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THE ART OF RETOUCHING

PHOTOGRAPHIC NEGATIVES

A COMPLETE TREATISE

ON THE

ART OF RETOUCHING

PHOTOGRAPHIC NEGATIVES

AND

CLEAR DIRECTIONS HOW TO

FINISH & COLOUR PHOTOGRAPHS

BY

ROBERT JOHNSON

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INTRODUCTION

THE following chapters on the subject of negative retouching and working up photographs in colours, monochrome, etc., do not pretend in the least to make either an artist or a retoucher of one who has no experience of such work; but the writer is certain that, if they are read carefully, and the instructions followed intelligently, an amateur may become possessed, in a very short time, of a knowledge of those rules which, in the ordinary course, would take years of practice to acquire, and which go to make up the sum of professional competency. In the present instance they have been acquired in the very best photographic establishments in England, and in the finish of the finest specimens of photography in those houses; and, as this little book is written honestly, they may be followed safely by the amateur or by the professional who has not had the same advantages for practice. But they are useless without industry. "Critics," as Byron says, "all are ready made." Nothing is easier than to say a piece of work is done badly, but in order to do anything well, it is indispensable that we work until, by constant struggling with a difficulty, we eventually overcome it.

Many people imagine that it is bad policy for an expert to write about the technical difficulties of his profession, thinking that it must have a tendency to cheapen the work. This is a great mistake, and experts who hold this opinion have generally forgotten the difficulties they had to encounter in the beginning, and they do not give themselves the trouble to think about the matter much; otherwise they would know that any one who can do anything well must have acquired that skill by perseverance, and that all who would have the same amount must tread the same path. If they do this they have a right to whatever advantages may result from such energy and industry. But my own opinion is that the more a subject is ventilated and published, the more it tends to popularise it, and, consequently, produces a greater demand.

Now, in the first place, before attempting to learn retouching, colouring, or finishing, I would advise beginners to ascertain if they are physically suited to such work. If your eyesight is not good, have nothing whatever to do with it, either as a means of making a living or as an amusement. If you have taken it up as a means of earning a living, and it injures your eyes, no success that you may meet with will repay you for damaged sight. Discard it at once, and try something else. I have seen retouchers who have not been blessed with strong sight working most indefatigably, never doing well, always suffering, and always in hot water with their employers, passed easily by the stronger, and becoming less capable year after year. What the future of the worn-out artist or re-

toucher is likely to be is a subject rather too painful to think about.

After having concluded that you are suited for such work, proceed to get the necessary implements which are required for retouching.

These are: a desk, pencils, a bottle of retouching medium (sold by Marion and Co.), a silk rag, a very sharp penknife (one that will not only take a good edge, but will keep it) for scraping the gelatine film, another for sharpening your pencils; a small piece of some hard wood, such as an ebony penholder, sharpened to a point, for removing spots of dirt that have been caught up by the medium; a piece of fine sandpaper for finishing the point of your pencils, stumps, sable brushes; a few water-colours, such as burnt sienna, Prussian blue; and I would here remark emphatically that it will be found cheapest to buy all your materials of the very best.

The best desk is sold by Messrs. Marion and Co., Soho Square, which, besides being an elegant piece of cabinet work, which an amateur may introduce into a drawing-room without producing an unsightly effect, also contains all the necessary desiderata for the work. It is very compact and firm; is quite large enough for almost any studio work; contains drawer fitted complete with all necessary tools, medium, etc., movable frame for adjusting the position of the negative, a piece of ground glass, a piece of blue glass for toning down the colour of the light, reflector, etc. etc. Above all, it has been designed by some one who was sufficiently practical to know what are the needs of a retoucher; and the importance of commencing with a

good desk cannot be overrated. With a bad one we are always uncomfortable; we are handicapped in every movement; we have to sit in an uncomfortable and unsuitable position; and, in short, take all possible chances against success. Therefore, I say, get a good desk to begin. I have used one of Marion's for a long time, and speak from experience of its merits. The best pencils are Faber's. The best colours Winsor and Newton's.

And now let us suppose you are commencing work. Choose a north light, as it is the least variable. Sit squarely to your work, resting the left arm on the table if you feel tired. Do not allow your desk to come to the edge of the table; have at least six or seven inches space for your elbows, which space is also useful for putting down a pencil, knife, etc. Use a mahl-stick—not the ordinary artist's mahl, with a wash-leather knob at the end, but a flat, thin piece of deal, rather less than a quarter of an inch in thickness, two inches in width, twelve or fourteen inches long, narrower at one end so that you may hold it easily; let it be rounded at the edges, so that it does not gall your hand. Do not get into the habit of bending almost double over your work, or holding your head in the position of trying to squint through a keyhole; sit upright. Your health will be better, and your work will be better also. You will not tire so easily, and will, therefore, be able to concentrate the greatest amount of energy on your work.

If you are dissatisfied with what you have done to a negative, clean it off with turpentine, and commence again, and do not repeat the same faults. Keep your

hands clean. If you have got a little speck of dirt on the negative, do not attempt to remove it with the finger. Keep your hands from the face of the negative altogether, if possible. Cleanliness in your work is indispensable.

