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A POSE BY CHICKERING OF BOSTON.

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GEORGE W. GILSON, - - EDITOR

A FEW PERTINENT QUESTIONS.

With Interesting Answers from Practical
Workers.

A few well-known Michigan photographers who were exchanging experiences lately, were asked to state six questions that they would like to have answered. The questions below were given by them in response as being of especial interest at the present time, and a few good men of that State were asked to answer these questions. Some have responded, and their answers follow the list of questions :

The Questions.

1. What do you consider the most effective colors for mounts used for mat surface papers—(a) for dark tones,

(b) for sepia tones? Do you favor large or small mounts—by small mounts are meant the usual cabinet size for cabinet prints, etc.?

2. What do you consider the best background for show-case displays; what class of work does it pay you best to exhibit?

3. Does advertising pay; and what do you think the best method of advertising for the photographer?

4. What accessories do you use when photographing babies; how do you keep them "in pose"; and what means, if any, do you employ to attract or give expression?

5. Do you favor Sunday work; does it pay; would you support a Sunday closing Act if it were made general?

6. Of what actual value to you are the photographic journals?

The Answers.

I think in the list of questions that you sent there are subjects which, if comprehensively answered, are of vital importance to the profession. In answering them, I trust there may be some little gain to the reader, as that which I shall write is not mere theory,

but has been demonstrated to me in my experience.

After a careful consideration, and experimenting with different colors for mounting the mat surface picture, I have come to the conclusion that, while there are a variety of colors which are effective and harmonious, including some of the shades of grey, tea color, terra cotta, etc., there is nothing so truly artistic, refined and pleasing in the long run as white. In recommending a white mount I would add that there should be a border around the print about a quarter of an inch wide, of India tint or some other subordinate shade, which, though hardly visible against the white, adds greatly to the effect of the picture when mounted.

A few months ago I prepared some prints of different sizes, from 20 x 24 down to cabinet, for exhibition purposes, and mounted them as follows: The prints were toned to the black and white tone, mounted on ordinary white cardboard mounts and bevelled, leaving no margin of mount whatever. They were next mounted with glue, on deep cream-colored, pebbled mat board. I next cut a mat out of pure white mat board, making the opening one inch larger each way than the bevelled print. This mat was mounted on the cream board so as to leave an equal border of cream color half an inch wide around the print. The whole was then placed in a plain gilt frame half an inch wide and without glass. The effect is not only exceedingly pretty, but is neat, and does not detract from the picture itself, which is always to be avoided.

Another mount which is very artis-

tic and effective for the black tone is one of black. The print should be bevelled as before and mounted upon the black cardboard; or if for framing, the mat should be black, with a deep white bevel and a gold frame.

As I confine myself to the black tone, I have not been as observant of the effects for sepia; still, I should again recommend the white mount. A nice effect is obtained with sepia tone and sepia mount to match, but there must be harmonious blending of the two, or the effect is entirely lost. In using the sepia mount as above mentioned, there should be a narrower border of white between the print and the mount, to give the best effect.

The mat prints should have wide margins about them; the margin of the ordinary cabinet mount for a cabinet print is not sufficient to show it to the best advantage.

In preparing pictures for the showcase, I think it would be difficult to decide upon any one background as the best, because where the pictures are changed the background should also be changed in order to make a complete revolution, which is the only way to attract the most attention. All of the backgrounds must be good and selected with great care, but each one should be different from the preceding.

In my present display the background is gold produced by coating large sheets of matboard in the same manner as for gold mats. The prints are mat surface, toned black, which is the only kind I exhibit or make. They are mounted on cardboard and bevelled, then mounted on black card-

board so as to leave a border of black about three-quarters of an inch wide around the print. The whole is then mounted on the gold in the desired position. In addition to this, the show-case is illuminated at night by twenty miniature incandescent lamps, and the whole effect is the most attractive of anything I have yet observed.

The show-case at the door is one of the photographer's best ads, and as the advertising question is one which to a great extent absorbs the minds of merchants in all lines of business, I will give my opinion, gained from actual study and experience. I find that advertising pays, but there are modifications to that statement. The newspaper, programme, in fact any of the established methods of advertising, are good; still, setting these aside, the pictures themselves are the best ads for the photographer. In no other line of business does the result of one's labor show to advantage or disadvantage, as the case may be, as in photography. If one makes twelve good cabinets for a customer, the supposition is that those twelve pictures go into twelve families, which means that you have proven directly to twelve families the quality of your work. Good work is by all means the best advertisement.

The babies are the most satisfactory customers one has. There is very little to be done excepting to place the baby in some suitable chair, which can be covered by its clothes, focus, and then use your patience. Accessories do not improve babies' pictures. Get a good photo of the baby and you will surely please the

parents and all its friends, which you will find is also an excellent ad.

One cannot do much to induce babies to assume a suitable expression; don't be in too much of a hurry, because if the baby is left partly to itself the expression will come, and be better than if the little one is worried. Oftentimes various sounds to which it is not accustomed will be a help, although I do not find it necessary to keep the operating-room full of rattles, tin horns, etc.

I am asked for my opinion concerning Sunday work. I most emphatically disapprove; still, I am obliged to keep my studio open every Sunday. If one judged the value of Sunday work by the number of sittings, the conclusion would be that it paid; on the other hand, the people who say they can have their picture taken only on Sunday would not go without them, and if they could not get them Sunday would get them some other day. I will venture to say that 75 per cent. of such people find time during the week to attend a ball game or some other place of amusement. There is no reason why a photographer should be obliged to work seven days each week. The studio is confining, and to do one's best work an occasional rest is necessary. I believe every intelligent and progressive photographer should and would support a Sunday closing law, and it is only through the efforts of the photographers themselves that this can be accomplished.

In this work the journals can be of great service, and it is on questions of this kind, as well as by articles on actual manipulation of the different

processes, that the journals are of actual value to the profession. Every photographer should read the journals, for it is by this means only that he can have knowledge of what others are doing who are doing the best. The photographer who never reads a magazine of the subject, who never goes to a convention, is sure to discover at some time, sooner or later, that he is decidedly behind the times and his business gone.

CHAS. E. HEATH.

Grand Rapids, Mich.

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I will repeat your questions in their order, and answer in accordance with my judgment :

1. What do you consider the most effective color for mounts used for mat surface paper—(a) for dark tones, (b) for sepia tones?

For black tones, grey or white. For sepia tones, a soft brown.

2. Do you favor small mounts or large ones for the usual cabinet size print?

For best effect I favor larger mounts than are ordinarily used for cabinet prints, but I do not believe in using them without an advance in price. I get two dollars a dozen extra for cabinets mounted on large mantello mounts.

3. What do you consider the best background for show-case displays?

I use garnet, black, or dark green velvet or plush.

4. What class of work displayed attracts the most attention, and the most dollars?

Portraits of familiar faces.

5. Does advertising pay, and what method is best?

A certain amount of judicious advertising pays; but I think much money is wasted in advertising. With me, the best ad is a well dressed window, kept fresh and clean.

6. What accessories do you use in photographing babies; how do you keep them in pose; what means do you employ to gain expression?

I use very few accessories. If you refer to six months old babies, it is "catch as catch can"; if two or three years of age, it's a difficult thing to explain. I talk into their eyes; they understand common-sense conversation better than older ones; often are so mobile and quick to grasp your thought that the cleverness of magnetism is usually sufficient; but if it is a certain expression that the mother is after, you are about as sure of it as you are of catching the "lightning bug" that flits before you on a summer evening. I wish mothers could understand that the more starched up a child is, the less poetry, and childishness is impossible to obtain in a picture; their preparatory training is an obstacle; their "Do just as the man says" makes more trouble than it overcomes. The charm of child-beauty is simplicity, everyday home apparel, bare feet if it may be, without fuss and feathers.

