

taking one ounce of acetic acid to about one gallon of water; the prints, without any previous washing, are placed, one by one, in the acid water, care being taken to see that they are completely covered, and that they do not stick together; it is best to turn them over once after they are in, the same as when fixing. In about five minutes they will turn red; if the water is cold it may take longer, and for this reason I advise tepid water. If the prints turn a bright cherry colour immediately upon placing them in the acid, it is an indication of the silver being too weak; and, on the other hand, if they take a long time, or refuse to redden up properly, quite likely the silver solution is too strong.

The prints are removed from the acid water and washed in two or three changes of water, or until the water ceases to have a milky appearance.

The toning-bath, if a new one is to be employed, should be made a couple of hours before use, and as follows:—A sufficient quantity of water, which will be governed by the amount of work to be toned, and to this is added a portion of the gold solution, containing about one grain of chloride of gold; make very slightly alkaline with solution of carbonate of soda (washing soda), litmus-paper being used for testing, and I have found a small pinch of common salt an advantage; when commencing to tone, a fresh supply of gold solution is added, and made alkaline as before, being careful not to add too much of the soda solution, or there will be a tendency to blister. It will take from one to one and a half or two grains of gold to the sheet of paper; this cannot be calculated closely, as so much depends upon the character of the work and the extent to which the toning is carried; if the greater portion of the work is vignettes and not toned far, then it may be safe to calculate one grain to the sheet; but if the bulk of the work is plain, with heavy shadows and dark ground, and the toning carried on until the prints are purple, then twice that quantity, or nearly two grains to the sheet, may be used.

The toning should be carried a little further than is wished when the prints are finished; but as a rule they should be removed from the bath when they begin to be blue in the middle tint, but take them out while there is still a little red in the strongest shadows. If the silver bath is too weak, the prints will look measly, and tone up grey and flat, instead of a rich purple and vigorous; if the silver is too strong, they will tone slowly, and if they refuse to tone, and look weak and spotted, and seem just to bleach out and turn yellow, or of a pinkish tint in the lights, then, no doubt, the silver bath is acid, or not sufficiently alkaline for the paper.

The toning bath I have found to work better after it has been used a few times, so I keep it, pouring it back into the bottle, and the next day decanting off the clear solution, and the balance thrown into the waste toning bath, afterwards to be precipitated with iron solution. I know the theory is that with an alkaline toning bath the gold will be all thrown down, but in practice I do not find it so, for even after standing several days without using, I have found there was still sufficient gold held in the solution to tone plain paper prints, and for plain paper prints I now always use the old bath without any addition of gold, toning those first. The fixing bath may be made of one ounce of hyposulphite to eight ounces of water, and the prints allowed to remain in for ten minutes, keeping them moving; they are then placed in salt water to prevent blisters, about a pint of salt to a gallon of water, and left in this from five to ten minutes, and then removed to fresh running water to receive a thorough washing.

A word of caution here about burnishing may not be out of place, for I have seen the most beautiful prints spoiled by using the burnisher too hot, the tones completely ruined, most likely to occur if the prints are too damp when burnished.

In a few words, let me recall some of the points to be

remembered in order to obtain success in printing. Keep the paper damp before silvering, so that it may take the silver uniformly and quickly, and also as a guard against one source of blisters. Always keep a sufficient quantity of solution, and never think of starting to silver without being certain of the condition of your bath, both as to strength and alkalinity. If you would have your paper print rich, do not allow it to become too dry before printing. If you would have your prints resist the atmospheric influences as much as possible, do not be afraid to tone them well. If these requirements are carefully attended to, success will follow.

Correspondence.

ART PHOTOGRAPHY.

SIR,—Messrs. H. P. Robinson and W. Heighway have both done much towards conveying instruction to students in art photography: will it be impertinence to suggest to these gentlemen that if they would publish a series of photographs with notes in illustration of the principles they have taught in their former works, it would do much for the beginner?—Yours truly,
A MUFF.

APPARATUS FOR THE MILLION.

SIR,—“It is quite a mistaken notion to believe that very expensive apparatus is essential for the production of good photographic pictures.” I quote these words from your last number of “In and Out of the Studio,” because they and Mr. Stone’s letter remind me that low-priced apparatus of respectable quality was much more easily obtained in the early days of the art than at present. It is just about twenty-two years back that I purchased a mahogany stereoscopic camera with a capital pair of French portrait lenses fitted to it, all complete for the small sum of £2. This was the dealer’s price, and he would have supplied more at the same price had I desired them. I have worked since with the highest-priced apparatus, but, looking back at a few old productions of the cheap outfit, I cannot say that, in all the essentials of artistic work, I have ever excelled the work done with this cheap camera and lenses. Where could I match them now on the same terms? I have looked at catalogues of second-hand dealers, thinking to resume the practice, abandoned for some years past, but I only sigh and reflect that I could furnish a good sized room for the cost of a modern outfit. No doubt the production of fair quality apparatus at a moderate price would lead to a great increase in the numbers of those practising, and would benefit both dealers and professionals by making photography still more popular than at present; but it is not essential that the price should be quite so low as Mr. Stone names, as the purchaser might have the choice of a somewhat superior quality of lens at a rather increased price, say a quarter-plate camera and lens complete for a pound, and they could be supplied at very fair quality on these terms.—Yours respectfully,

AN ARTIST AND AN OLD PHOTOGRAPHER.

SIR,—I have sent a few photographs which were taken without a studio, and which perhaps you will examine and let your readers know what you think of them. No. 1 and No. 2 were taken on gelatine plates at one shilling and sixpence a dozen, with an exposure of about half of a second, the others by the wet process. I don’t mean to say they are the best that can be made, but I believe they will go to prove that photographs can be produced with cheap apparatus. They were made with a square camera that will take plates up to seven and a quarter inches, and which I made for under ten shillings; the lens is not included at the price. I have used the above camera on an average three days of a week for two years.

I see Mr. Richard Parr wants further particulars about the five shilling camera. It would be made of metal; the