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The young man's book of amusement

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Method of Colouring Alum Crystals

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effect its congelation ; the heat required for the conversion of one portion of the water into vapour, being taken from the other portion, which is thus reduced to ice. The instrument invented by Dr. Wollaston, and called by him the cryophorus, acts upon a similar principle. It consists of a glass tube with a bulb at each extremity. One of the bulbs is about half filled with water, and a good vacuum is produced in the other by boiling the water, and sealing the tube whilst full of steam. On immersing the empty bulb in a freezing mixture, the water soon congeals in the other, although the intervening tube be two or three feet long. The vapour in the empty bulb is condensed by the cold, and a fresh quantity of vapour arises successively from the water in the other, by which so much heat is carried off as to cause it to congeal.

Method of Colouring Alum Crystals.

In making these crystals, the colouring should be added to the solution of alum in proportion to the shade which it is desired to produce. Coke, with a piece of lead attached to it, in order to make it sink in the solution, is the best substance for a nucleus ; or, if a smooth surface be used, it will be necessary to wind it round with cotton or worsted, otherwise no crystals will adhere to it. *Yellow.*—Muriate of iron. *Blue.*—Solution of indigo in sulphuric acid. *Pale-blue.*—Equal parts of alum and blue vitriol. *Crimson.*—Infusion of madder and cochineal. *Black*

Japan ink thick
parts of alum and
oxide of iron.
Add over a glass e
which precipitates

Valua

Pour half an ounce
into an ale-glass, &
mix with charcoal : e
in a warm plac
covered over with
cut with a forecep
the shew.

Put two or three s
into a crucible, cont
a silver, red hot; vi
will take place. The
red with silver wi
also for show.

Easy Meth

Prepare a diluted

—Japan ink thickened with gum. *Green*.—Equal parts of alum and blue vitriol, with a few drops of muriate of iron. *Milk-white*.—A crystal of alum held over a glass containing ammonia, the vapour of which precipitates the alumina on its surface.

Valuable Transformation.

Pour half an ounce of diluted nitro-muriate of gold into an ale-glass, and immerse in it a piece of very smooth charcoal: expose the glass to the rays of the sun, in a warm place. The charcoal will very soon be covered over with a beautiful golden coat. Take it out with a foreceps, dry it, and enclose it in a glass for shew.

Another.

Put two or three small crystals of nitrate of silver into a crucible, containing the charcoal you intend to silver, red hot; violent detonation and combustion will take place. The charcoal will be beautifully covered with silver when taken out. Enclose it in a glass for show.

Easy Method of Silvering Ivory.

Prepare a diluted solution of nitrate of silver, in