), 424
- BUCHWALD (V. F.), *Handbook of Iron Meteorites. Their History, Distribution, Composition and Structure* (1976), 419
- CONDIE (K. C.), *Plate Tectonics and Crustal Evolution* (1976), 421
- COOK (E.), *Man, Energy, Society* (1976), 423
- DÓBRETSOV (N. L.), SÓBOLEV (V. S.), SÓBOLEV (N. V.), and KHLÉSTOV (V. V.), *The Facies of Regional Metamorphism at High Pressures* (1975), 423
- EBERHART (J.-P.), *Méthodes Physiques d'Étude des Minéraux et des Matériaux Solides* (1976), 425
- GONSER (U.), ed., *Mössbauer Spectroscopy* (1975), 134
- HEIMANN (R. B.), *Auflösung von Kristallen: Theorie und technische Anwendung* (1975), 142
- KRISTJANSSON (L.), ed., *Geodynamics of Iceland and the North Atlantic Area* (1974), 134
- MÉLON (J.), BOURGUIGNON (P.), and FRANSOLET (A.-M.), *Les Minéraux de Belgique* (1976), 427
- NEWNHAM (R. E.), *Structure-Property Relations* (1975), 143
- NICOL (A. W.), ed., *Physiochemical methods of mineral analysis* (1975), 140
- NICOLAS (A.) and POIRIER (J. P.), *Crystalline Plasticity and Solid State Flow in Metamorphic Rocks* (1976), 422
- O'DONOGHUE (M.), ed., *The Encyclopedia of Minerals and Gemstones* (1976), 426
- O'KEEFFE (J. A.), *Tektites and their origins* (Developments in Petrology, 4) (1976), 142
- RAGUIN (E.), *Géologie du granite* (1976), 136
- RIDGE (J. D.), *Annotated bibliographies of mineral deposits in Africa, Asia (exclusive of the U.S.S.R.) and Australia* (1976), 141
- RINGWOOD (A. E.), *Composition and Petrology of the Earth's Mantle* (1975), 138
- RITTMAN (A.) and RITTMAN (L.), *Volcanoes* (1976), 423
- ROEDDER (E.), ed., *Fluid Inclusion Research. Proceedings of C.O.F.F.I., vol. 6* (1973), (1976), 143
- SMITH (D. G. W.), *Short Course in Microbeam Techniques* (1976), 424
- STANTON (R. E.), *Analytical Methods for use in Geochemical Exploration* (1976), 421
- STRENS (R. G. J.), *The Physics and Chemistry of Minerals and Rocks* (1976), 136
- TANK (R. W.), ed., *Focus on Environmental Geology: a collection of case histories and readings from original sources* (2nd edn.) (1976), 144
- WENK (H.-R.), CHAMPNESS (P. E.), CHRISTIE (J. M.), COWLEY (J. M.), HEUER (A. H.), THOMAS (G.), and TIGHE (N. J.), eds., *Electron Microscopy in Mineralogy* (1976), 139
- WINDLEY (B. F.), ed., *The Early History of the Earth* (1976), 427
- WOOD (B. J.) and FRASER (D. G.), *Elementary Thermodynamics for Geologists* (1976), 428
- WYLLIE (P. J.), *The way the Earth works: An introduction to the new Global Geology and its revolutionary development* (1976), 137