Home Photography

Fourth Lesson.

"How to make your own Bromide Prints."

By W. L. F. Wastell, Hon. F.R.P.S.

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BROMIDE PRINTS.

By W. L. F. Wastell, Hon. F.R.P.S.

IN the early days of photography, prints were made by daylight on paper known as P.O.P. (printing-out-paper); later, however, a paper was introduced that could be exposed to artificial light and then, by immersing it in a Developer the image appeared in black and white; this was termed BROMIDE PAPER and, although the results at first were not nearly as good as could be obtained by the daylight process, yet as time went on great improvements were made and, to-day, Bromide papers are used in all classes of photography—Professional and Commercial, Exhibition and Competition, Pictorial and Technical.

A Useful Paper

THE process is independent of daylight; after a very brief exposure to almost any artificial light the image can be developed and the print fixed, washed and dried very quickly; in fact, it can, in an emergency, be all done in a few minutes. Even for the most careful work the procedure is simple and rapid, and the results permanent.

A GREAT variety of results is obtainable owing to the numerous surfaces of papers, including glossy, semi-glossy, matt, rough, smooth, linen-grained and so on; the paper may be thick or thin, white or tinted; and further, the image may be light or heavy, and the colour cold or warm-black through shades of brown to red and can also be changed to green or blue.

BROMIDE papers differ from those known as gaslight papers; they are considerably quicker, require much less exposure, enabling many more prints to be made in a given time; many workers prefer them because generally the emulsion gives more scope for obtaining softer and more pictorial effects. The principal difference, however, is that it is the paper that is used for making enlargements.

The Darkroom

THOUGH a darkroom is a great advantage when using Bromide paper, yet any room that can have the daylight excluded can be adapted to enable contact printing and even enlarging to be done successfully. For Bromide paper an Orange light is preferable to the Ruby as used for negative making, and there must also be some form of artificial light available for exposing the paper.

IT is possible to have one lamp with Ruby, Orange and White light, and this can be oil or electric; the Ruby light would then be available for negatives, the Orange for Bromide or Gaslight papers and the White light for exposing the papers.

Other Apparatus

THREE dishes are required; one for the Developer only, another for the Fixing bath and the third for the Stop bath or plain water; a printing frame the same size as the negative; and a measure for the developer.

Paper

ALTHOUGH there is an enormous variety of papers it would be well for the beginner to decide on one particular brand and keep to this until the process is completely mastered; then, if he thinks that better results are possible on other papers, to make a change. There are three grades, Soft, Normal or Medium, and Vigorous or Contrasty; the soft is for dense negatives, the vigorous for thin, and the medium will be found to give good prints from average negatives.

Preparing to Expose

REMOVE the back of the printing frame, see that the piece of glass is clean before placing your film, emulsion side upwards, on the glass or, if a glass negative is being printed, remove the piece of plain glass and put the negative in its place, gelatine side up. Switch off all lights except the orange of your darkroom lamp, open the packet of paper and lay a sheet of it emulsion side downwards on to the film, and then lock the back of the frame into position and see that your packet of paper is closed.

Exposure

THIS is just as important with Bromide paper as with Gaslight printing or even negative making; there is a certain margin

Exposure *(continued)* of error permissible and it is quite easy to keep within this margin if other factors controlling exposure, such as distance from and strength of the light are standard. Always work at exactly the same distance from the light, never vary this rule with Bromide printing, because it removes the risk of wrong exposure, and with an unvarying light at a standard distance the time must always be the same for the same paper and type of negative; it is surprising what a difference a slight variation in the distance will make in the exposure. Four feet from the light is a useful distance at which to work, and with a normal paper and medium type negative and a 40-watt lamp the approximate exposure is 10 seconds.

Exposure Tests IT is a very wise plan to grade your negatives into three groups, thin, medium and thick according to density, and to make a trial exposure of each group of negatives by the "strip" method, as follows :—Fill the frame as described, and place a piece of card between the light and the frame so that only a quarter of the film is exposed. Switch on the light for, say, 5 seconds, then lower the card a further quarter so that half of the negative is exposed and switch on the light for a further 5 seconds; repeat this for another quarter and finally expose the remaining quarter for a still further 5 seconds. On developing the paper you will find four exposures on the one piece, and from the result you will be able to gauge the approximate correct exposure for each group.

