

Photography—Amateur and Professional

HOW THEY MAKE NEGATIVES

It is impossible for me to tell you how I run my studio, because I haven't any studio to run. But I am going to tell how some of the other fellows run their studios, or at least that part of the establishment which concerns itself with the making of the fundamental of portraiture, the negative. This I can do because I happen to have had the opportunity to observe the widely differing methods of so many professional workers.

The negative should be regarded as the vital part of photographic work. Be your operator never so expert, your printer never so skillful, if the dark room man does his work improperly, the resulting print will be lacking in those qualities for which customers pay you good money.

There are almost as many development systems today as there are men working them, but, in a broad classification, they are resolved into tray development, local or brush development, tank development, and factorial development, a combination of tray and tank.

Tray development needs no exposition here; it is the old system of half a dozen pans filled with new developer, old developer, carbonate solution, bromide solution, warm and cool water, etc., etc. It still produces good negatives, but, as is admitted now by all expert photographic chemists, in spite of, and not because of, the manipulation of the plate from tray to tray.

Tank development is the most modern of methods for the development of plates in the studio; and the enormous manufacture and sale of the necessary apparatus in the past few years has shown that it has come to stay. It is nothing more nor less than the development of all negatives in a weak solution for a normal time, the solution having a normal temperature and normal constitution. The word "normal" in this respect must be taken as meaning correct for the results desired. Any solution of any strength or any temperature, which, acting for any time whatever, produces the kind of negative you desire, is normal.

Inasmuch as almost all plates, and particularly all those commonly used for portraiture, have many things in common, differing in degree and not in kind, certain set factors in tank development are generally accepted as normal. For instance, anything in temperature above seventy or below sixty-five degrees, is not normal, and any developer working in quicker time than ten minutes or slower than one hour is no longer a normal tank solution. The general acceptance of the word normal, as applied to a negative, means, of course, that negative which produces the print you want on the paper you use, with the least effort, masking, and expenditure of time.

Factorial development is the treatment accorded a plate in a tray of solution of known strength at known temperature, in which the time of the first appearance of the image is noted, which time, in seconds, is multiplied by a certain number known as the factor of the plate, the result being the total time of immersion of the plate in the developer. It has been largely superseded by the tank method proper, as being easier and quicker, but factorial development, properly worked, has always produced good negatives.

The tray worker should have no difficulty in choosing between tank and factorial systems, if desirous of making a change, since both produce good negatives, but the one—tank—much more easily and with less possibility of error than the other. There is no competition between either tank or factorial development and brush work, the latter being a highly specialized system of individual treatment, requiring much practice, good taste and judgment, and considerable intuition, while both tank and factorial work are largely automatic in their working.

For this reason, after having outlined the various systems, it seems advisable to note here more particularly some of the various modifications of tank practice, as seen in various studios.

Directly opposite to this idea of saving time and chemicals by the use of a long acting solution over and over again is the method in use in a certain prominent studio which might almost be called a one-man affair; not that plenty of help is not employed, but because the proprietor is everywhere, doing his own operating, overseeing the developing, watching the

printing, and generally acting as the business head of a manufacturing establishment with a reputation to sustain. He uses metal tanks, each holding a dozen plates, and has them in little wooden racks in a sink. A pyro developer is used exclusively and, unlike any other man I ever saw in a professional dark room, refuses steadily to keep any of his chemicals in solution. The carbonate and the sulphite for each day's work are weighed out at the time, the two sodas dissolved together in warm water under trituration in a mortar, the resulting soda syrup mixed in a huge twenty gallon enamel kettle, which is set upon a gas stove and brought to a temperature of seventy-two degrees.

"Why seventy-two?" I asked when I first read this thermometer.

"It chills to sixty-eight when poured into the tanks, in this weather," he said—it was winter—"and the plates and racks chill it further a degree or so. I find that seventy-two original temperature, used within a few minutes after being heated, gives me exactly the tonal quality and gradation I want."

After the temperature is secured the solution is ladled out into the tanks, which are marked to show how full they must be, and then the pyro, measured in a scoop, is placed on a shelf above each tank in little glass ladles with long handles.

Meanwhile the assistant has been putting the plates into the tank racks in another room. As these racks are brought into the tank room, the man watching the tanks takes up the glass ladle with the pyro in it, drops it into the tanks and stirs it vigorously.

"You will note," said the proprietor to me, "that the pyro has no chance to oxidize before the negative gets into it. It is a fad of mine to have clean, clear, black and white negatives, without the slightest trace of yellow. I have never managed to get this kind of negative with a pyro developer made up and kept standing, without unduly increasing the proportion of sulphite, which is, in effect, a decrease in the proportion of carbonate, thus altering the gradations in my negatives. I use but slightly more sulphite than carbonate in this formula, which is my private invention, and by putting the pyro in but a matter of seconds before the plate, no oxidation takes place (which would serve to stain the negative) before the negative is in process of making."

Developing time here is twenty-five minutes, during which time the racks are raised and lowered in the solution at intervals of five minutes to prevent drifting of the image. This practice is not, in my opinion, as good as reversal of the plates, but it seems to work well here, probably because none of his negatives have great contrasts.

