179. FAYALITE.—Fayalit; Hausmann, Haidinger.

Prismatic.

Cleavage in two directions, making right angles with each other. Fracture imperfect conchoidal...uneven. Opaque. Lustre imperfect metallic, approaching to resinous on surface of fracture. Iron-black, inclining to green or brown. Sometimes having a pinchbeck-brown, brass-yellow or iridiscent tarnish. H = 6·5. G = 4·11...4·14. Magnetic.

Before the blowpipe melts easily into a black, brittle, magnetic globule. Imparts the colour of iron to glass of borax.

$\dot{Fe}^2\ddot{S}i$, silica 29·96, protoxide of iron 60·04.

Analyses of fayalite from Slavcarrach *a* by Thomson, from Fayal *b* by C. G. Gmelin, from Fayal *c* by v. Fellenberg:—

	a	*b*	*c*
Silica	29·60	24·93	31·04
Protoxide of iron	68·73	65·84	62·57
Protoxide of manganese	1·78	2·94	0·79
Alumina	—	1·84	3·26
Lime	—	—	0·43
Oxide of copper	—	0·60	0·32
Sulphide of iron (Ḟe)	—	2·77	—
Oxide of lead	—	—	1·71

b, *c* are mechanical mixtures of $\dot{Fe}^2\ddot{S}i$, which can be decomposed by hydrochloric acid, and a very variable quantity of a compound incapable of being decomposed by hydrochloric acid.

Is found in large nodules and angular pieces on the seashore in Fayal, and on Slavcarrach, one of the Morne mountains, in Ireland.

Crystals having the composition of fayalite, and very nearly the form of olivine, are frequently found in refinery cinder, and in the slags of copper furnaces.

011,010 = 38° 32′; 101,001 = 49° 11′; 110,100 = 47° 20′.

a 100, *b* 010, *c* 001, *d* 011, *h* 102, *k* 101, *n* 120, *u* 340, *s* 110, *r* 320, *v* 520, *e* 122, *f* 111, *l* 322.

db	38°	32′	*ra*	35°	52′
cb	90	0	*sa*	47	20
ka	40	49	*ua*	55	20
ha	59	56	*na*	65	12
ca	90	0	*ba*	90	0
kk′	98	22	*la*	42	45
hh′	60	8	*fa*	54	12
va	23	27	*ea*	70	10

FIG. 332.