Developing AMIDOL-JOHNSON is recognised as the best Developer for Bromide papers because of the excellent blacks and rich half-tones obtainable by its use. The most convenient form in which to purchase this is the JOHNSON'S AMIDOL PACKETS obtainable everywhere. These are in the form of glass tubes containing all the necessary chemicals for making 10 ounces of developer. Having exposed your paper, pass it face upwards to your developing dish, and carefully pour the Amidol solution over it, taking care not to cause any air bells. An alternative method is to pour the Developer into the dish, then pass the paper into this, making sure that it is completely submerged; if the print has been correctly exposed the image will appear in about 20 seconds and development will be complete in 1½ to 2 minutes. It is a mistake to remove the print before it is fully developed. If the image does not appear in from 25 to 30 seconds it indicates that the print is under-exposed ; prolonged development will not bring out the whole of the image and stains may occur ; if it appears in from 5 to 10 seconds it suggests over-exposure, then the print will develop very quickly and become too dark.

Developing *(continued)* WHEN a batch of prints has to be developed it is a good plan to hold the edge of the print with a small pair of forceps and draw it backwards and forwards in the solution. As Amidol does not keep well in solution it is advisable to do the whole batch of prints rather than two or three and to attempt to retain the solution for future use.

ANOTHER Developer for use with Bromide papers is JOHNSON'S M-Q, supplied in packets, and obtainable at all dealers; each contains sufficient chemicals to make 10 ozs. of solution. The temperature of the solutions should be about 65° Fahr.

Rinsing WHEN development is completed rinse the prints in clean water or, better still, use a "Stop" bath made by dissolving ½ oz. of Potassium Metabisulphite in 5 ozs. of water. This stops the action of the Developer immediately and effectively prevents stains. After rinsing or immersing for one minute in the Stop Bath it is ready for the fixing bath.

Fixing TAKE a 4 oz. tin of JOHNSON'S ACID-FIXING, dissolve the powder in 30 ozs. of water and pour this into a bottle in which it can be retained as the *Stock* Fixing bath. Take 2 ozs.

Fixing *(continued)*

of this *Stock*, add to it a further 2 ozs. of water and pour this into your fixing dish, pass the prints into this bath face downwards and keep them moving for a few seconds under the surface of the solution, then leave them for at least fifteen minutes.

THE Fixing bath must not be expected to fix too many prints. 4 ozs. JOHNSON'S ACID FIXING POWDER will fix approximately 240 prints 3¼ by 2¼. It is impossible to see by inspection when fixing is completed, therefore, it is better to err on the side of leaving them in too long rather than too short a time, and when a whole batch of prints is being made it is good to have two fixing baths in use, passing the prints from the rinsing water or stop bath to the first fixing bath for 10 minutes, then transferring them to the second for a further 10 minutes.

CAUTION.—If your fingers have become contaminated with the Hypo bath be sure to rinse them in clean water before touching your Bromide paper.

Washing

UNLESS prints are properly fixed they will deteriorate and it is equally important they should be effectively washed after fixing. There is no better way of washing prints than by allowing a plentiful supply of water to run into a bowl in which the prints are kept moving, or, if convenient, the two-dish method is excellent. Take two dishes, and the larger they are, within reason, the better. One is filled with water and the prints dropped into it; after a few minutes the prints are transferred to the second dish while the first is emptied, rinsed and refilled; the transfer can be repeated at intervals till the prints have had 10 or 12 changes in clean water.

Drying

THE washed prints may be surface dried with "photographic," not ordinary, blotting paper, and then laid on a drying net or pinned by one corner to a shelf. Glossy prints should not be blotted.

JOHNSON'S CHEMICALS FOR HOME PHOTOGRAPHY.

JOHNSON'S PACKETS.

DEVELOPERS :

Amidol	to make 4 to 10 ozs. Solution	....	4d.	each
Chlorquinol	to make 10 ,, ,,	....	4d.	,,
Gaslight	,, 6 ,, ,,	....	3d.	,,
Metol-Quinol	,, 10 ,, ,,	....	3d.	,,
Pyro-Soda	,, 8 ,, ,,	....	3d.	,,

TONINGS :

Toning and Fixing Packets to make 4 ,, ,,	....	3d.	,,
Pactum Toners (Blue, Green, Red or Sepia)	....	6d.	,,

SCALOIDS—Photographic Reagents in Compressed Tablet form.

