Mineralogical Chemistry.

Melting Points of Minerals and Rocks. CORNELIUS DOELTER (*Tsch. Min. Mitth.*, 1902, **21**, 23—30. Compare Abstr., 1898, ii, 383).—The values previously obtained by the same author (*ibid.*, 1901, **20**, 210—232) in a gas-furnace are too low; the following new determinations were made in an electric furnace:

Melanite	920°	Oligoclase	1120°
Ægirite	925	Labradorite	1125
Lepidolite	930	Biotite	1130
Gastaldite	1025	Anorthite	1132
Hornblende (containing much iron)	1065	Sanidine	1130
		Microcline	1155
Elæolite	1080	Meionite	1155
Augite (from Sasbach)	1085	Orthoclase	1175
Hornblende (containing little iron)	1085	Magnetite	1185
		Hypersthene	1185
Zoisite	1090	Muscovite	1230
Epidote	1090	Actinolite	1230
Garnet (from Traversella)	1090	Wollastonite	1220
Augite (from Arendal)	1095	Meroxene	1235
Nepheline	1095	Pleonaste	1240
Diallage	1095	Leucite	1300
Grossular	1110	Olivine	1350
Albite	1110	Bronzite	1400

	Softens.	Fluid.
Granite from Predazzo	1160°	—
Monzonite from Predazzo	1125	1190°
Lava from Vesuvius	1060	1090
Lava from Etna	970	1040
Basalt from Remagen	1020	1075
Limburgite from Kaiserstuhl	1000	1060
Phonolite from Brüx	1060	1090
Nepheline-syenite from St. Vincent	1060	1100

L. J. S.

Microchemical Reactions of Certain Minerals. JOHANN LEMBERG (*Zeit. Kryst. Min.*, 1902, **36**, 657—658; from *Zeit. Deutsch. geol. Ges.*, 1900, **52**, 488—496. Compare Abstr., 1896, ii, 430).—Details are given of the action of aqueous solutions of various reagents, such as potassium cyanide, potassium hydroxide, sodium sulphide, ammonia, sodium carbonate, lead nitrate, &c., on various minerals; the differences in the observed reactions are often useful for purposes of discriminating between certain minerals. L. J. S.

Libollite. JACINTO PEDRO GOMES (*Jahrb. Min.*, 1902, ii, Ref. 234; from *Comm. Direc. Serviços Geol. Portugal*, 1901, **4**, 206—207. Compare Abstr., 1900, ii, 86).—A description is given of new material from Cambulo (Cambambe), prov. Angola, Portuguese West Africa, which occurs as veins in schistose greywacke conglomerate.

It is pointed out by the abstractor, V. de SOUZA-BRANDÃO, that the composition, $C_{23}H_{28}O_2$, of libollite is very nearly the same as that of muckite, and that the new name, libollite, thus appears to be superfluous. L. J. S.

Calcite from the Crimea. PETR A. ZEMJATSCHENSKY (*Zeit. Kryst. Min.*, 1902, **36**, 598—605).—A detailed description is given of the mode of occurrence and the characters of scalenohedral and prismatic crystals of calcite from veins and cavities in argillaceous limestone on Mount Čelebi-jaurn-beli, near Baidar. The following analysis by Kaschinskij shows the material to be almost as pure as Iceland-spar:

CaO.	FeO.	MgO.	CO_2.
55·860	0·405	trace	43·78

A less perfectly transparent sample contained: SiO_2, 0·158; MgO, 0·238; FeO, 0·873 per cent. L. J. S.

Pelagosite. S. SQUINABOL and G. ONGARO (*Jahrb. Min.*, 1902, ii, Ref. 189; from *Rivista Min. Ital.*, 1901, **26**, 44).—Analysis of black pelagosite from the island of Tremiti gave:

$CaCO_3$.	$MgCO_3$.	$CaSO_4$.	Fe_2O_3.	Al_2O_3.	Soluble SiO_2.
87·794	1·628	2·454	0·794	0·476	0·107

Insoluble SiO_2.	KCl.	NaCl.	Organic matter.	H_2O.	Total.
0·556	0·317	2·185	2·011	1·197	99·519

Sp. gr. 2·835; H. 4. The material has a vitreous lustre and varies in colour from light grey to black; it has a radially fibrous structure. It occurs as an incrustation on calcite, and is being deposited at the present time from sea-water.

