The mealy spots should not be confounded with the marbleized appearance, resulting from the imperfect transformation of the chloride of ammonium, or the chloride of sodium, into chloride of silver.

Before being fixed, the prints should be rinsed off, to remove the gold, which would otherwise communicate toning properties to the fixing bath.

The fixing bath is composed as follows:—

Hyposulphite of soda ...	... 8 ounces
Bi-carbonate of soda ...	... 1 drachm
Water	... 32 fluid ounces.

On immersion in the hyposulphite, the real colour of the print shows itself immediately.

The fixing will not require more than ten minutes. It is done when the paper presents, by transmitted light, an uniform appearance, showing no opaque spots of undissolved chloride of silver.

The fixing solution will, by being used, acquire toning properties which are very objectionable, as they are due to the liberation of sulphur. The operator should thus not, for reasons of economy, use this solution too often, and in such way endanger the permanency of his prints.

The washing should be done with the greatest care for half an hour, the prints being laid on a frame, covered with strong muslin, and the water sprinkled over them, as described on p. 157. Where no such facilities for washing can be had, the prints should be washed in several changes of water, for two or three hours, the first changes being made at intervals of five or ten minutes. The prints having been dried are cut out on an even glass, with a sharp knife. To cut them of a proper shape and size, a mat or cleanly cut glass can be used.

Before mounting the prints, it is advisable to keep them for a short time folded up in a damp towel, to prevent their curling.

For pasting the pictures on the cards, use either starch or dextrine paste. Starch paste is made by mixing one ounce of starch with ten ounces of water, and warming gradually to the boiling point, stirring the mixture all the time. Dextrine paste is simply dextrine mixed with water, in the proportion of one ounce of dextrine to five ounces of water.

Correspondence.

MEALINESS IN TONING,

SIR,—As a slight return for the many useful hints I have received from your very excellent journal, I beg to place at your disposal a few remarks which may perhaps cast an additional ray of light on the perplexing subject of mealiness and uneven toning. The principles on which the process of toning are based, appear to be but imperfectly understood, hence it is the manifold remedies which have from time to time been proposed, have been based on empirical rather than on thoroughly understood grounds—abundantly successful in some cases, a total failure in others. My object, then, is to show that the remedies proposed, if judiciously applied in their proper places, are capable of performing all the promises which have been advanced in their behalf (omitting acetates and chlorides, as being altogether unnecessary, except as direct toning adjuncts).

The causes which produce mealiness and uneven toning, my experience induces me to believe, are mechanical, rather than chemical, when a print is placed in the toning bath, there are impediments existing on the surface of the paper which must be overcome ere the gold can settle where it is required, and unless those impediments act with unbroken evenness—mealiness or uneven toning will most assuredly be the result. An oft but unsuspected cause of uneven toning; is to be found in the irregular texture of the paper; if a print after undergoing the short washing usually recommended, is held up and viewed by transmitted light, it has an appearance similar to a partially fixed one, the transparency being very unequal under these conditions, even toning is altogether impossible, and the paper is declared worthless; but if the soaking is continued until this unevenness disappears, the results will be all that can be desired; and this fact will fully explain the reason why a thick paper is more prone to mealiness than the thinner samples, the latter requiring a much shorter soaking previous to toning, to open the pores, and thus rendering more even its texture than will suit the requirements of the former.

Another source of mealiness is a too strict adherence to a given formula, no allowance being made for strength of sensitizing bath, and amount of intensity of light, for be it remembered that when a strong bath is employed, and the printing is carried on in direct sunlight. the prints are more liable to become mealy than if the printing had been effected in diffused light. The reason of this is obvious, the greater deposit of reduced silver in the former case, forms a proportionally greater impediment to the action of the gold in the toning bath, and measures must be adopted to clean the surface of the paper as quickly as the gold can act. From close observation I have come to the conclusion, that this clearing process is the work which the carbonates and acetates have to perform, instead of being employed in merely rendering the bath alkaline. When the resistance offered to the gold is great, by the judicious increase of the clearing material the impediment is rapidly overcome, and the toning goes on satisfactoilry. With slowly-printed pictures a more alkaline reaction is sufficient, an excess of soda will retard rather than increase the rapidity of toning, giving, at the same time, disagreeable brown tones; whilst, on the other hand, if an excess of the reducing agent is not employed in toning pictures produced by direct sunlight, if the paper be at all inclined to mealiness, this much dreaded effect must follow, except, indeed, the toning is slowly performed, for in this case the impediments are removed fast enough to meet the requirements of the limited supply of gold.

I need go no farther to show the nature and constitution of the impediments spoken of, every intelligent reader of these lines will readily understand this as clearly as it would be possible for me to explain.

It will be sufficient for me to observe, in conclusion, that, by sticking to this theory of impediment removal, and tracing these obstacles to their several causes, I am able to obtain clear prints from every kind of paper, from the thickest to the thinnest, from every maker. I have tried, and I believe I have worked on samples from most *all known*. I have an idea that there is no paper sold which a clean picture cannot be printed on (the quality differing of course). When a bad paper is placed into my hands, I do not rest content until I have discovered the cause of failure, and the cause I have always found to be under control; and in removing that I have removed the evil, and exonerated the character of the maker. I could have entered more fully into details, but fearing to trespass on your valuable space, I have condensed my remarks as closely as possible. If a few hints on printing and its relation to toning would be acceptable, I will at some future time, be most happy to place them in your hands.—I remain, yours respectfully,

A PHOTO'S ASSISTANT.

P.S. To explain a remark made on the clearing agents, I do not understand acetates to be alkaline, but they are no less agents or pioneers in advance, to clear the way for the gold.

[Our correspondent's hints are important, and go far to meet the case. We shall have pleasure in hearing further from him.—ED.]