AMATEUR PHOTOGRAPHY.

BY ELLERSLIE WALLACE.

WHEN we come to criticise photographs *as pictures,* we find that one great defect is to be found in their small size. It is true that the perfection of detail and fine finish compound for this in a measure, but it has often been said that one good print of 11 x 14 inches, or larger, is worth dozens of the little scraps made on 5 x 4 and 4 x 3 inch plates. It has lately become too much the fashion to advise the use of small sizes, and to depend upon some enlarging process when a print of good size is wanted. The idea of making small negatives and enlarging them afterwards seems fair enough, and it is, indeed, successfully done in many cases; but if such a size as 10 x 12 were settled upon, we should advise that the negatives be made direct, and the prints not enlarged from, say, 5 x 7 or 5 x 4 inch negatives. All experienced operators agree that the making of negatives for enlargement requires great skill and care. Remembering how greatly the cost of making photographs has been reduced, and what excellent outfits can now be had for a moderate sum, we feel justified in advising those who aim at good artistic results to begin boldly with plates of a fair size—certainly not less than 8½ x 6½, or, better, 10 x 8 inches.

Now, since the first thing to be considered in the selection of a photographic outfit is the size of picture desired, and the next the character of work to be done, let us here say that the difficulties of obtaining clean, good results increase with the increase of size to a certain extent, and the expense of making the picture increases very materially. Nevertheless, in spite of the various processes for making large prints from small negatives—enlarging processes, as they are technically termed—we repeat that we should not advise the purchase of very small cameras, unless mere amusement is the only thing to be considered. Plenty of fun can undoubtedly be had out of the little "detective" cameras now so commonly used, but more satisfaction will be felt in a nice collection of views or portraits on plates measuring, say, five inches by eight or ten inches by eight, the camera for which would be too large to be conveniently concealed as the smaller sizes are.

Since the introduction of the gelatine dry plate, and the consequent simplifying of the chemical part of the work, large-sized photographs may be made with far greater ease than formerly, and to those of our readers who have devoted any attention to art matters we will suggest one of the larger-sized cameras for plates, say fourteen inches by eleven, as offering more scope for the artistic treatment of fine subjects, particularly landscapes.

The size of plate and camera being settled upon, the next thing is to get a suitable lens, and this is often no easy matter. In most of the detective cameras the lens is supplied as a part of the outfit? but one intending to provide himself with a regular photographic apparatus ought to have some knowledge of lenses before purchasing. Without going into too great detail in the matter, we may say that some general distinctions between the different varieties of lenses should be borne in mind, as follows: (1) Lenses including an ordinary angle or amount of subject, say forty to fifty-five degrees on the base-line of the picture, and of tolerably long focus; and (2) wide-angle lenses including eighty degrees, or even more, and of very short focus. It would be natural for the purchaser to imagine that that lens which included most subject would be best, but as a general rule the contrary is true, namely, that the longer-focus lenses are the more practically useful and give the more pleasing pictures. There is another distinguishing characteristic between lenses that are "single" or "doublet." The former are cheaper, but quite good enough for average landscape work, while the latter are indispensably necessary for architectural subjects and the accurate copying of anything like maps, plans, engravings, etc. To those who are disposed to be very economical, we may say that

the front lens of an opera-glass will make excellent photographs. It should be unscrewed from the barrel, and set in a short tube with its flat side facing the view; or, in other words, it should have its position just reversed from what it was in the opera-glass. A stop of suitable size is then set in front of it at a distance equaling one-fifth of its burning focus.

It should be remembered that the *perspective of the photograph is made by the lens,* and cannot be altered by the operator, except in so far as he provides himself with a number of lenses of different focus and angle, so as to be able to treat different subjects with lenses suitable to their peculiarities, using each lens *pro re rata,* as the doctors would say.

It may not be generally known that experienced outdoor operators are pretty well agreed upon certain proportions between the focus of the lens and the size of plate, as affording the most pleasing pictures, and being most useful in the long run. We should thus choose an 11-inch focus lens for the 8½ x 6½ plate, a 9-inch for the 8 x 5, etc., or, in other words, *one whose equivalent focus was about equal to the diagonal of the plate.** But let us take this occasion to say that we cannot too strongly insist upon the desirability of the photographer's having more than one lens irrespective of the size or style of his pictures. We ourselves have worked with lenses of 11-inch, 7-inch, and 5½-inch focus on the 8½ x 6½ plate, and succeeded in a great variety of subjects. The 11-inch was probably used five or six times where the 7-inch was once, while the 5½-inch was only resorted to on rare occasions where the peculiarities of the subject required a very wide angle.

We enter into this matter at some length because the artistic qualities in landscape photographs will be found to depend in great measure upon the ability of the operator to include just the desired amount of subject on his plate from any given point of view; for the latter cannot always be changed so as to favor the lens. Then, also, it must not be forgotten that every change in the position of the camera will change something in the view; the whole character of the picture may be altered by shifting the apparatus a little in one direction or the other. A speaking proof of this is seen when examining the results obtained by the members of photographic clubs and societies after having been out for a field-day; here we often see two photographs of the same subject, where the men have stood side by side, one being complete as a picture, while the other fails in its effect simply because the lens has been a few inches or a few feet farther to the right or left, and has omitted or included some object which has been the making or marring of the picture.