7. Do you favor keeping galleries open on Sundays; does it pay; would you support a Sunday closing Act, if made general?

I do not approve of opening places of business on Sunday. It makes no difference whether, from a financial standpoint, it pays or not; however

I believe it does not in the long run. I object as a matter of principle, but I have a class of trade which would denounce it. Then, I believe no man is fit for work seven days in a week, and he ought to get both rest and inspiration, at church or elsewhere. There is no argument in its favor, spiritually or otherwise, based on good judgment. I am not a crank, and would accommodate a customer under special circumstances. I simply condemn the practice of general opening of a place of business on Sunday. I would not in any way interfere with my neighbor's affairs, yet I believe his disregard for the Sabbath retards the progress of civilization. I try to live up to my own ideas of what is right; on this law all happiness is based. I honor manhood, and would not ask an employee to endanger his character by performing duties which I would not do myself. This is a consideration that every employee is entitled to. I believe that existence and happiness do not so much depend upon dollars and cents as some think they do.

8. Of what actual value to you are the photographic journals?

Both I and my workmen get inspiration from them. I do not think that cut-theories are discussed enough therein. The literature of æsthetics, criticisms and contributions of a different order might be of value. The soul is developed by beautiful thought, and it is partly within the province of our art to furnish it. The commingling and interweaving of refined ideas are means of elevating, and by these and the infinity of nature we are

trained to higher things, being, as Hamerton says, "Only something by the place we hold in the intellectual chain of humanity."

HERBERT RANDALL.

Ann Arbor, Mich.

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1. Technically speaking, I would not like any colored mounts for mat surface photos; would prefer a light shade of drab or grey. I think a line of India tint to come between the margin and photo would look well, especially with black tones. I like plenty of margin.

2. It depends on the shade or color of mounts and tone of pictures. Black will do for almost any tone. Maroon and shades of drab and grey are good. Quite an effective and lasting background is made by stretching some burlap or any coarse cloth over a board and mixing up Alabastine thick, then work in relief plastic designs, and while wet pouncing on gold bronze on prominent parts. Almost any shade goes nicely with gold. Our friend, Charlie Hetherington, could tell you all about it. The Professional Pointer gave a description of how to fix up a show-case in elegant style not long ago.

3. It pays to exhibit the best work you can make, and not exhibit it very long at a time. A small show-case at the door, changed often, is a good thing. If you do large work and your studio is upstairs, and no one else uses the stairway, a good way is to fix a sliding show-case to run down nights. Make it fill up the entrance; use pulleys and rope weighted so as to make it run up and down easy;

then put in a light—incandescent is the best—and exhibit your large work framed up, and put in your case evenings. I have one, and exhibit a good many pictures during the year in this way. Your pictures are an excellent advertising medium. Spicy locals in newspapers pay. Attractive bulletin boards in the country pay. Best of all, don't allow any poor work to leave your studio. Let cheap-Johns turn out that kind of work.

4. Any kind that will not attract the eye from the subject in hand, the baby. In portrait photography the background should not be remembered by those who look at the pictures. I like to get happy pictures of babies, and I always catch their smiles if I can, unless the mother objects to smiles, and very few do. Yes, I try for expression, have tried for an hour at a stretch before now, and sometimes have caught it; but it is better to have everything in shape and catch the expression quick. I have a raised platform to sit babies on who can sit up, then turn their feet around to one side or the other, never in front. They look as though they were sitting on the floor, and are quite satisfactory.

5. I do not favor Sunday work, and never do any except in extreme necessity. I would favor and support a Sunday closing movement.

6. Journals are of great value, like conventions; exchange of ideas; more experience from workers who have had a "finger in the pie." I take five; yours makes six.

G. H. FOWLER.

Charlotte, Mich.

ART EDUCATION.*

MR. PRESIDENT, LADIES AND GENTLEMEN,—I was told to select my own subject for this address, but to talk on points which we photographers are most deficient in. I know of no greater need than the need of better art education. Important and widespread as this need is, I cannot approach the subject without a feeling that I ought to apologize for it. We have been laughed at for calling ourselves photographers, when, as alleged, we know nothing of the rules of art. We have been told to build our pictures on pyramidal lines, to balance our diagonal lines, to be careful where we placed our horizontal lines, and to be sparing of our upright lines. Are we to be blamed if we conclude that art is to be measured with a foot-rule?

We have seen photographs praised for their artistic merit which to us seems flat, stale and unprofitable. We have had our own efforts to be artistic frowned upon by our patrons, and these efforts have seemingly produced so little that was of lasting benefit that some of us have grown a little weary of the word and are wondering if the results are worth the efforts. When we reach the conclusion we are ready for the next step.

Important as are the rules of perspective and composition, they are but tools. Art could not exist by them alone. Art is feeling. As Longfellow so beautifully says, "Art is the child of Nature. Yes, her darling child, in whom we trace the features

*Address by Mr. George B. Sperry, of Toledo, O., at the Chautauqua Convention.

of the mother's face ; her aspect and her attitude ; all her magnificent loveliness chastened and softened and subdued into a more perfect grace, and with a human sense imbued. He is the greatest artist, then, whether of soul or pen, who follows Nature. Never yet man, as artist or artisan, pursuing his own fantasies, could touch the human heart or please or satisfy our nobler needs, save he who sets his willing feet in Nature's footsteps, light and fleet, and follows, fearless, where she leads."

What is man that he should have these aspirations? Again the poet speaks :

"What are, whence came we?
 Are we but a state of shifting matter built
 into a frame
 Which grows and changes, yet remains
 the same, or seems to?
 Does our thought, our love, our hate
 Depend upon secretions? And does Fate
 Stand at the helm and steer an unmanned
 boat
 Midst rocks of chance? Or is there that
 within
 Which is not matter? Calling from the
 dark
 I am, I will, I suffer, and I sin.
 I know of nothing save that only I feel all
 things within myself.
 If, then, I die
 Nature itself may pass. I cease to be
 And all is blotted out which lives in me.
 I feel I cannot die, for life I cry."

Here Art is born. It is this striving for something better that begets the art feeling. No man can say, "I have no such feeling." Whether it be a spark or a flame depends upon ourselves. We are the creatures of environment only so far as we choose our environment.

In criticizing a picture an artist will say, "I feel these lights are too broad," or "I cannot feel his interpretation." Try your next composition with more regard to the feeling and less thought

of the lines. You will soon find that the lines are apparently taking care of themselves. No master has ever lived who has not at some time broken the rules of perspective or composition. But Art still stands impregnable.

Our most helpful teachers should be the illustrations in our photographic journals, but alas! they are not always helpers. In a recent number of one of them was a reproduction from a photograph in which the subject, a charming young lady, was posed with the right arm and the left leg advanced and with the left arm and the right leg receding. You all know that is wrong. One of the first things a would-be orator is taught is that his right foot must follow the gestures of his right hand, and that his left foot must follow the gestures of his left hand. It is a fundamental rule of all systems of physical culture that the right arm and the right leg, and the left arm and left leg must act in unison. In no other way can grace, strength or stability be expressed. These illustrations are supposed to be patterns for aspiring subscribers. Are we getting our dues when they give us false ideas?

You are all familiar with the fact that when editorial mention is made of these pictures the most fulsome praise is sometimes given them, be the composition good, bad or indifferent.

Now, gentlemen of the photographic press, we don't like this way of doing things. We beg leave to call your attention to the fact that these publications are issued for our benefit and instruction. When you publish a picture which contains a gross violation of art principles without calling attention to it, you are defrauding

your subscribers. When you give flattering notice to composition that has glaring errors, you are misleading those who have placed their confidence in you.