"I find that an acid bath gradually coats my racks with rather dirty looking silver from the plates," I was told, "but racks are cheap, and if I don't like the silver plating I can buy new ones. But the doing away with the handling of the plate between development and fixing and fixing and washing I regard as highly important in securing a negative which is not only free from scratches or blemishes, but escapes the possibility of accident."

Still the tank method, but totally different, is the idea of a New York photographer. He uses glass tanks for his developing, and stays in the dark room during the whole time of development. He has never satisfied himself that he could trust the tank for all exposures, being either unable to grasp or unwilling to believe the principles of tank work as laid down by Hurter and Driffield. He insists that while the tank is the ideal method of holding the negative during development, that is vertically, it is necessary to watch the plates and remove each when it is finished, instead of allowing them all to complete development at the same time. So he handles thirty plates at once and slides each one into and out of its wide groove in the glass tanks (which are but glass fixing boxes), examining them as he takes them out and removing them to the fixing bath as each is, in his judgment, a finished product. Not infrequently he drops a half developed plate into the slides of a glass box containing only ice water, there to remain, development checked, until he has time to give it a local touch or two with the brush and glycerine.

In all the tank shops in which I have been, except the one described, the developer is made up in quantity

and kept ready for use. In this connection the aspirator bottle is a great comfort to those who use it. For the benefit of those who may not know this convenient dark room appliance, let it be said that the aspirator bottle is one having a hole near the bottom, in which is fitted a glass stopper, with a tube and glass spigot. Filled with soda carbonate and soda sulphite and pyro and oxalic acid solution, these aspirator bottles allow developer to be made up in the minimum of time and the maximum of convenience. They are also extremely useful for holding developers which in solution are apt to oxidize, as M. Q. for D. O. P. paper. The developer is covered on top with sweet oil, to the depth of an eighth of an inch. The cork is, of course, omitted or the developer would not run from the spigot. The oil acts as a seal, however, and prevents the developer coming in contact with air, the result being that M. Q. can be made up in very large quantities and kept almost indefinitely and used at any time in the original clean and uncolored state. After an oil sealed aspirator bottle is emptied the oil which clings to the side of the bottle should be removed, some hot water and sand shaken about the inside of the bottle providing the means.—C. H. Clandy.



Amateur photographers are invited to let their wants and troubles be known through this column, and they will receive answers in the second Sunday magazine following. Frederick W. Norman of C. C. Pierce & Co., Kodak supplies, 127 West Sixth street, will have charge of the department. All letters must be in by Wednesday night, and should bear upon subjects of general interest to amateurs.

Photographic Editor Los Angeles Herald—Can you explain the best method of introducing cloud effects into negatives? H. A. T.

To reply to the question as asked would be simple enough, as the answer would be that the photographer desiring clouds in his negatives should choose a time when clouds are in sufficient profusion to insure their inclusion in the picture, and the use of a color screen would secure results very agreeable. It is, however, probable that the inquirer has really intended to find means of introducing cloud effects into his prints, and this is not so easily answered. If a negative has been made of a landscape which would be the better for the addition of cloud effects, and almost all pictures of this class are much improved thereby, a good plan would be to watch for an opportunity when the clouds are available in the sky and are lighted in the same manner as that of the original landscape so that no jarring by false lighting effects may occur. A careful exposure for the clouds alone should be made and the plate developed only sufficiently to gain the delicacy of contrast as nearly natural as possible.

A careful tracing of the horizon in the landscape negative should be made on tissue or tracing paper, and the sky part carefully opaqued so as to leave it unaffected when the lower part of picture is printed. After this is made and plate printed the cloud negative can be substituted and printed carefully on the upper half of paper, and then the print can be developed as a whole. A little practice will give proficiency in handling the two negatives successfully, and although the same cloud negative may be used for more than one landscape, it is wiser not to repeat its use too frequently, as overdoing a good thing can be tiresome.

Bromide enlargements can be made with the two negatives also, and in this case the work is easier if enlarging is done in a room and not with an enlarging box. F. W. N.

Editor Los Angeles Herald, Photographic Department: Dear Sir—Could you give me any information as to how I can copy larger than original with my camera. It is 5x7 with 3 focus rectilinear lens, and the bellows is only thirteen inches long, and the

construction of camera won't allow me to lengthen it. DAILY READER.

From your description of your camera it would be impossible for you to make copies larger than the original with your instrument. However, there is no real reason that you should make copies larger than the original, as you can have necessary enlargements made from small negatives with far less difficulty.

THE MAKER

"James A. Patten has a fine house in Chicago," said a New York broker. "I dined with him there one night last month."

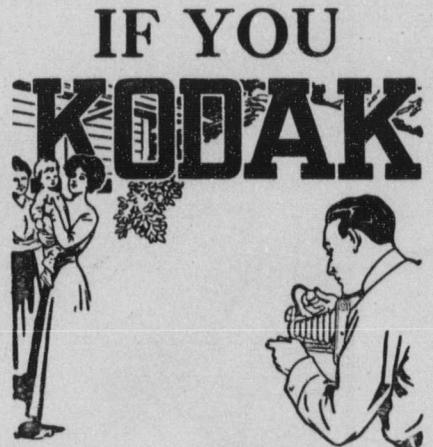
"After dinner I admired a superb statue in the drawing room."

"Splendid statue that," I said. "What is it made of—bronze or copper?"

"I made it out of cotton," said Mr. Patten.—New York Tribune.

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