Another prominent defect in photographs, taken as a whole, is that they are usually made in fixed sizes in spite of varieties or peculiarities of subject. How unpleasant it is in the case of a fine panoramic view, where the interest lies in the extended horizontal sweep rather than in the sky or foreground, to see things forced into a nearly square plate, say 10 x 8 inches, which gives entirely too much space above and below, with insufficient length! On the other hand, how empty the ends of a long, narrow 8 x 5-inch plate appear if some isolated and rather square object, such as a villa or group of trees, occupies the centre! Many a picturesque subject, dealing in high and narrow lines, will be utterly ruined if crowded on a square-shaped plate-street views in cities, for example, made near to churches with high steeples. Here we must either have a long, narrow plate, or use a lens of short enough locus to reduce the whole scale of the picture so that it can be afterwards trimmed to suit the subject. Here we see an additional reason why the plate should be of a good generous size to start with, and the outfit of lenses complete. If we had only a small plate on which to make the view, the trimming might make the finished print too small to be worth anything.

Let us now consider the shape of the picture, or plate, together with the proportions existing between its boundaries or sides, premising that while here and there a print may be trimmed square, circular or oval, to suit some particular subject, the oblong shape will be by far the most generally useful,

If we compare two plates, one measuring 8½ x 6½ inches and the other 8 x 5, we find that the diagonal line connecting two opposite corners is 1¼ inches longer in the former than in the latter. We also find that the former has a clear space 1½ inches wider than the other, extending over the whole of the long dimensions of the plate, together with another space half an inch wide at the narrow end. To put

* The equivalent focus of a compound lens is taken as equal to the focus of a *single lens* which would form an image of the same size.

it in other words, the 8½ x 6½ plate differs from the 8 x 5 both in shape and in size, but offers considerably more surface with but a slightly longer diagonal. This latter has an important relationship to the covering or defining powers of the lens, for, supposing we wanted a lens to just cover the plate, we should have to select one the diameter of whose field or circle of light was equal to the diagonal of the plate—not to its base line, for in that case the plate would not be covered. Again, if we desired a lens to give perfect sharpness up to the corners of a given size of plate, we should reckon by the diagonal, and not by the base line.

A little study of perspective is most highly to be recommended to those who desire their pictures to be truthful and pleasing. Now, by this we do not at all mean that our readers should wade through ponderous volumes filled with mathematical problems and long equations, but that they should, for instance, set themselves to consider such facts as the following: If an empty box be set on the end of a long table with its hollow facing the student, it will be observed that the bottom and the sides are in a certain proportion to each other, and that the lines of junction between them appear to recede at a certain angle. If the box now be moved up to within twelve inches of the face, these lines of junction will be seen to stand at much more obtuse angles, besides which the sides will appear broader in proportion to their height than when the box was at a distance. Let him now consider that the principles here involved would hold true in the photographing of street views, and many other subjects where both near and distant objects were included. For if a wide-angle lens be employed, all the receding lines in the picture, such as cornices of buildings, railroads, curbstones, etc., etc., will stand at much more obtuse angles than when a narrow-angle lens is used; the terms "wide-angle" or "short-focus," on the one hand, and "narrow-angle" or "long-focus," on the other, being indiscriminately used by the photographer.

This great obtuseness of angle in the perspective of pictures made with wide-angle lenses, is sometimes the cause of most unsightly and ridiculous pictorial failures. It will be seen at once that the objection to using very wide-angle lenses is that, owing to this great obtuseness of angle of the perspective lines, distant objects will appear unnaturally dwarfed in size, while those near at hand will come out immensely larger than they ought to. A few trials on street views with a lens including, say, eighty degrees of angle, with prominent objects close in the foreground, will soon prove the truth of what we have been saying, and sometimes well-known localities will be so changed in the photograph that no one would recognize them. We are thus met by the paradox that the perspective of the photograph, while mathematically correct, is false to the eye.

These ideas of perspective will be found very useful in photographing architectural subjects, wide-angle lenses often being indispensable here. Caution must be observed in using them on these subjects, however, for if the buildings stand in confined positions, where there is no room to move the camera backward, the picture will have an unnatural effect, and might be compared to the eye of an observer trying to see something that was too close for convenience.

In portraiture, the perspective will suffer very much if the distance between the sitter and the lens be too small, and the lens of too wide an angle. In this case, the cheeks will look too narrow in proportion to the length of the face, while the hands and feet will be absurdly larger than they ought to be if at all obtruded. The head, and indeed the whole figure, will look more rotund and more life-like if a fair distance—say twice the sitter's height—is kept between the lens and the sitter. If this should give too small a picture, a lens of longer focus will have to be used. Objects look broader when taken near at hand with wide-angle lenses. Interior views of buildings, halls, etc., where there is plenty of room to keep the camera well back, will not be found difficult, but the interiors of small private houses and rooms will often be very unsatisfactory subjects because there is not room for the camera to be set well back and give a life-like, natural effect.

Photographs of long, narrow objects will be great failures in the pictorial point of view if the camera be brought too close, and so that the nearer portions are unduly magnified while the more distant become dwarfed in size. Here we see one of the principal reasons why the photographer should have lenses of different focus, so that if he is compelled to take an unfavorable point of view he may not be confined to one focus and angle.

To be continued.