We are struggling to get out of the mire. You, above all others, have urged to this step. What are you doing to help us? Pointing the way with one hand and pushing us back with the other. We are getting a start. We must have your help. You may tell us that you cannot get pictures for the purpose of condemning them. We can only say that we look to you for ideals, and we do not want you to give us false ones.

Now, gentlemen of the photographic press, I want to apologize for all the hard things I have said. After all, you are our best friends. You have upheld our banner when it would otherwise have trailed in the dust. You have been the kind and patient mother, ever ready with a word of encouragement and with a pitying eye for our faults and our follies. Now that we have grown to realize the need of your help, let us together place photography where she belongs, a potent factor in the education and the civilization of the world.

THE PHOTOGRAPHER AND HIS PATRON.*

LADIES AND GENTLEMEN OF THE CONVENTION,—I understand that you have got to assume a certain position on this platform to be heard. I will endeavor to place myself in the proper position so that you will be able to hear me. In addressing you

to-day I feel it is almost useless that I should go into detail or speak on the subject of photography direct. You have heard, gentlemen, from time to time, how all these various methods are pursued and how these nice pictures are made. You have heard from time to time and have had demonstrations made to you how to tone prints, how to do dark-room work, and how, finally, to obtain the results that you see in this hall to-day. I want to say, gentlemen and ladies, that, in my estimation, we have right here to-day the most elaborate, the grandest collection of photographs that we have ever had, to my knowledge, in this Association. After being asked by our worthy President and a committee, who had this convention in charge, to address you—gentlemen, as I have said before, I could not think of a thing that would be more new than this subject: The question of a relation that should exist between the photographer and the patron, a proper relation that should exist between those two people. I will endeavor, in my own way, to illustrate to you what I think ought to be done on that subject. Before doing so, I might say the fact that this subject has not been treated on before direct is because I think it has been overlooked. I don't think that any one of you have overlooked the fact that it pays you to be pleasant and always ready to smile at your customer. However, gentlemen and ladies, in my own way, I wish to impress you with the fact that it is essential that you should become a friend or make a friend of every patron who enters your establishment. I claim that good results in the gross dividends in the year from this. It is

* Address by Mr. Ed. L. Rosch at the Chautauqua Convention.

not only essential to deliver good photographs to the public, but it is highly essential and absolutely necessary that you make a friend of every customer who comes into your gallery. I might say again, touching this friendship between photographer and patron, that all of us, without exception, have friends in our various towns and cities where we are located, and I want to point out the fact that those very friends stick by you whenever a question of photography arises among you. They recommend you as the best photographer in their city, and I mean to say that you have a prestige in that town or city. Even if you have not, your friends will stand by you, and I assume the right to say that you should make an effort to obtain that same relation from every customer that enters your establishment. You can do it by instructing your help, employees, the first who sees the customer as he enters the office, that it is his duty to see him and personally greet him in a friendly way, just the same as if the customer was an intimate friend. Working on those principles, I am satisfied, ladies and gentlemen—I say ladies, because I know some ladies who are interested in photographic galleries, and many of them, perhaps—I say it pays the biggest revenue, more so than anything else, at the end of each year, to maintain a proper relation between the operator and proprietor, as the case may be, and to give that part of your business much attention. In most of the galleries, as far as I have been from time to time, and in visiting the various photograph establishments, the hardest one to

find in the business is the proprietor; he is hedged up somewhere. Many of us are unfortunate in being obliged to be in the operating-room most of the time, but we have opportunities that we can give both and see every customer who comes in the place. It will pay you, if you are doing your own operating, to hire an assistant, even if you have to hire a boy and break him in, and get away from the operating-room and meet your people more than you do. It is a question, as I said, that I desire most to point out to you as being one of the most important things in the financial success of our business. Smile at your customers and never frown at them. You can always say, "Smile, please," to your customers, but you can never get that smile unless you help them smile. I tell you, it makes a great difference in your cash-drawer. And again I say, in conclusion, that it is not the main point to deliver good pictures; but try, for my sake, this system, and make friends of your customers, and you will find that you will meet with more financial success in your business.

I have been requested by Mr. Bell-smith to attend to this matter of foreign exhibit, and I regret to say that only one exhibit is represented. I am satisfied that there is a box on the way somewhere, containing at least a dozen exhibits, that has not arrived yet. I want to ask you as a favor not only to yourself, but to the Association as well, and I will take it upon myself to be a committee of one, and we will ask you to contribute towards a fund of pictures for this purpose. If

you will place in my hands three or four of the best pictures of your exhibit I will consider it a great favor, and we will send them to this foreign exhibit, the convention of the German Photographers' Association, to be held between August 25th and 29th, in the city of Trea, Germany. We want to send a representative collection from our country. I think we ought to represent America in any part of the world that our help is solicited. I would suggest that a committee be appointed to look after this matter. It is an important fact; they have prizes and are willing to send us medals. I hope you will take an interest in this. Gentlemen and ladies, I thank you very much.

HOW TO MAKE AN ENLARGED NEGATIVE.

By JOHN A. HODGES.



THE production of an enlarged negative is by many regarded as something difficult. This, however, is quite a mistaken idea, and I want to show that not only is there nothing particularly difficult in the process, but that

it is one which even a beginner may successfully master.

It is certainly the best of all enlarging methods, for not only does it permit of any printing process being employed, but in addition allows of a full and free exercise of whatever artistic and technical skill the worker

may possess. Indeed, only those who have carefully worked at the production of enlarged negatives can be aware how great is the improvement which may be effected upon a poor original.

A great deal of prejudice existed for a long time in the minds of many photographers against a print produced from an enlarged negative, and it has frequently been roundly asserted that a photograph so produced always betrayed its origin, and could not compare, in regard to technical quality, with a print from a direct negative. Now, fortunately, a different opinion prevails, and such mistaken notions—together with the views at one time held in regard to microscopic definition, purple tones, and a highly glazed surface, rivalling in brilliancy the work of a clear starcher—have become almost things of the past.

It is quite possible that the reader may be somewhat disappointed with the appearance of his early attempts at producing enlarged negatives, but he should bear in mind that although they possibly may not be so pretty to look at as negatives taken direct, they will in many instances permit of better and more artistic points being obtained. He should not, therefore, look at his enlarged negative with the critical eye of the technician, nor attempt to make a print from it on P.O.P. and expect a result equal to that producible from a negative of the same size taken direct. If, however, he will make his prints upon a rough-surfaced paper in platinum, mezzotype, or carbon, he will, if he has an eye to artistic effect, be charmed with the result.

Coming to practical details, the best method of working is to make a transparency the full size of the enlarged negative from the small original negative, and from the enlarged transparency print an enlarged negative by contact. The alternative method is to make, either by contact or in the camera, a small transparency, and from that produce an enlarged negative of the required size. The former method, although slightly more expensive, will be found the most satisfactory, and will produce the best results.

A word or two on the character of the small original negative. It should, if possible, be fully exposed, possess plenty of shadow detail, and be soft rather than hard. The great desideratum is to reduce granularity to the minimum. This may be done by attending to the following points: Use as slow a plate as possible, give a generous exposure, develop slowly with a weak and restrained developer, taking care to preserve gradation and keep the image thin. In making the actual enlargement do not aim at an undue amplification of the image. It will often be found possible to enlarge a negative to the extent of two or three diameters, or four to five times its natural size, without producing any apparent granularity, whereas, if the amplification had been increased to four or more diameters, a very objectionable degree of granularity might be produced.