G. DE GÖTZEN (*ibid.*, **26**, 35) finds that pelagosite is optically uniaxial and negative, and he considers it to be a hard variety of calcite. L. J. S.

Magnesite in Greece CONSTANTIN ZENGELIS (*Berg-Huettenm. Zeit.*, 1902, **61**, 453—454).—Although magnesite is a mineral of fairly wide distribution, it is not often found sufficiently pure for use as a refractory material for furnace linings, &c. The best is from Eubœa in Greece; this averages 95 per cent. of magnesium carbonate, and sometimes contains more than 99 per cent. It occurs as veins in chalk and serpentine and is often associated with opal and chromite. The following analyses give the composition of material from different localities:

	SiO_2.	CaO.	MgO.	CO_2.	Al_2O_3.	Fe_2O_3,FeO.	$MgCO_3$.
Mantudi, Eubœa...	0·38	1·68	46·09	51·51	0·15	0·08	96·32
,, ,, ...	1·63	1·44	45·75	49·88	0 17	1·19	95·61
Thebes	1·05	0·91	46·61	51·72	trace	—	97·41
Scenteraga, Lokris	0·29	1·95	45·86	51·56	0·19		95·84
Corinth—Megara .	0·57	0·40	47·06	51·55	0·11	—	98·35
Papades, Eubœa . .	2·68	2·23	43·45	48·72	3·02		90·81

L. J. S.

Anthophyllite from Saint-Germain-l'Herm. GEORGES FRIEDEL (*Bull. Soc. franç. Min.*, 1902, **25**, 102—110).—A vein of a greenish, nodular rock penetrates the granite at Saint-Germain-l'Herm. The nodules consist mainly of antigorite with crystals of anthophyllite and scales of talc; they are surrounded by a zone of yellowish, silky fibres of anthophyllite, the fibres being arranged perpendicularly to the surface of the nodules, and are sometimes several centimetres in length. Intermixed with the fibres are sometimes opal, talc, and carbonates of calcium, magnesium and iron, whilst the yellowish colour is due to the presence of oxide of iron; pure material is snow-white or slightly greenish. The mean of three analyses of pure material dried at 100° is:

SiO_2.	FeO.	MgO.	CaO.	Al_2O_3.	H_2O.	Total.	Sp. gr.
58·38	8·37	28·82	0·61	0·10	3·43	99·71	3·034

Of the water, 0·68 per cent. is given off at a dull red heat, but the mineral still retains its optical characters; this is therefore called *zeolitic water*. The remainder of the water is expelled at a higher temperature with the complete decomposition of the mineral. Only when the water is included with the bases does the above analysis approximate to the accepted formula, $R''O,SiO_2$, of anthophyllite.

Crystals of anthophyllite do not break with plane cleavage surfaces, but with a curved surface parallel to the length of the prism. *Cylindrical cleavages* of the same character are possessed by gypsum parallel to the zone-axis [101], and less perfectly parallel to [001].

L. J. S.

[Magnetite, Serpentine and Amphibole from the Southern Urals.] FRANZ LOEWINSON-LESSING (*Zeit. Kryst. Min.*, 1902, **36**, 653—654; from *Trav. Soc. Naturalistes, St. Pétersbourg, Sect. Géol. Minéral.*, 1900, **30**, 169—256).—Descriptions of several minerals, with

chemical analyses of the following, are given in a geological account of the Jushno-Saosersk estate and of Mount Deneshkin Kamen in the Southern Urals. I, Magnetite, enclosing some pleonaste and orthorhombic pyroxene, occurring as veins in banded gabbro along the Bystraja. II, Serpentine, of a rich green colour and translucent at the edges, from the Jelowki. III, Amphibole (pargasite), of a brown colour, in granulite from the Salaja: this analysis corresponds with the formula $2R'_2R'''Si_2O_6 + 3R''R'''_2SiO_6 + 9R''SiO_3$.

