berg in Norway. When the ſilver is combined with ſulphurated lead and antimony, the ore is called str*iρerz.*

12. The *marcaſite* containing ſilver has the metal uni­ted with ſulphurated iron. There are great varieties of this ore holding different proportions of the metal ; ſome produce only half an ounce of ſilver per cent. A liver-coloured marcaſite is found at Kunſherg in Nor­way, containing from three to three ounces and a half of ſilver per cent.

13. Silver is found mineralized with ſulphurated and arſenical cobalt ; the ſtone ſometimes containing *den drites.* Theſe kinds keep well in water, but generally decay in the air, and loſe the ſilver they contain. It is found at Morgenſtern near Freyberg and Annaberg.

14. The *butter milk ore* contains ſilver mineralized by sulphur, with regulus of antimony and barytes. It is found in the form of thin particles or granular ſpar. Wallerius ſays that it is ſoft like mud, and feels like butter. He ſuspects it to be produced from other ſilver ores waſhed away by running waters. Bomare adds, that the miners look upon it as a certain ſign of other ores in the neighbourhood, though ſome are perſuaded that it is only an unripened ſilver ore, which would ſoon become perfect.

15. The *combustible* ſilver ore is a black brittle ſubſtance, leaving about six per cent. of ſilver in its aſhes. It is in fact a perfect coal in which ſilver is found.

16. The *hornertz,* or horn ſilver ore, in which the ſil­ver is united with the muriatic acid, is the ſcarceſt of all the ſilver ores. It is ſometimes found in ſnowy cu­bical cryſtals, but is met with of many different colours. Its principal characteriſtic is to change to a violaceous browniſh colour when expoſed to the sunbeams, as hap­pens alſo to the artificial luna cornea. It is frequently cryſtallized in a cubic form, though not always of a white colour. Sometimes it reſembles an earth eaſily fuſible without fmoke. There is a black kind, friable, and eaſily reducible to powder ; the other is in ſome degree malleable, may be cut with a knife, and takes a fort of poliſh when rubbed. The vitreous ſilver ore, which is ſometimes mixed with the horn ſilver, is ſoluble in nitrous acid ; and this affords a method of ſeparating them, the horn ſilver ore being inſoluble in that menſtruum. When the horn ſilver is free from iron, it generally contains 70 per cent. of ſilver at leaſt ; but theſe ores moſtly contain ſome portion of iron, a ſmall part of which is even united to the marine acid. This kind of ore was firſt analyſed by Mr Woulfe, who diſcovered the preſence of the vitriolic acid in it.

17. Another kind of horn ſilver ore is mentioned by Mr Bergman, in which the metal is mineralized by the vitriolic and marine acids, along with ſome sulphur. He doubts, however, whether the mineralization he perfect in this caſe, as the ſalt and sulphur do not admit of any other than a mechanical union. But ſince iron is often found in theſe ores, a marcaſite may thus be ſometimes formed.

18. The *ſilver gooſe dung ore* is of a greeniſh colour, with a mixture of yellow and red. Some think it is a mixture of red ſilver ore and calx of nickel.

19. The f*oliaceous* ſilver ore. The colour of this ore is *mortdore.* Some imagine it to be a native ſilver ore ; others that it is a mixture of galena, ochre, and ſilver. it is ſometimes found in the mountain cork, and is ſo

light that it will ſwim upon water. It contains but one ounce of ſilver per quintal.

Theſe are all the varieties hitherto obſerved in which ſilver is met with in the earth, though it may perhaps occur in various other forms. It would be worth while to examinewhether, in thoſe countries where gold and ſil­ver are found in large quantities, the precious metals may not be contained in ſome proportion in the moſt common ores, more eſpecially when the particles of gold and ſilver have not been able to extricate themſelves in ſuch a manner as to lie ſeparate in fiſſures, veins, or hollow places of the mine. A mineralization of ſilver with al­kali is ſaid to have been lately met with at Annaberg in Auſtria ; but the account of it as yet can ſcarcely be depended upon. Profeſſor Brunnich ſays, that the ſil­ver contained in the limeſtone at that place appears to be native when the ſtone is poliſhed.

The pureſt ſilver is that which is extracted from lu­na cornea, and is the only kind that ought to be truſted in the nice operations of chemiſtry. The proceſs, however, is very tedious, and preſents a very unexpect­ed phenomenon, as this metal, though one of the moſt fixed, is nevertheleſs volatilized in the operation in ſuch a manner that it exhales through the pores of the cru­cible ; and ſmall globules of ſilver are afterwards found in the cover, and even in the ſupport of the crucible. According to Cramer, this loss may be prevented by ſmearing the crucible with black ſoap, and mixing with the luna cornea half its weight of oil or tallow, which laſt muſt alſo be added by little and little during the operation.

M. Magellan takes notice of a remarkable appearance obſervable in diſſolving ſilver in the nitrous acid. He obſerves, that this acid is its ſpecific menſtruum, at­tacking it even when cold with conſiderable eſſerveſcence, growing hot, and emitting a conſiderable quantity of orange-coloured fumes, which diminiſh in proportion as the ſaturation advances. The metal appears of a pale brown colour in the conflict, and the ſolution becomes quite black. This laſt appearance, however, is owing to a thin, black, fuliginous ſubſtance, like ſmut, which is at once formed into a cruſt on the ſurface of the thin plates of ſilver in the firſt attack of the acid upon them. This is a very singular phenomenon, and hither­to unaccounted for, theſe black crusts being commi­nuted into ſmaller and ſmaller particles by the action of the acid ; and, when the efferveſcence is over, they are seen diſtinctly to fall to the bottom of the vesſel, and to form a black ſediment, leaving the liquid ſolution quite transparent, but of a blue colour inclining to green.— This colour might be attributed to ſome ſmall mixture of copper, though the ſilver uſed in the experiment was oſ the purer kind. The chemiſts of Dijon say, that the nitrous ſolution of ſilver looks of a fine blue colour, if the acid be pure and well concentrated ; but if it has any mixture of vitriolic or marine, a precipitation of vitriolated ſilver or luna cornea takes place. Afterwards the ſolution becomes as colourlels as water, but gives a laſting black tinge to animal ſubſtances. This ſolution is of great uſe in chemiſtry, ſerving to form the lunar cauſtic, to purify the common aquafortis from a mixture of the vitriolic and marine acids, and is a very nice teſt of the exiſtence of theſe acids in mineral waters.

Silver does not combine with earths, even by the most violent heat, though Mr Fourcroy ſuppoſes that its calx