To detail the actual production of the enlarged negative. Assuming that a small original negative of the character described is available, we can at once proceed to produce the

enlarged transparency. For this purpose we may use an ordinary daylight enlarging camera, or an apparatus for artificial light—one will be quite as suitable for the purpose as the other. In regard to manipulation, the procedure is just the same as in making an enlargement on bromide paper, except that for the latter we substitute an ordinary dry plate. This should be the slowest obtainable, and in order to secure a suitable quality of deposit in the enlarged negative, it is desirable to use plates coated with a lantern-slide emulsion. These are kept coated in large sizes by most plate makers, but any good firm would coat special sizes to order at little, if any, increase of cost.

Great attention must, of course, be paid to the actual focusing of the enlarged image, and it is presumably unnecessary to say that the small original negative should be as sharp as possible. It will be obvious that if the small original itself lacks sharpness, no degree of skill in focusing can produce sharpness in the enlarged negative.

Very little information can be given in regard to the exposure necessary; it will depend in every case upon the density of the small negative and upon the degree of enlargement, as well as upon other factors. My own method of ascertaining the approximate exposure required is to procure from the plate maker a box or two of lantern plates coated with emulsion of the same rapidity as that with which the large plates themselves are coated. I first make a test exposure upon one of the small plates, which is sufficient to give me an approximate

idea of the exposure necessary for the larger one, and in this way I am spared the annoyance of wasting large plates.

For developing the enlarged transparency I generally use a combination of hydroquinone and eikonogen, compounded as follows :

No. 1.

Eikonogen.....	90 gr.
Sulphite of soda.....	250 "
Hydroquinone	50 "
Water.....	10 oz.

No. 2.

Carbonate potash....	1 oz.
Water.....	10 "

For use, take two parts of No. 1 and one part of No. 2.

If, however, the reader has become accustomed to the use of any special developer or formula for development which is suitable for transparency work, he may substitute it for the formula which I have given. In any case the exposure should have been such that the image will develop up slowly and regularly without any forcing. Under-exposure must be carefully guarded against. A brilliant but fully exposed transparency is required, with as much shadow detail as can possibly be obtained. The conditions necessary to ensure this result are such as I have indicated, i.e., a full exposure, followed by a careful development with a weak and well-restrained developer.

Having, by carefully following these directions, succeeded in obtaining an enlarged transparency, we shall have arrived at that stage of the production of an enlarged negative which will permit of an almost un-

limited exercise of skill in the direction of improvement. To deal adequately with this part of the subject would demand more space than is at present available, and I can only briefly suggest the lines upon which the reader should work.

Before anything in the nature of retouching is attempted, the transparency should, first of all, be varnished. It is a good plan in any case to coat the transparency with matt varnish on the glass side. Retouching or improvement may then be made on either side. The inexperienced will probably find it easier to work on the back of the negative than on the front, less skill being required. As an enlarged transparency shows us the picture in its correct light and shade, it will be found far easier to effect any retouching than would be the case in dealing with a negative, in which, of course, light and shadow are reversed. In retouching the transparency we have an unlimited command of shadow, we can strengthen a delicate half-tone or the deepest shadow. We cannot, however, effectively deal with the high lights. This part of our work must be deferred until we have made our enlarged negative, upon which we shall have an opportunity of modifying or strengthening the high lights to any desired extent, so that by the dual operation of retouching first the enlarged transparency and then the enlarged negative, any required modification of the original may be arrived at.

The transparency having been made as perfect as possible, the enlarged negative is printed from it by

contact, using for the purpose a plate of the same size coated with a lantern-slide emulsion. An accurate exposure should be given, and, if necessary, a trial exposure at a given distance from the light should first be made upon a lantern plate. After the usual operations of fixing, washing, and drying, the enlarged negative will be ready for printing from. A rough paper should be chosen, for the corrugations of its surface will quite destroy any tendency to granularity which may be noticeable upon a very smooth surface. For this purpose a wide range of processes are available, including carbon, platinum, and silver (the latter is particularly suitable if rough Whatman be chosen as the basis), or those who do not care to go to the trouble of preparing their own material will get excellent and artistic results on a newly introduced paper called Augura.—The Amateur Photographer.

THE TEACHING OF PHOTOGRAPHY—(CONTINUED).

By C. F. SEYMOUR ROTHWELL, F.C.S.

Lecturer on Photography at Municipal Technical Schools of Manchester and Rochdale.

Besides the advantages arising from the teaching of photography named above, which concerns the profession principally, such courses of instruction are useful to students and teachers in the other branches of science and technology. The optical lantern is now very largely employed by teachers in all branches of scholastic work, and it most frequently happens that slides illustrating some special subject are not obtainable by purchase in the ordinary way; hence photography comes to the assistance

of teachers and enables them to prepare slides of any subject desired; the expense of having the slides made by a professional man in such cases being such as generally to prohibit their use, even if a man competent to undertake the work was available. Students in botany, geology, astronomy and microscopy, engineers, designers, architects, and many other branches of trade and science, find daily the important applications that photography can be used for in their special departments; and thus these classes, in connection with institutions where these subjects are taught, considerably aid such students in acquiring a knowledge of photography applicable to each particular subject.

Photography as it should be taught is perhaps one of the most difficult subjects for a teacher to undertake. The principal difficulty is due to the fact that, as a rule, the students attending these classes have absolutely no knowledge of even the elementary principles of light or chemistry, making it no easy matter to convey an accurate idea of the principles upon which the processes are based. We do not wish to be misunderstood on this point. To teach any of the processes of photography in such a manner that the student may be able to work it successfully if certain directions are followed, in the same manner that the instructions in cookery books are given, presents no special difficulty; but we do not regard such teaching as the most valuable part of the instruction given in these classes. The instruction, to be of permanent value, should be such that the student

has a clear understanding with regard to the chemical, optical and mechanical principles involved in each process, so that, in the case of difficulty, he may be in a position to find the cause in a methodical and scientific manner, and when, to adapt it to some particular application, the process requires to be modified, he may be able to undertake the work intelligently.

In our own classes, which are held in the evening, we find the best system is to make the instruction as practical as possible, treating the chemical and optical principles of each process as the process is being practically demonstrated, carefully explaining any deviations from the usual routine to meet special requirements afterwards. During these demonstrations, in which the whole of the students have the chance of closely watching each process or taking part in the manipulative part of them, the class assumes rather a social nature, and thus we manage to instil the, to many people, dry principles relating to each process in an interesting manner. This system of working is greatly appreciated, and we find the average attendance of the class remarkably good. The absence of daylight makes the demonstration of some processes rather difficult, but we do not think the instruction suffers much on this account, the optical lantern coming to our aid in many cases, and for processes where daylight is indispensable, as, for instance, when dealing with the development of plates of various subjects, although it is not possible to actually expose plates before the class, the teacher

can bring plates previously exposed and, what is perhaps more instructive, the students themselves can bring plates they have exposed, when they are developed before the whole of the students. The effect of errors in exposure is illustrated in a similar manner, the plates being purposely under and over exposed. Processes like silver printing are demonstrated somewhat in the same way, the paper being printed previous to the meeting, the attention of the class drawn to the depth of printing, and the process completed before the students. The rather difficult subject of lenses can be well treated by means of the optical lantern, many of the lenses being removed from their mounts and the rays of light shown actually passing through the lens, by making the rays of light visible by dusting solid particles in their course. By this means we have been able to give fairly accurate impressions of the actual influence of lenses upon light to students having previously no knowledge of optics, and who, generally, quite fail to comprehend the real meaning of the usual diagrams published in text-books. Most of the other processes can be easily shown at night, either with the lantern, the light obtained from magnesium, or the electric light.

