SYSTEM

OF

MINERALOGY,

COMPREHENDING

ORYCTOGNOSY,
GEOGNOSY,
MINERALOGICAL CHEMISTRY,
MINERALOGICAL GEOGRAPHY, AND
ECONOMICAL MINERALOGY.

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1805.

Chemical Characters.

Melts very eaſily into a black enamel before the blow-pipe.

Conſtituent Parts.

Phoſphoric acid,	0.27
Oxide of iron,	0.31
Oxide of manganeſe,	0.42

Geographic Situation.

Is found at Limoges in France.

Chromate of Iron.

This has been deſcribed as a new ſpecies of iron-ore by *Hauy* and *Brochant*. Its external characters are however ſo nearly allied to thoſe of Magnetic Ironſtone, that we may probably conſider it but as a ſubſpecies, or kind of that ſpecies.

Gadolinite.

Gadolinit.—*Werner.*

Id. Chem. Annal. 1796. — *Id. Hauy*, t. 3. f. 141. — *Id. Brocb.* t. 2. p. 512.

External Characters.

Colour velvet-black, which ſometimes paſſes into browniſh-black.

Occurs maſſive.

It is ſhining, and its luſtre is vitreous.

Fracture conchoidal.

Is hard, ſcratches quartz ſlightly.

Opaque.

Brittle.

Brittle.
Eaſily frangible.
Heavy.
Specific gravity, 4.0497, *Hauy.*
It attracts the magnetic needle.

Chemical Characters.

When pulverized and heated with diluted nitric acid, it is converted into a yellowiſh-grey thick jelly. Before the blowpipe, it decrepitates, aſſumes a reddiſh-white colour, and remains unfuſed if the fragments are not very minute: with borax it is converted into a yellow-coloured glaſs. A new earth, to which the name of *Yttria* has been given, has been diſcovered in it.

Conſtituent Parts.

Eckeberg.		*Vauquelin.*	
Yttria,	47.5	Yttria,	35
Silica,	25.0	Silica,	25.5
Iron,	18.0	Iron,	25.0
Alumina,	4.5	Oxide of manganeſe,	2.0
Loſs,	5	Lime,	2
	100	Water and carbon,	10.5
			100

Geographic Situation.

It has been hitherto found only at Ytterby in Sweden.

Obſervation.

1, It was firſt diſcovered by Dr *Gadolin*, hence the

the name *Gadolinite:* the name *Yttria* is derived from Ytterby, where this mineral is found.

2. *Werner* places it in his Syſtem between Pitchy Iron-ore, and Green Iron-earth.

Copper Sand, or Muriat of Copper.

Salzkupfererz.—*Werner.*

Sable vert du Perou, *Mém. de l'Acad. des Scienc. an* 1786, p. 465. —Cuivre mineraliſé par l'Acide marin ſous form de Sable vert, *Sciagr.* t. 2. p. 135.—Copper mineralized by the Muriatic Acid, Green Sand of Peru, *Kirw.* vol. ii. p. 149.—Cuivre muriaté, *Hauy*, t. 3. p. 560.—*Id. Broch.* t. 2. p. 545.—Kupfer Sand, *Reuſs*, 3. b. f. 486.

External Characters.

Colour ſometimes intermediate between leek and emerald green, ſometimes between emerald and olive-green.

Occurs maſſive, diſſeminated; and cryſtallized in the following figures:

1. Thin ſix-ſided priſm, with four broader and two ſmaller lateral planes, bevelled on the extremities, and the bevelling planes ſet on the ſmaller lateral planes.
2. Rather oblique four-ſided priſm, perfect or bevelled in the extremities, and the bevelling planes ſet on the obtuſe lateral edges; and ſometimes theſe obtuſe edges are at the ſame time truncated.

The cryſtals are ſmall and very ſmall, and often interſect one another in ſuch a manner that it is difficult to aſcertain their true figure.

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