DEVELOPERS :

Amidol	to make 20 to 40 ozs. Solution	....	1/6	per box
Gaslight	to make 30 ,, ,,	....	1/6	,, ,,
Glycin	,, 20 ,, ,,	....	1/6	,, ,,
Metol-Quinol	,, 44 ,, ,,	....	1/6	,, ,,
Pyro-Soda	,, 40 ,, ,,	....	1/6	,, ,,
Vedol	,, 100 ,, ,,	....	1/6	,, ,,

TONINGS :

Gold Toning	,, 40 ,, ,,	....	2/–	per box
Gold Toning & Fixing	,, 20 ,, ,,	....	2/–	,, ,,
Blue, Green or Red Toning to make 24 ,, ,,	....	2/–	,, ,,
Sepia Toning	,, 48 ,, ,,	....	2/–	,, ,,

SUNDRIES :

Hypo Eliminator	,, 15 ,, ,,	....	1/–	per box
Intensifier (redevelop)	,, 18 ,, ,,	....	2/–	,,
Reducer (Persulphate)	,, 15 ,, ,,	....	1/–	,,
Reducer (Ferricyanide)	,, 10 ,, ,,	....	1/–	,,

DEVELOPERS (Solutions).

AZOL :

3 oz. bottle	to make 75 ozs. Solution	....	2/–	each
8 oz. ,, ...	,, 200 ,, ,,	....	4/–	,,
16 oz. ,, ...	,, 400 ,, ,,	....	7/–	,,

ONE-SOLUTION :

4 oz. bottle	,, 28 ,, ,,	....	1/–	,,
8 oz. ,, ...	,, 56 ,, ,,	....	1/9	,,

GASLIGHT SOLUTION :

4 oz. bottle to make 12 to 20 ,, ,,	....	10½d.	,,
8 oz. ,, ,, 24 to 40 ,, ,,	....	1/3	,,

SUNDRY SOLUTIONS.

Desensitiser		
4 oz. bottle to make 20 ozs. Solution	....	2/- each
Glazing Solution		
4 oz. ,, ,, 40 ,, ,,	....	1/- ,,
8 oz. ,, ,, 80 ,, ,,	....	1/9 ,,
Hypo Killer		
6 oz. ,, ,, 24 pints ,,	....	1/- ,,
16 oz. ,, ,, 64 ,, ,,	....	2/- ,,
Ilford Tropical Hardener		
3 oz. bottle to make 24 ozs. Solution	....	2/- ,,
Redevelop Intensifier Solution. 4 oz. bottles	....	2/- ,,
Uranium Intensifier .... 3 oz. bottles	....	1/- ,,
6 oz. ,,	....	2/- ,,
Acid Fixing .... ¼lb. tins	....	7d. ,,
To make 30 ozs. for Plates and Films and 60 ozs. for Papers.		
Acid Fixing .... ½lb. tins	....	10d. ,,
,, ,, ... 1lb. ,,	....	1/6 ,,
Johnson's Soda Hypo .... 1lb. cartons	....	4½d. ,,

SUNDRIES.

Fine Grain Developer.—For Leica and all miniature films Tins to make 20 ozs.	....	1/- ,,
Mountant.—The original Photographic Mountant which has stood the test for over 30 years In tubes	....	6d. ,,
or bottles at 1/- and		1/9 ,,
Photo Tints—Complete sets consisting of nine of the finest tints in concentration form	....	2/6 per box
Larger sets including Brushes, Saucers, etc.		5/- ,,
Pastels.—Consisting of 15 selected Pastels, stumps, rubber and surface powder	....	2/6 ,,
White Ink	....	1/- bottle
Flashpowder		1/- and 1/9 boxes
1 oz. bottles	....	3/- each
2 oz. ,,	....	4/6 ,,
Flashboxes	....	6d. ,,

DEVELOPERS.—These developing reagents are for those who prefer to make their own solutions, and are obtainable everywhere.

Amidol-Johnson's .... 1 oz. bottles	....	2/- each
Acid Pyrogallic Cryst. .... 1 oz. ,,	....	1/9 ,,
Chlorquinol .... 1 oz. ,,	....	2/6 ,,
Glycin .... 1 oz. ,,	....	2/3 ,,
Hydroquinone .... 1 oz. ,,	....	1/3 ,,
Metol-Johnson's .... 1 oz. ,,	....	2/3 ,,