Many professional photographers do not look in a very favorable way upon the efforts made in the direction indicated in this article, fearing the competition that may arise from the spread of photographic knowledge. The proper application of the improvements brought out recently, and which will be discovered in the

future, should place the man capable of utilizing them in such a position that there will be no need to fear the competition of those who have, in many cases, gone into the profession because their ordinary business has failed, and who are in photography, as in other trades or professions, responsible for the low prices obtained. An example of this is seen in the success obtained in some French and German houses by the utilization of the powers placed in the hands of photographers by the discovery of Iso plates for the reproduction of oil-paintings; these houses having utilized them and earned a well deserved reputation long before English photographers gave these plates serious attention.

A painter does not fear the competition of amateur artists; a musician the amateur who teaches at sixpence a lesson; a singer does not trouble because there are thousands of people learning singing, and we see no reason why a photographer, if properly qualified to fulfil his position, need fear similar competition. Good work will always command a proper price, but the standard will gradually advance, and it behoves the younger photographers to so prepare themselves by training as to be able to take full advantage of any and every advance made in the craft immediately it is made known. An ideal photographic class should accomplish this training, keeping its members well acquainted with all that is being done to further the cause in all parts of the world, thus supplementing the knowledge gained from practical every-day work in the trade.

COMPARISON.

By F. M. S.

Ask a photographer what he understands by "a good sitter;" his reply will not be what you expected. He will not tell you that a good sitter is one who sits still, nor one who is graceful in movement. Neither will he tell you that he considers only those sitters worthy of the appellation "good" who pay ready money. No, though the outside world is inclined to think that, owing to the variety of the features and ways of his customers the photographer's paths are laid in pleasant places. There is one thing almost beyond the power of human endurance, which has become so monotonous that its effect on the photographer and his work cannot help but be injurious. What is it the photographer dreads when the sitter seats herself in his chair? It is not that the slight nervousness of his patient troubles him; he knows by long experience how to get rid of this. It is not that he is in doubt as to the best view of his sitter's face—experience has taught him to see this with half an eye. It is not that he is in doubt about his exposure or his development, for the portrait photographer can "feel" the light, just as others feel the heat of the sun or of a fire. Then what is it which he dreads in strange sitters? It is this—"Being photographed always reminds me of a visit to a dentist," and only those sitters who do not make this comparison does he consider good ones. Why should such a simple statement rouse his ire? Because he does not like to think that photographers are fools compared to dentists, which he

knows is too true, for dentists, unlike photographers, are wide awake to their own interests, while the latter are so deep in their lethargy that the shrillest blast will not rouse them. No longer ago than November 21st of last year, Mr. Hubert tried to wake up his slumbering brethren in these columns, but if they awakened up to read they fell asleep quickly, for no response came from one of them. In a contemporary another knight recently sounded the alarm with a like effect. Compare this to what the dentists have done. Taking up today's paper we read that a person was fined £10 and costs for calling himself a dentist when he had not been registered under the Dentists' Act of 1878. Just imagine anyone being had up before a magistrate for calling himself a photographer who was not one. Why, the advertisements teem with men seeking situations who in many cases, from their own showing, are not competent. If every photographer had to be registered, what a capital thing it would be for photographers' assistants, for they would no longer have to compete with the incompetent.

In the last volume of *Modern Painters* is written: "Government and co-operation are in all things the laws of life; anarchy and competition the laws of death." Can we get any help from Mr. Ruskin's words? Government is a thing unknown to photographers. They never had a ruler. If their business is ruled at all, it is ruled by the man who does the largest trade at the least profit, and who, when he has sucked the orange dry and half ruined the resident photog-

raphers, passes on to spoil another district. Every photographer makes his own laws and rules as he thinks they will benefit himself, or rather as he thinks they will hurt his brother photographer.

To be sure, photographers did, a few years ago, see that it was to their disadvantage to live in a state of anarchy, and the National Association of Professionals was formed, but somehow or other its rule was never recognized. Either photographers were loath to give up their freebooting, or the rules which were made were not strong enough to bind together what Mr. Hubert calls such a lot of "ardent spirits." Cutting prices was, if we mistake not, the principal thing. The association was going to put its foot down when it got to its feet, but it did not stop members from evading this rule when it could be done to their own personal advantage. Seeing how united photographers are with regard to copyright, it is to be regretted that the rest of their business is not conducted with equal unity.

With a governing body co-operation would be easy, and competition, as it is understood to-day, would soon be a thing of the past. We do not go so far with Mr. Ruskin as to say that all photographers should be compelled to charge the same price for their work, so that all who did bad work would have to drop out for want of customers, but as long as the public sees that photographers are daily cheapening their own wares, what confidence can they have in any member of a trade which is continually sliding downwards?



Engraved by BINNER ENGRAVING CO.,
Chicago.

HIS FATHER'S SON.

Only in one branch of the business do we see any stability; those who work for the trade keep to their prices. In many cases, especially for small quantities, they charge more than many a photographer (who thinks he gets good prices) gets from his customers. A photographer has only to be laid up for a few weeks, or have to put his printing out for a short time, to find that the margin of profit is absurdly small. Unless the profits of trade printers are very great, and considering the excellence of the work done we do not for a moment think they are, one of two things must follow, either the average photographer gives his customers much bad work, or he underpays his assistants. As we said before, owing to the glut of assistants who know very little about their work, those who do know suffer in consequence, yet assistants when they tried to combine were as little able to do so as their employers. Other craftsmen conduct their trades to the mutual advantage of all. Even process engravers, who have only been in existence a few years, are doing what photographers ought to have done years ago. Some of the remarks made by the president of a recent meeting of process engravers, Mr. Boutall, are so applicable to photography that we venture to quote them: "The present deplorable condition of the industry is mainly due to the fact that every man has been doing what seemed right in his own eyes, paying little regard to the surrounding conditions of the industry as a whole." Mr. Boutall then went on

to point out that "the process engraving trade was rather of the nature of an artistic industry, and he considered artistic merit ought to have a very considerable influence, not only on the result, but on the price obtained for it." Just so, but as only one in a hundred cares anything for artistic merit, while ninety-nine out of a hundred do care for cheapness, it comes to pass that the photographer who caters for the ninety-nine succeeds, while the one who tries to please the one fails. We hope that Mr. Boutall will not be disappointed in securing for "artistic merit" that pecuniary benefit which he thinks it deserves. We fear he will not, but as he and his friends seem to be nipping disastrous competition in the bud, perhaps he will. Process engravers know comparatively little of wily competition, at any rate they have not yet reached that stage where an enterprising man offers to pay the railway fare of all sitters within a radius of thirty miles. What "artistic merit" could stand against such a tempting bait as that? for even if the photographs should be disappointing the railway journey will be treasured as a "joy for ever."—Photography.

NOTICE BOARD.

The Walpole Chemical Company have issued a 64-page booklet that should be in the hands of every photographer—professional or amateur. It is one of the most interesting little publications of the year. It contains a great quantity of useful information, and is sent free on application. Be sure you have one.

GHOST PHOTOGRAPHS AND HOW TO PRODUCE THEM.



