

PHOTOGRAPHIC MISCELLANEA.

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To prepare an *Alcoholic Solution of Gelatine*, soak gelatine in water until it swells up, then melt it, and finally add four to five times its quantity of absolute (*i.e.*, 95 per cent.) alcohol. The solution remains entirely clear, runs off like collodion, and dries far quicker than gelatine emulsion with 5 per cent. of alcohol, and it can be compounded with ammonia to basic reactions without injuring its firmness. According to one authority, a mixture of 1 part of dilute nitro-muriatic acid and 48 parts of rectified spirit of wine dissolves almost any quantity of heated gelatine. Poured over plates, the solution dries twice as quickly as plates treated with collodion. Ether and chloroform compounded with the above acid mixture also dissolves gelatine.

An *Alkaline Gelatine Developer* is made by dissolving 1½ ounce of Nelson's amber gelatine in 2¼ fluid ounces of water over a water-bath; then add 1 fluid ounce of saturated solution of caustic soda, and boil until the solution is thinly fluid. Take 1 part of this solution to 8 parts of solution of pyrogallic acid in the proportion of 1 to 250. No bromide of potassium is required. Expose for a very short time, as over-exposure cannot be remedied.

An *Emulsion of Chloride of Silver and Gelatine* can be made thus: taking 1,000 parts of water, dissolve each of the following chemicals separately in a part thereof:—

Gelatine	...	...	...	...	50 parts
Nitrate of silver	...	...	...	...	15 "
Chloride of gold	...	...	...	...	5 "
Citric acid	...	...	...	...	5 to 10 "

When the several solutions are complete, add to the gelatine first the nitrate of silver, then the chloride of gold, and finally the citric acid. It is immaterial whether the emulsion reddens or not. It is now ready for use without washing. Coat glass plates with the emulsion, and print quite dark in the photo printing frame. The shades bronze quickly, and the intensity with a stable emulsion is good. In case the tones are a dirty yellow instead of black, the quantity of citric acid must be increased, which will always rectify this evil. The diapositives thus produced must be still further toned, which is best done in a bath of cyanide of gold. It is fixed with weak hyposulphite, then washed, tanned with alum, and finally washed again.

To Prepare *Claudet's Instantaneous Positive Paper*.—Float the paper on a solution of—

Distilled water	...	...	...	500 parts
Corrosive sublimate	...	...	...	20 "

Then dry it, and wash with a solution of—

Nitrate of silver	...	...	...	5 parts
Distilled water	...	...	...	60 "

The negative is exposed to the light over this prepared paper for from twelve seconds to one minute. The picture is developed by immersion in a bath of—

Sulphate of iron	...	...	...	1 part
Radicle vinegar	...	...	...	1½ "
Distilled water	...	...	...	30 parts

The positive picture is then washed, and fixed with sodium hyposulphite.

To make *Clear Caoutchouc Solutions*, tie 30 parts of caoutchouc, cut up in small pieces, in a small linen bag, fasten this to the cork of a bottle containing 1,000 parts of benzene.

Damson's Tannin Plates.—1. Recipe for the collodion

cotton: Sulphuric acid of 1.840 specific gravity, 1,000 parts; nitric acid of 1.450 specific gravity, 360 parts; water, 240 parts; and cotton, 50 parts. 2. *Collodion*: Collodion cotton, ½ part; ether of 0.725 specific gravity, 15 parts; alcohol of 0.810 specific gravity, 15 parts; sodium iodide, 1/10 part; sodium bromide, 1/2 part. 3. *Solution of Tannin*: 1 part of tannin dissolved in 30 parts of distilled water.

Mottu's Developer for Gelatine Plates.—

Saturated solution of potassium ferricyanide	120 parts
Water	120 "
Pyrogallic acid	1 part

Before using the developer, a few drops of ammonia are added to every 15 parts of it; the plate is then washed and dipped into the mixture.

Davanne's Intensifier.—In case a plate has been spoiled, it is, after exposure, only partly developed, and fixed with solution of cyanide of potassium; the plate, after having been freed from the last trace of the fixing salt by washing, is treated twice or several times with a solution of 2 grains of pyrogallic acid, 1 grain of citric acid, and 10 drops of radicle vinegar in 1 fluid ounce of distilled water, to which a few drops of a solution of silver of fifteen per cent. have been added. It is next treated with the following fluids:—

1.—Iodine	...	...	...	5½ grains
Iodide of potassium	...	...	...	10 "
Distilled water	...	...	...	1 fluid oz.
2.—Sulphate of potassium	...	...	...	1 drachm
Distilled water	...	...	...	6 fluid ozs.

Solution No. 1 is poured over the plate either in daylight or in the dark room, and allowed to remain upon it until the precipitate is perfectly yellow; it is then rinsed off with water, and solution No. 2 poured upon it, and this allowed to remain until the yellow colour is changed into a deep brown.

A developing solution of oxalate of iron, given by Vogel, is the following:—

A.—Neutral oxalate of potassium	...	...	9 ounces
Water	...	...	1 quart
B.—Sulphate of iron	...	...	3½ ounces
Water	...	...	10½ fld. ozs.
Sulphuric acid	...	...	2 to 3 drops

A supply of both solutions should be kept on hand. For use, mix 3 volumes of A with 1 of B. Should the plates appear clouded, add to 4 fluid ounces of the mixed solution several drops of a solution of bromide of potassium containing 3 parts of bromide to 58 of water.

A Good Toning Bath is made of—

Chloride of gold	...	...	1 grain
Sodium acetate	...	...	32 grains
Sodium carbonate	...	...	4½ "
Water	...	...	8¾ fld. ozs.

The following solution should be kept on hand:—

Chloride of gold	...	...	15 grains
Sodium acetate	...	...	1 ounce
Water	...	...	12¾ fld. ozs.

Some of this being added from time to time to the toning bath as it becomes weaker by use. The copies, after toning, are several times washed with water containing some common salt, and finished in the following bath:—

Water	...	...	3½ fld. ozs.
Sodium hyposulphite	...	...	8¾ ounces

The fixing bath is previously neutralised with sodium carbonate or ammonia.