

Badische Landesbibliothek Karlsruhe

Digitale Sammlung der Badischen Landesbibliothek Karlsruhe

The young man's book of amusement

Halifax, 1848

The three Haloes

[urn:nbn:de:bsz:31-100120](https://nbn-resolving.org/urn:nbn:de:bsz:31-100120)

Two Cold Liquids produce Fire.

Put a small quantity of aquafortis into a saucer ; add a few drops of oil of turpentine, oil of carraways, or any other essential oil, and a flame will instantly be produced.

The three Haloes.

The following experiment, which illustrates in a pleasing manner the actual formation of haloes, has been given by Dr. Brewster :—" Take a saturated solution of alum, and having spread a few drops of it over a plate of glass, it will rapidly crystallize in small flat octohedrons, scarcely visible to the eye. When this plate is held between the observer and the sun, or a candle, with the eye very close to the smooth side of the glass plate, there will be seen three beautiful haloes of light, at different distances from the luminous body. The innermost haloe, which is the whitest, is formed by the images refracted by a pair of faces of the octohedral crystals, not much inclined to each other ; the second haloe, which is more coloured, with the blue rays outwards, is formed by a pair of faces more inclined ; and the third haloe, which is very large and high coloured, is formed by a still more inclined pair of faces. Each separate crystal forms three images of the luminous

body, placed at points 120 degrees distant from each other, in all the three haloes; and as the numerous small crystals have their refracting faces turned in every possible direction, the whole circumference of the haloes will be completely filled up. The same effects may be obtained with other crystals; and when they have the property of double refraction, each haloe will be either doubled, when the double refraction is considerable, or rendered broader, and otherwise modified in point of colour, when the double refraction is small. The effects may be curiously varied, by crystallizing upon the same plate of glass, crystals of a decided colour, by which means we should have white and coloured haloes succeeding each other.

Application of the Moire Metallique to Tin-Foil.

All leaves of beaten tin are susceptible of crystallizing, because the hammer has only broken, more or less, the tin crystals; and, without any other preparation, they give a larger or smaller grain. It is not the same with laminated tin: the crystals are so exceedingly broken, that on being taken out of the acid-bath, the leaves of tin shew only an oxidized surface, proving that the porosity is not the same as that of beaten leaves. The means employed for moiring tin-plates becomes impracticable on leaves of tin in complete fusion; thus there was no need of employing a blast of air or water. Tin has so strong an attachment to the surface of iron, as to facilitate

crystallization by the
under different for
these leaves of tin
is extensive, but
of brass, what
of a very fine pie
the same effect): af
it, nail it on a fram
eight inches long, to
of tin, which e
with a brush; af
color it, in differ
will produce a very
is grain, in a nat
grounds, filled wit
case; after having
and them beneath t
that will melt the ti
here must be taken
the tin appears to
be at a certain dis
into fusion, in order
sibility, and not be
towards we may f
them. By running
or upon stone, diff
incession, at pleas
just these leaves t
to develop the m
this purpose, pass
a sponge, or rather
draw it out again