THE journal *Light* offers a prize of £100 for a genuine spirit photograph, and it is said that the award is to be in the hands of gentlemen of recognized ability in the photographic world. It is difficult to see how their

special ability and skill can help them even to guess whether a photographic ghost is what those offering the prize would perhaps regard as "genuine," whether the image is the result of such emanations as Mr. Ingles Rogers considers may come from the retina, or whether it is what is generally understood by the term ghost photograph; a fabrication made for amusement by some process of double photography. The usual way of making these is to attire the ghost in the conventional sheet, and having posed it, together with those to whom it appears, to cap the lens when about one-fourth of the exposure has been given; this capping of the lens being the signal for the ghost to go. The lens is once more uncovered and the exposure finished. This method is perhaps the best from the scenic point of view, as the terrified beholder knows precisely where to look, and something like unity of effect is easy to realize; but the ghost will be as sharp as the rest of the picture, and this is somewhat against an established convention as to that cloudiness of outline which should charac-

terize a ghost. If a piece of thin plate glass is set in front of the lens so as to make an angle of forty-five degrees, with the axis on the horizontal plane, the scene can be photographed through the glass, and the ghost being placed so that his image is reflected from the glass into the camera, it becomes quite possible to include the ghost without the sitter being aware of his presence; but in this case the ghost should be set against a black background, and so feebly illuminated that one exposure only is required. As regards printing in devices from transparencies, we need offer no advice; indeed, such work is generally so obvious as to be at once disillusioning. When, however, a carefully planned ghost scene is required and the method first described is undesirable by reason of undue sharpness or because the models are not available at the same time, the ghost should be set up against an opening into a black-lined alcove or room, and separately impressed upon the plates, taking care to outline on the ground-glass the exact position occupied. In focusing and adjusting the general scene this outline must be brought into an appropriate position. The results are seldom satisfactory when a lay figure is dressed up for the ghost, a living figure being preferable and more manageable.

As regards producing ghost photographs which can be regarded as genuine, we offer no suggestions, as we are totally ignorant as to whether the genuine ghost requires clothes or not, or whether garments as well as persons may take ghostly form. At any

rate, some ghost pictures which have been put forward as genuine have represented ghosts of clothes as well as ghosts of persons, and the former are perhaps more difficult to believe in than the latter; but what is stranger still is, that in adjusting the position of the sitter on the plate, room seems almost always to have been left for the ghost to locate itself just where it has appeared.

COPIES AND REPRODUCTIONS.

By W. E. A. DRINKWATER.

"Specialize" is the advice now given to the professional photographer who feels the stress of competition and the ill-effects of bad trade throughout the community. Good advice it is too—but we easily forgive the man who has run in the groove of the ordinary portrait studio for some years, if he looks around him with some degree of despair on his face, wondering in what branch he can find, or make, his *spécialité*. "Dogs," says one. Yes! but dogs or other animals, to do them justice, must be attended to in their own familiar haunts—certainly out-of-doors—and the poor professional does not like giving up the little trade he has remaining, to go out and seek other work about which there is a certain element of chance. And so with several other special branches that suggest themselves. In my title, I believe, is a suggestion for a *spécialité* that can be made really remunerative; and that without in any way interfering with such work as may come along in the ordinary course of things.

When I was an apprentice, the first use to which I was allowed to put the camera was to make a copy. The camera was rigged up in my presence (it was a wonderful affair, that copying camera), and a faded silver print was pinned up against the wall. I was shown how to obtain a focus, and told to put a plate in the slide—they were wet plates in that day—and expose according to my own ideas. Of course, I was hopelessly out of it about the exposure. Another plate was then exposed by my teacher (?) and developed in my presence. I was then supposed to know all about it, and from that time forth I was entrusted with all copies that came into that establishment. It is a matter for surprise that the proprietor of the studio had his "copies" mounted on plain mounts, without anything to show who had produced them.

This mode of procedure, I am sorry to say, obtains in most studios. "Only a copy. Oh! give it to So-and-so," mentioning one of the junior hands—probably very junior. If we want to make a special line of reproductions, that, certainly, is not the method to adopt. Making copies is, it may be admitted, good practice for a young beginner, but it is not good business for the employer, unless the assistant is well looked after and coached at every stage of the proceedings. Personally, I know that I learned a lot more about optics by struggling with those copies and the small and rather inefficient battery of lenses at my command than I should have done in the ordinary course, but it was at the sacrifice of a large

number of plates, and resulted in some very poor productions. If I made a negative giving prints "as good as the original" I had done wonders.

If the original brought to copy is a good photograph in a decent state of preservation, we cannot hope to do much more than make a duplicate which is as good. But the great majority of copies are from old and faded silver prints, and our point should be to improve on the original to such an extent that the customer cannot fail to be struck with the difference. We can heighten the striking effect by mentioning the peculiar difficulties of the case, and then he will go away and talk, and business must result from this sort of thing. It is a mistake to let our customers think that it is quite an ordinary affair, and that they would have got just as good results had they taken the order elsewhere. Point out to them the differences between original and reproduction, and let them distinctly understand that you—the principal—have devoted time and thought to the elimination of the defects and the improvement of the general effect.

To make really good copies, suitable apparatus is a necessity. It is possible to do good work with makeshift appliances, we know, but a favorable environment and tools easy to manipulate will make a very noticeable difference to the work of the cleverest of us. As regards lenses, the ordinary studio equipment will be nearly sufficient. Three lenses should be enough, one of five inches focus, one of eight inches, and one from ten and a half to twelve

inches. Almost any type of lens will do (except single lenses), but if one can afford the expense, the new anastigmats are, to my mind, the ones par excellence. Failing that, good R.R. lenses with as flat fields as possible. The old triplets were capital lenses for copying with, but somewhat difficult to focus with on account of the small size of the largest diaphragm. I find Zeiss' Series III.A. are especially suitable. The full aperture is f-9 (U.S. No. 5.06), and this permits easy focusing even when enlarging to a considerable extent. The field is so flat and free from astigmatism that there is hardly any necessity to stop down at all: certainly not lower than f-12 (U.S. No. 9). These lenses embrace an enormous angle; No. 5, Series III.A. of $7\frac{7}{8}$ inches focus, is nominally a half-plate lens, but it covers a 10 x 8 easily, and then allows very much of the rising front to be used. If kept central to the plate it gives practically even illumination all over a 13 x 11 plate, and, of course, as used for copying purposes these areas are greatly increased.

The camera must be capable of a good long extension. It should also be practicable to bring the front and back close enough together to use the longest focus lens at its normal equivalent focus—or nearly so. If that lens is of twelve inches focus, it will suffice if the camera closes to eleven and a half inches from flange to focusing screen, and extends to about five feet. Swings on a copying camera are worse than useless—they are a nuisance. Perfect rigidity is a great point, and everything should

be done to ensure it. A tripod would be an absurdity to use with such a camera, and the usual studio camera stand is not all that could be desired. A good firm kitchen table is the best support, if one can be found about six feet long. If not, a stout plank of six or seven feet laid on the longest table there is handy.

A plate suitable to the requirements is the next point to be considered. I do not like, myself, to have a great number of different makes of plates about, but it is obvious that copies cannot be done justice to with the same brand of plates that would be used for babies in the studio. Isochromatic plates I am heterodox enough to dispense with. It is claimed for them that they will do all that an ordinary plate will—and a little more. Possibly so, but I have never yet found an advantage in their use which was great enough to lead me to discard the type of plate I have always favored for copying purposes. I much prefer a very slow plate of the photo-mechanical type, or such a one as England's slow landscape. After all, it is a personal matter, and the man who has had good experience with isochromatics will pause (and be right in doing so) before adopting my particular fad in plates. Anyway the plate we select must be rich in silver, well coated, capable of giving great density if required, and should be backed to produce the best results. Rapid plates with their coarse grain are certainly a mistake. If no experience has been had with slow landscape plates, exposures may bother a bit. I find that from five to

six times as much exposure is required as would be given to a plate numbered 60° H. and D.

