

colored picture reflects its own tints, or, if we may say so, its own rays—endowed it would appear, like all others, with chemical action, for the apparent reason that the hole could not reflect any rays, and its blackness is the result only of the absence of all rays. The same thing may be said of the white, but less extraordinarily; for the white being the result of the rays united, it may be more easily understood that the chemical action of the white would be the compound result of the various rays of which it is composed, and that result is the same as that which gives us the sensation of white. Certainly the reproduction of black and white by M. Niepce de St. Victor is a most extraordinary fact unfolded by his beautiful discovery, and perhaps more surprising than the reproduction of all the colors themselves.

It is not possible at present to foresee all the consequences of the researches of M. Niepce de St. Victor. It may be the seed that in the field of science will, by proper cultivation, grow into a gigantic tree, from which time will probably reap the most nutritious and wonderful fruits.—*British Journal of Photography*.

Nitrate of Silver.

Photographers who lose large quantities of nitrate of silver should allow all the excess of silver acetic acid and other matters from the plates undergoing development to run into stone jars containing fragments of zinc. By this means the metallic silver may be collected, digested with dilute sulphuric acid, washed and dried in the oven, and thus by a little pains quite a large saving may result.

Marking Linen by Photographs.

Since the process of photographing upon silk and linen has been perfected in France, many persons have their portraits upon their linen, instead of their names or initials. They are not injured by washing.

A New Modification of Photography.

It has been suggested that the interior and exterior parts of complex objects, such as an instrument or a bodily organ, may be represented in their actual positions, by first photographing the exterior part, and before the image has been strongly impressed, substituting upon the camera the inner part. The latter will appear in the picture as behind or inclosed in a transparent image of the former.

Submarine Photography.

M. Bazin has obtained clear submarine photographs at a depth of 300 feet, in his diving studio, by means of the electric light thrown through water-tight lens windows upon the objects to be photographed. The value of this invention in submarine surveying is obvious.

Old Collodion.

Humphrey's Journal says that old collodion may be rejuvenated and made useful in the following manner: "Add alcohol and ether in equal parts,

or a mixture of one-third alcohol and two-thirds ether is still better—until the collodion flows easily and is thin enough to coat the plate without streaks; furthermore, to each quart of collodion add sixty grains of bromide of cadmium, and put the mixture, after frequent shaking, in a cool dark place. This collodion probably will become colorless and work as well perhaps as the best new collodion that can be made."

Miscellaneous.

Nevada Salt Mines.

The salt mines of Nevada are among the wonders of our mineral territory. A single bed covers 50,000 acres with solid rock salt, 95 per cent fine, and deeper than any shaft has yet been sunk. The accumulation continues without intermission, from the salt water which wells up, overspreads the surface and evaporates, leaving a snowy spread of fine salt, of which 2,000,000 bushels are gathered annually.

Nutrition of the Teeth.

Dr. Henry S. Chase, in the *Medical Investigator*, estimates that a mother and child under eighteen months, together require for the nutrition of the dental and osseous systems, 55 grains per day of phosphate of lime for the former, and 27 grains for the latter. These 87 grains, he says, are contained in 10 ounces of cheese, in 31 ounces of peas, in 35 ounces of fresh mutton, beef or unholted wheat flour, or in one hundred and seventy-five ounces (nearly 11 pounds) of fine flour, such as we commonly use—enough to make a dozen loaves of baker's bread of the largest size. Think of a woman eating a dozen of those loaves daily to sustain the osseous system! It is consoling that bread is a minor item in the diet of most persons. Want of backbone or any other bone at all would result from a diet of fine wheaten bread, if these calculations are not at fault somewhere. Living on "bread and butter" of this sort is too common, however, among the women and children of America. There is a fatal "facility" about it. We must have a new "staff of life" with more bone in it, and equally handy.

Subterranean City Railways.

The London tunnel railway, with its enormous cost, from peculiar local conditions, of five and a half millions of dollars per mile, has paid from the start, five per cent in 1863, six and a half per cent in 1864, and seven per cent in 1865, which are considered very large returns for money invested in England. Over twenty millions of passengers were conveyed by it in 1866.

The *Scientific American*, of the 9th Feb., contains a full page illustration of the plans proposed for an Arcade Railway under Broadway, N. Y. and other portions of the city. Estimated Expense \$2,000,000 per mile. The project is to excavate the entire width of the street, and twenty five feet in depth; the lower ten feet for sewers, vaults, &c., the subterranean street to have at least four tracks, the