

I spoke at the commencement, as I obtained the following results.

I joined a piece of white wood to a piece of ebony; after having glued them I planed them both, by which means I obtained a perfectly flat black and white block; this was next exposed to the vapor of iodine and then placed upon a plate of copper; the black portion only was copied. I made similar combinations with chalk and a black stone, white and black silk, and always obtained the same results.

All these phenomena are manifested both in the most perfect darkness as also in *vacuo*. I may repeat here, that if the objects are exposed for too long a time to the vapor of the iodine, the white portions ultimately become impregnated, but the black parts are always strikingly distinct upon the plate of metal.

On making the same experiments with chlorine and bromine the same results were obtained with the former as with iodine; but the impression is so indistinct, that it is requisite to blow upon the metal to perceive it, or rather to expose the plate of copper to the vapor of ammonia, and the plate of silver to the vapor of mercury, to render it distinctly visible.

The results with bromine were unsuccessful; all my experiments were made with either plates of silver or copper. There is one experiment which I think worthy of mention, as being of theoretical interest; it is this: after having put a layer of starch-paste upon a Daguerreotype silver plate and upon one of copper, the impression of a drawing which I had thought to copy on the layer of starch became fixed upon the metal without leaving any sensible trace on the layer of starch. It was thus evident that the iodine had passed to the metal, in consequence of a superior affinity to that which it has for the starch.

We find the names of eighty-four Daguerreotypists as subscribers to the American Art Union for 1850.

BACK-GROUND.

No picture can be considered perfect, even near it, unless the back-ground has been fully acted upon by the light; in the much of the beauty of the Daguerreotype depends, and our first artists make it a point of study in arranging the subject, that at the same time the light fall properly and freely upon the back ground, the most frequent cause of failure is in the preparation of the plate, it is impossible to present an impression worked evenly over the surface of the plate, when that plate's surface has not been uniformly and thoroughly polished. Many Daguerreotypists complain that their "cameras are not good, they have so small fields, they work out an impression only in the centre of the plate." It happens, however, that in nine cases out of ten the plate is only cleaned in the "centre," and this is the real cause of failure in producing a development of the outer edges of the plate as a proof of this let any one clean half of the plate, then coat in the usual way, and the result will be that the time required to bring out an image on the half well cleaned will take about one-fourth of the time of exposure to the light, that will be necessary to present even the faintest shadow on the other half. This is the difficulty in bringing out the back-ground, the chemical should be allowed to operate equally well upon all parts of the surface of the plate, and then we may look for a free development with a clean and transparent back-ground. We have never seen a good Daguerreotype taken upon a plate that had not been finely polished.

Much of the beauty of the Daguerreotype depends upon its bold relief, cleanness of light, and shade, and the uniformity of the chemical action of the light; fine drapery, softness, and warmth of tone, all of this depends upon the purity of the surface of the plate, and a clear back-ground adds much.

There are possibly more Daguerreotypists in the U. S. than in all the world besides.