I would suggest that in the majority of cases of copying from an old silver print it will be of decided advantage to make a print on bromide paper first. This print should be about twice the size of the intended ultimate print. The most common order that comes into a photographer's hands is to reproduce a C.D.V. (or portion of it) in cabinet size. This is how I should go about it. I should first of all cleanse the print of dirt by vigorous rubbing with the usual lubricator for burnishing purposes, that is, a weak solution of Castile soap in methylated spirits. When dry, cold-roll it under considerable pressure to get rid of as much of the grain as possible. And now I find I have omitted to mention one portion of the apparatus, a printing-frame (about 10 x 8), which contains a piece of flat glass free from blemishes. I do not advise plate glass, as it frequently shows a certain degree of greenish color. First quality British sheet glass is admirable, and often I have found an old negative glass that is good enough. A piece of black paper used as backing will be a help towards preventing halation around the edges.

The print to be copied is placed in this printing frame, and when the back is closed we shall find the print lies quite flat, which it probably would not do if pinned on to a copy-board, and the grain is still further destroyed. I should focus the copy to whole-plate size, using the longest of the three lenses if the camera will

rack out far enough. That is a point worth remembering—always use the longest focus lens you can on a copy, because, with a very short focus lens, there is apt to be light cut off from the original by the close proximity of the camera front. When the focus is adjusted, I measure the distance from the diaphragm to the ground glass. This, divided by the size of the diaphragm, gives the focal value of the aperture at which I am now working the lens, and proves an immense advantage in judging exposures. For example, with an eight inch lens, the stop marked $f-16$ (U.S. No. 16) is half an inch in diameter, and the camera is perhaps racked out to thirty-two inches. Thirty-two divided by half gives us sixty-four, so that we are actually working the lens at $f-64$ (U.S. No. 256), and the exposure is made accordingly.

There is a point to be considered when using a glazed printing frame as a support for the original. You are copying through glass, and it is essential that no reflections are visible in this glass, or they will manifest themselves unpleasantly in your reproduction.

Before printing from this whole-plate negative, it should receive attention in the retouching desk. Careful spotting will greatly help matters, and a little retouching to help destroy the grain on the face and hands. If it be a head and shoulder picture, block the background right out with opaque color, and if it is one figure to be taken from a group, now is the time to do the necessary blocking out. Now make a print on bromide paper—matt sur-

face by preference. A slight washing after fixation is sufficient, as this print is only a means to the end: rough mount it, and when dry, cold-roll it with considerable pressure. If you are at all constituted like myself, you doubtless find it much easier to use a led pencil than to manipulate a brush. This bromide print is now in splendid condition to take upon it work from an ordinary retouching pencil, but if the background has been blocked out to print white we must attend to that first. With a piece of chamois leather stretched over your first finger, and using either powder color or black lead scrapings as the pigment, it is the easiest thing in the world to rub in a background of any desired depth. Go well over the blocked-out edges—at least a quarter of an inch over them—and when you have finished rubbing in remove the pigment from the face, hair, shoulders, etc., by means of India rubber. If the edges of the figure and background still have a cut-out look, a few touches with a pencil will remove it. Shadows can now be strengthened wherever necessary, details that have faded out in the original until almost invisible can be restored, and a lot of general improvement made. It is not at all necessary that for this work you be an adept at “working up” enlargements. Anyone who can retouch an ordinary C.D.V. negative can do all that is required. And when this print is again copied to cabinet size to produce our ultimate prints from, all our work has been “fined up” in the reducing by the camera, and we have a negative that only wants a judicious touch or two.

to help the lights, and is then capable of giving prints by the dozen (or hundred if you are lucky enough to want them) which require no working up, but have in themselves the appearance of well finished prints.

Supposing it is wished to make a cabinet head of one person from a small group negative that is in stock, the procedure is much the same. Block out the background and extraneous figures on the original negative, make a whole-plate enlargement direct on to bromide paper, and treat as before.

A copy of the same size, and from a fairly decent original, would probably be as well rendered by making the final negative at once, if sufficient care has been bestowed on the original by cleansing and spotting it. But if it is faded much, I should treat it in the same manner as before described.

Copying from wet-plate positives or beach-taken ferrotypes is not one of the nicest jobs in the world to tackle. They should first be removed from their frames and dusted. If the original has not been varnished it will be well not to touch the surface at all, but merely to be content with blowing the dust off. A ferrotype, or a collodion positive that has been black-varnished on the film side, can only be pinned up to a board and copied under the most advantageous arrangement of light that can be brought to bear on it. Here the slow or photo-mechanical plates will show to their greatest advantage. Expose fully, and use a developer strong in pyro and bromide, and the resulting negative will probably astonish you if you are not acquainted with the powers of these plates.

If you are lucky enough to get hold of a positive that has been black-varnished on the glass side a still better result may be expected. With the aid of turps, remove the black varnish, and, although very thin and ghostly, you have a negative now to work from instead of a positive. From it make a transparency, either by contact or in the camera, on a plate of this same brand. A very short exposure and a very strong developer is wanted for it; say pyro eight grains, bromide twenty grains to the ounce of developer, using the normal quantity of alkali. It will probably take twenty minutes to half an hour to develop, but the time will be well spent. The transparency, when made, is amenable to all the arts of the retoucher, and from it a negative of any size, and almost any quality, is capable of being produced, which negative is again available to be "worked" upon before being put out to print. Any one who has had a few of these positives through his hands, and knows the terribly scratched condition they are usually in, will realize the advantage of the method.

Daguerrotypes are probably the worst things of all to copy satisfactorily. Do not allow anything to touch the surface of one after it is unframed. The softest camel-hair brush will produce scratches that will show more in the reproduction than on the plate itself. If it has become tarnished, it is allowable to flow over it a very weak solution of cyanide of potassium, care being taken not to carry it too far, or the image itself may be attacked. As soon as the tarnish has disappeared, swill off the

solution with distilled water, and dry the plate at once over a spirit lamp. The image of a daguerrotype is only visible at certain angles; it is extremely difficult to catch one of these angles, and at the same time to keep the camera and original square with each other. The only way is to dodge about from one form of lighting to another until you get into such a position that the image shows clearly to the eye when you stand in the same place as the camera should occupy, that is, perfectly square in front of it. Then you can run your camera up, and make the copy on the same lines as recommended for a ferrotype. One of the most successful copies I ever made from a daguerrotype was taken in the ordinary portrait studio with the camera pointing straight at the windows. The only light, therefore, that the original was receiving was entirely reflected light from the studio wall which faced the windows. I should certainly recommend that with daguerreotypes, as with faded silver prints, a larger bromide print be made first, and worked up a little, and the negative of correct size obtained from that.

From a business point of view there is much to be said in favor of spending this little extra time and labor on copies. (The extra materials are scarcely worth counting.)

An ordinary sitter has a photograph taken out of vanity, or of business purposes. In either case the prints pass into other hands without any particular recommendation of your work except that they bear your name. But the individual who wants a copy made has a real live interest in the picture, or he would not want

it done. Generally, it is a deceased parent, or other near and dear one, and your work will be constantly under the eye of your customer, frequently looked at, frequently shown, and almost always with the comment, "It was done from such a poor faded thing, but Mr. So-and-so takes a special pride in making good reproductions, and you see how well he has done it." To further enhance your reputation, let me strongly advise that all your copies be printed in a permanent process. Do not let your reproduction go the same way as its original. The price you will get ought to permit you to print either in carbon or platinotype; if not, even bromide paper is better than silver paper for keeping qualities. I should hesitate to guarantee a bromide print, but I should privately pin a lot more faith to it as a developed image than to any printed-out impression.

There is room for at least one photographer in every town who can make a name for himself as the man to take copies to. Are you going to be the man in your town?—Photography.

Snap-shot Development.

No. 1—

Pyro.....	55 grains.
Metol.....	45 "
Potash metabisulph. 120	"
Potash bromide	15 "
Distilled water to . . .	20 ounces.

No. 2—

Washing soda.....	4 ounces.
Distilled water to . . .	20 "

Mix in equal parts. In this way the image should appear in from 30 to 40 seconds, and development be complete in from 4½ to 6 minutes.

