ELEMENTS

OF

MINERALOGY.

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MDCC XCIV.

15th Species.

Aſbeſtoid.

Of this I diſtinguiſh two Families.

1ſt Family.

Common Aſbeſtoid. Gemeiner Strahlſtein of Werner. Leſke O. 1191-2-3-5-7-8, and 1200, and S. 373.

Colour, olive or leek green, when decompoſing reddiſh brown.

Amorphous.

Luſtre, common 2, when glaſſy 3, when decompoſing 0. Tranſparency 0.1.

Fracture, ſometimes foliated, ſometimes broad-ſtriated, the ſtriæ diverging from one or more central points.

The foliated may even be conſidered as tending to, or departing from, a common center.

Hardneſs from 6 to 7. Sp. gr. from 3 to 3,31.

At 160° it melted into an opake, black compact glaſs.

This ſeems to be the ſtone analyzed by Mr. Weigleb, and in which he found 43 per ct. filex, 22 magneſia, and 34 of iron, and ſome traces of the ſparry acid. 1 Chy. An. 1785, 21.

2d Family.

2d Family.

Metalliform Aſbeſtoid. Aſbeſtartiger Strahlſtein of Werner, in part. Leſke, O. 1187.

Colour, grey, or inclining to the reddiſh grey.

Amorphous.

Luſtre, ſemimetallic 3. Tranſparency 0.

Fracture, foliated, or what ſome would call broad-ſtriated; often ſeemingly converging to a common center.

Hardneſs from 8 to 9. Sp. gr. 3,356.

At 152° melts into a compact black glaſs.

16th Species.

Lamellar Actynolite. Aſbeſtartiger Strahlſtein of Werner. Leſke, O. 1189.

Colour, dark yellowiſh, or greeniſh grey.

Amorphous.

Luſtre, in ſome poſitions feeble, in others 3 and glaſſy. Tranſparency, 0, or ſcarcely 1.

Fracture, the ſhattered foliated, the edges of the broken lamellæ give, however, a ſtriated appearance.

Hardneſs 7, brittle. Sp. gr. 2,916.

By a red heat it becomes in ſome places whiter, in others redder, and upon the whole harder. At 168° it melts into a dark green compact glaſs.

It has a ſtrong reſemblance to hornblende.

17th Species.

Shorlaceous Actynolite. Gemeiner Strahlſtein of Werner, in part. Leſke, O. 1194, 1196, 1201.

Colour, leek or dark green. External luſtre, 3,4. glaſſy Internal 1,2. Tranſparency 2,3,1.

Cryſtallized generally in long, ſlender, quadrangular, hexangular, or (apparently) triangular, priſms, with perfectly ſmooth ſurfaces, or rather pyramids, being thicker at one end than at the other, and hence called *ſtrahl*, or *arrow ſtones*. Sometimes a ſmall pyramid adheres longitudinally, and, as it were, grows out of a larger; ſometimes many adhere together. In Siberia, it is ſaid, ſome are found 5 feet long, and 15 inches thick. 1 Chy. Ann. 1785, 265.

Fracture, hackly.

Hardneſs from 7 to 10. Sp. gr. from 3,023 to 3,45.

The ſpecimen, Leſke, O. 1196. whoſe ſp. gr. was 3,023 melted at 154° into a dark green compact glaſs.

18th Species.

Glaſſy Actinolyte. Glaſſartiger Strahlſtein of Werner.

Colour, leek green, or (from decompoſition) verging to the greeniſh white, or ſilvery white, or ſtained with yellowiſh, or browniſh red.

External luſtre, 3,4. ſometimes glaſſy, ſometimes ſilky. Internal 0. Tranſparency 2.

Cryſtallized

Cryſtallized in ſlender compreſſed quadrangular or hexangular pyramids, or fibres, cloſely and longitudinally adhering to each other, ſtreight or incurvated, or conſiſting of fibres undulatingly incurvated, and adhering in the ſame manner.

The face of the fracture of ſingle pyramids cannot be diſcerned, that of the collection is hackled; but the longitudinal fracture is fibrous, the fibres ſometimes parallel, ſometimes diverging, and often from many central points.

Fragments, long ſplintery, and exceeding ſharp, ſo as to be difficultly handled without injury.

Hardneſs, difficult to eſtimate, on account of their brittleneſs. Sp. gr. of ſome ſpecimens that had a glaſſy luſtre, I found to be 2,950, of the ſpecimen 1205 Leſke, O. which has a ſilky luſtre, 3,493.

The laſt mentioned ſpecimen melted at 149° into a compact dark green, almoſt black glaſs.

But the ſpecimens that were cryſtallized in needles, of great ſubtlety, but whoſe planes and angles were ſtill diſcernible as thoſe in Leſke, O. 1203, 1204, melted at 137° into a grey, ſomewhat porous maſs, and at 159° into a yellowiſh grey compact porcelain, with an enamelled ſurface, and began to act on the crucible.

The ſubſtance, called by Mr. Bergman, the *fibrous ſhorl of Grænge*, ſeems to be of the ſort of which we here treat. It is, he tells us, of a green, bordering on white, and conſiſts of ſlender parallel tranſparent fibres, brittle as glaſs; and melts into a ſcoriform maſs. In this he found 72 per ct. of ſilex, 12,7 of aërated magneſia, 6 of aërated

aërated calx, 2 argill, and 7,3 of calx of iron. 4 Bergm. 171.

The *fibrous ſhorl* (as he calls it) of Zillerthal, in Tyrol, ſeems alſo of this ſpecies; it contains by his analyſis 64 per ct. ſilex, 20 aërated magneſia, 9,3 aërated calx, 2,7 argill, and 4 calx of iron. *Ibid.* 172.

We may alſo vindicate to this ſpecies the ſtone called by Mr. Sauſſure *ſhorl en filets brillants et fragiles*, ſo ſharp as ſcarcely to be handled with impunity. In it he found 0,5525 ſilex, 0,3018 argill, 0,1087 unaërated magneſia, 0,0484 unaërated calx, and 0,0148 of iron. 2 Sauſſ. 470. Here not only the large proportion of argill is remarkable, Mr. Bergman having ſcarcely found any, but that magneſia and calx ſhould be *unaërated*, whereas Bergman in all the ſtones of this Genus found them *aërated* *.

The great ſp. gravity of theſe ſtones, conſidering the moderate proportion of iron, found in them, alſo deſerves attention. May not the new earth, called ſtronthian, be found in them? and may it not have been miſtaken for calx?

* Of the ſix foregoing ſpecies I have given the deſcriptions from my own obſervations; they are all comprehended by Mr. Werner, under the name of *ſtrahlſtein*, and of them he makes three diviſions, the aſbeſtine, common, and glaſſy: The arrangement I have followed ſeems to me more exact, though not out of the reach of cavil.