	SiO_2.	Al_2O_3.	Fe_2O_3.	FeO.	MnO.	CaO.	MgO.	Na_2O.	K_2O.	H_2O.	Total.
I.	4·26	13·11	49·94	30·86	—	—	3·23	—	—	—	99·40
II.	35·98	3·91	3·76	1·27	—	—	36·83	1·12	0·29	14·77	97·93
III.	43·19	17·77	3·22	9·78	trace	10·04	11·57	3·12	trace	1·05	99·74

L. J. S.

Enclosures of Garnet-Idocrase Rock in the Serpentine of Paringu [Southern Carpathians]. G. MUNTEANU-MURGOCI (*Zeit. Kryst. Min.*, 1902, **36**, 649—653; from *Inaug.-Diss. München*, 1901; *Bull. Soc. Sci. Bukarest*, 1900—1901, **9**, 568—612, 764—831).—The serpentine, an alteration product of an olivine-pyroxene-rock (lherzolite), encloses masses of a granular garnet-idocrase rock, which is an endomorphic contact product of gabbro: there are also silicate-hornfels at the contact of the eruptive rock with limestone. The following mineral analyses are given in a petrographical description of these rocks; I, diallage from the serpentine; I*a*, I*b*, diallage from the garnet-idocrase rock. II, Antigorite from the serpentine. III*a*, III*b*, *Lotrite*, a new mineral occurring as greenish veins and patches in clinozoisite-hornfels at the serpentine contact in the Lotru valley. The characters as determined under the microscope are given: the mineral is very similar to prehnite, but differs from this in the higher refraction ($n = 1·67$) and lower double refraction ($\gamma - \alpha = 0·014$). The composition is very close to that of chlorastolite, and corresponds with the formula $4SiO_2,Al_2O_3,3(Ca,Mg)O,2H_2O$. IV, Grossular; VI, idocrase; and VII, VII*a*, clinochlore, from the garnet-idocrase rock. V, Hessonite; and VI*a*, idocrase, as crystals on the walls of crevices:

	SiO_2.	TiO_2.	Al_2O_3.	Fe_2O_3.	FeO.	MnO.	CaO.	MgO.	Loss on ignition.	Total.	Sp. gr.
I.	48·15	0·31	2·91	5·84		0·68	19·89	20·28	2·79	100·85	3·28
I*a*.	48·47	0·32	3·06	5·14	3·18	0·30	20·15	17·70	2·48	100·80	3·31
I*b*.†	47·84	0·31	4·26	3·52	5·98	0·25	22·17	12·33	3·59	100·25	3·232
II.	37·8	—	1·5	4·8	1·7	—	—	38·7	14·8	99·3	2·52
III*a*.	38·02	—	30·90*	—	0·33	—	23·56	2·80	6·24	101·85	3·23
III*b*.‡	39·44	—	28·33*	—	—	—	22·21	3·20	6·58	100·69	3·229
IV.†	33·38	0·40	22·27	2·06	0·54	0·23	32·88	3·07	1·08	100·91	3·48
V.	38·89	trace	13·57	9·78	1·01	0·22	36·34	0·52	0·65	100·98	—
VI.	36·71	0·42	15·60	4·79	1·28	0·28	34·29	3·90	2·88	100·15	3·36
VI*a*.	37·48	0·26	15·72	5·89	1·30	0·68	32·19	[3·77]	2·71	100·00	—
VII.	30·29	—	16·49	6·20	5·14	trace	trace	28·65	12·70	99·47	—
VII*a*.	31·99	—	17·11	2·71	1·54	0·84	—	32·91	12·94	100·04	—

* Including a little Fe_2O_3. † Also traces of alkalis. ‡ Also Na_2O, 0·93.

L. J. S.

Clays and Loams near Nürnberg. H. Kaul (*Jahrb. Min.*, 1902, ii, Ref. 223; from *Inaug.-Diss. Erlangen*, 1900, 125 pp.).—An account is given of the clays and loams, used for technical purposes, which occur in the neighbourhood of Nürnberg; 20 analyses are given, and the refractory qualities of the materials were determined.

L. J. S.

Clays of Alsace. J. A. Korner (*Jahrb. Min.*, 1902, ii, Ref. 222; from *Inaug.-Diss. Erlangen*, 1900, 52 pp.).—Several of the clays used in Alsace for technical purposes were submitted to microscopical examination and chemical analysis; 14 analyses are given and the analytical methods discussed. L. J. S.