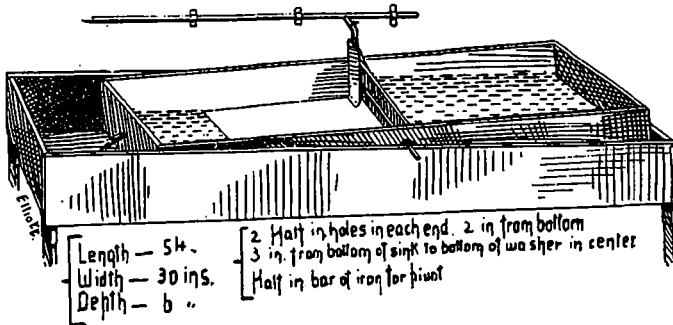
USEFUL IDEAS.

Below is an illustration of a very handy washing tank for gelatine paper, which will be found very serviceable. It is without doubt the best washer for gelatine paper ever used. Prints washed with this washer need no handling, the motion of the machine keeping the prints in constant motion. Any photographer could make this washer at a very small cost. The iron pivot could be dispensed with if so desired and a wooden roll three inches in diameter nailed at the centre of bottom of tank. When not in use this washer can be removed,

different colors as follows: Take as much Diamond dye as you can hold on a ten cent piece, dissolve in one oz. of water in a four oz. bottle; when dissolved fill bottle with boiling water. To use, reduce to tint desired. The surface of picture should be slightly moistened before applying colors.

BRISTOL INTERNATIONAL PHOTOGRAPHIC EXHIBITION TRIENNIAL.

The Council of the Bristol and West of England Amateur Photographic Association begs to announce that the Triennial International Exhibition of



AN INEXPENSIVE WASHING TANK.

leaving the sink free for other purposes. The picture shows the mode of the operation, the water first running on one side of the Λ until that end is filled and tipped down, then on the other, and vice versa.



We saw lately some exceedingly beautiful portrait work in colors. Being naturally inquisitive as to how it was done, inquiries were instituted and the discovery made that the basis of the charming work was gelatine prints, in this case on solio paper, treated as follows: To color gelatine prints first make stock solutions of

photographs, apparatus, appliances and processes, will be held in the galleries of the Academy of Arts, Queen's Road, Clifton, Bristol, to be opened on Monday, 14th December, 1896, continuing open till Saturday, 23rd January, 1897. Apart from photographs for competition, the Council will esteem it a favor if those who have any interesting examples of the history and progress of photography will kindly lend them for exhibition. About thirty medals will be offered. Entry forms and full information may be obtained from the Hon. Secretary, Mr. M. Lavington,

Literary and Philosophic Club, 20 Berkeley Square, Clifton, Bristol; and all exhibits must be sent carriage prepaid, to arrive not later than December 1st, 1896.

ROYAL PHOTOGRAPHIC SOCIETY ANNUAL EXHIBITION.

Patrons—Her Majesty the Queen, His Royal Highness the Prince of Wales.
 President—Captain W. de W. Abney, C.B., D.C.L., F.R.S., Etc.

The forty-first annual exhibition will be held from the 28th September to the 12th of November, 1896, in the gallery of the Royal Society of Painters in Water Colors, 5A, Pall Mall East, London, S.W. Blank entry forms and any further information respecting the exhibition, also nomination forms for membership, can be obtained from Mr. R. Child Bayley, the Assistant Secretary of the Society, 12 Hanover Square, London, W.

BRUSHING.

Of the many manipulations connected with the practice of photography, says a writer in the *British Journal of Photography*, perhaps there are none deserving of more consideration, and which, at the same time, receive so little attention at the hands of photographers generally, than the use of a brush in development, and other equally important operations connected with an all-round practice.

No doubt, the use of a brush is strongly urged by some plate manufacturers, in combination with the ordinary application of a quantity of developing solution to a sensitive

plate by means of flooding the developer over its surface, and the Platinotype Company have been instrumental in drawing the public's attention to the advantages of this method of developing their admirable printing papers, chiefly through the medium of an excellent little handbook, and which they circulate among all the dealers for the purpose of giving instructions as to the best means to follow in the working of their sensitized papers. But, with the vast majority of workers, the idea of using a brush in many of the ordinary operations connected with the practice of photography is almost entirely unknown, or at least the writer has found it so during the course of a pretty wide experience among a large number of members of the various photographic societies in the west of Scotland.

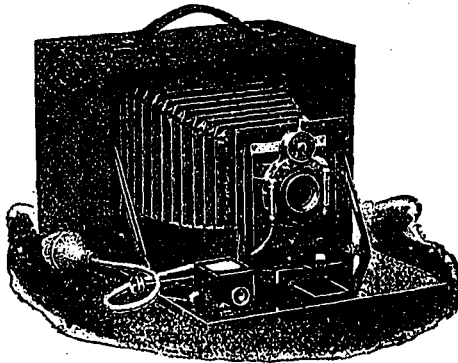
Of the numerous uses or applications to which a broad camel's-hair brush may be put with advantage, perhaps there is none more strikingly practical than the part such plays in the development of prints on large or small-sized sheets of bromide paper. Any one who has never seen a brush used, and who happens to be a witness for the first time to the bringing into view by means of a development of such images by the merely passing across the surface of the paper a soft camel's-hair brush well charged with developing solution, invariably gives vent to an expression of surprise at the extreme ease and simplicity of such an operation, as compared with the more commonly practised and cumbersome method of flooding the entire surface, very probably, of a

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large-sized sheet of paper with a considerable quantity of expensive developing solution.

It only wants to be once optically demonstrated to cause the brush being for ever afterwards adopted for such a purpose.

But very little consideration will be required by any one having experience in the development of enlargements on bromide paper to see at once that not the least of the advantages pertaining to the use of a brush lies in its economy. With metol at 2s. 6d. per ounce, and which is now so much in vogue for the development of bromides and which bids fair to rival and supplant our good old friend, ferrous oxalate, this question of economy alone becomes an important factor, for, in reality, the adoption of brushing in place of flooding necessitates the employment of a very much smaller amount of developing solution (probably only one-fifth of what is required in flooding) when such is employed to the entire surface of a print in one full wave of developer.

It is not, however, on the score of economy alone that the advantages lie with the use of a brush; there are several others of which mention should be made, viz., the power an operator possesses of retarding or hastening the development of any desired portion of the image during the time such is seen coming into existence. With a brush the entire operation of development is at all times completely under control, and many a fully exposed proof can be manipulated in such a manner as to cause the same eventually turning

out an acceptable print, which, by the method of flooding, would only yield poor, flat results; whereas, when brushing is resorted to, at no time does an operator lose control or allow the image to get beyond his being able to retard or accelerate the development of such as a whole or in part, for by means of one or two extra brushes, which should always be kept at hand, well charged by soaking the same in specially prepared redeveloping solutions provided for this purpose, certain portions may be kept back, and others hastened forward in quite a marvellous manner to those unacquainted with this extremely useful and practical method of development.

Any one who for a moment gives this subject a little thought, and who judges these manipulations from a common standpoint, is very apt to imagine that such a method as I am advocating is more liable to cause streaks or surface markings than would be the case with the old, or rather more commonly practised (for brushing is not a new idea), method of flooding the entire surface with one full wave of the developer; but in practice such objections do not exist, although those workers who have never seen a print brushed into existence are very liable to imagine that such would be the case; and especially is this so with those who, for the first time, are eye-witnesses of the operation, for the first brush marks invariably bring into view those parts where the brush has applied the developer at the very outset, somewhat in advance of those parts where the brush was applied a few seconds later.