To apply the medium, moisten the silk rag with it, and rub it on; do not use cotton wool, it is dirty and leaves small pieces on the film, woven cotton is too harsh and scratches it. Be careful not to put too much on, rub it until it is nearly all rubbed off. Keep your pencil with a long sharp point, use a more stumpy one for strengthening lights on drapery; and here I may mention something to avoid. It often happens that it is difficult to strengthen the lights on a figure owing to the drapery being of soft material, but in the room there are certain accessories, such as chairs, screens, vases, books, etc., which catch the light; and because it is easy to do so some retouchers, notably Germans, strengthen these lights wherever they can, so that the figure appears lost in the midst of a heap of brilliant accessories, just as some indifferent pianists, when they are accompanying a solo, hammer away at their instrument as if the accompaniment constituted the leading motive of the music; you can hear the piano without doubt, but where is the solo? Do not let your zeal for retouching carry you into this extreme; within proper limits retouching is a vast improvement to a photograph, beyond this it is an obtrusive absurdity.

Most people interested in photography know how to varnish a negative, but there can be no harm in mentioning one or two facts in connection with that process.

If you pour the varnish directly on the face of a portrait it will loosen the retouching somewhat and wash a great deal of it off. If the negative is made too hot it will dry too quickly and will be liney. If too cold it will chill and dry cloudy; practice alone will tell you the proper temperature. There is a medium which prevents the touching from coming off in the varnishing, but it is greasy, and it is necessary to pour the varnish full on the face, or on that part which is covered, so that if there are two heads on one plate it is very inconvenient, as it does not flow well if the plate is covered entirely with medium. It is, however, suitable for plates with one small head in the centre. If you have used the penknife to scrape away part of the film, you will find in touching up that part with the pencil that you have scraped away the greenish coloured part, and that what you put on with the pencil will appear to be blue in comparison with the rest of the negative, and will consequently allow the light to pass through more readily. When it is varnished it will appear still more transparent, so before varnishing you will do well to touch those parts with a thin wash of colour, burnt sienna, in order to restore them to their proper density and actinic value.

TEXTURE AND HANDLING

IN retouching negatives of portraits one of the first considerations on the part of amateurs and beginners is to attain texture, and in so doing they waste valuable time and energy on a subject that really does not demand that expenditure. The cause of this mistake is the same that produces many others on the part of the tyro; he endeavours to get a good result without having any very definite idea, in the first place, what that result should be, and thinks that if he produces a nice stipple he has retouched the face, forgetting in the first place why it is desirable it should be there at all, and in the second place what it should represent.

I have already stated what should be the position in which to sit, and the beginner should endeavour to keep to those directions as experience proves that the best work is always that which is done with a proper consideration of the needs of the body. I have seen instructions to retouchers in which they are advised to work with a succession of marks resembling commas, dots, in fact, with tails to them; others say try and work in small circles, in straight lines, in cross hatching, in dots alone, and in a dozen other methods. Such advice may be given with perfect honesty, and the person giving it may be able to produce a good effect with his

own method, but in my opinion they only serve to confuse and retard the progress of the beginner. It is impossible for any one person to work in precisely the same way as another, and it is unwise to attempt to follow exactly the movements of another hand which is different from our own. The best plan is to consider first what are the parts to be strengthened, what to be removed; make sure that that is done with a certain degree of finish, and we shall find that the texture will, in a measure, take care of itself. For instance, suppose we have the face of an old gentleman to retouch, rugged, liney, and strongly marked. Common sense will tell us that if we work at it until it is as smooth as a child's it will be untrue to nature; and again, if we take a negative of a handsome young lady and retouch it so that the skin looks like that of an old gentleman, we should most likely find the proof thrown on our hands. A certain amount of discrimination must be used, and no hard and fast rule will apply equally in all cases.

Observe what is the character of the surface to be improved upon, and endeavour to produce the same effect. Some faces are patchy but soft, especially ladies'. Do away with the patchiness, but leave it smooth and soft. Children's faces may all be made smooth. Some are freckled to a great extent, these it is always well to remove; no one ever asserted that freckles constituted beauty.

In the faces of young ladies or gentlemen there should be no deep lines or wrinkles. There will of course be strong markings, especially in the male subject, which it is sometimes desirable to leave. It is in faces of ladies of middle age that there is the greatest

need of discrimination and tact. If you do not make them youthful enough you may offend, and if you do make them youthful you may offend; but in dealing with photographs commercially, it is perhaps advisable to err (if at all) in the direction of youth.

With negatives of elderly people, consider first which parts you will remove so as to leave sufficient indication of age, and reduce the rough and wrinkled appearance of the skin very slightly. A photograph is not a microscopic study of anatomy, therefore do not attempt to reproduce every pore of the skin as some retouchers do. If you were going to paint a portrait you would not take a fine brush and draw in separately every hair on the head, but you would represent the masses of hair as masses. The same rule applies with equal force to the texture of the skin. An artist tries to represent as much as possible with one touch of the brush. Let the photograph rely for its beauty upon the excellence of the operating—the pose, the lighting, the general composition of the picture; and remember that retouching is only an assistance, that the photograph is just as good a photograph without it.

When you commence a head strengthen the lights if they need it, do not put a lot of black marks wherever you see a little density in the negative; lights that are very strongly marked you may leave alone even if you think it well to strengthen them in finishing, remember that all lights have a distinct shape. Then fill in all the very decided spots or freckles, next proceed to fill in whatever shadows or dark markings you intend to remove, and bear in mind that there can be only one

part of a head which is most directly exposed to the light; that part will have the highest light on it, be careful to make all other lights subservient to this one. There is also one shadow which is deeper than the others; do not, therefore, fill in all shadows so that they are equal in depth, as that will produce flatness.

When you have done this you will see that the negative looks patchy. Fill in the largest patches with any movement of the pencil you find most convenient (bearing in mind that if you do not work with dots you will make lines; and although, as I have said, it is impossible to lay down a system as infallible and the only one, yet it may be of service to some to know of a method which has been attended with complete success. In my own personal experience, I find using lines to be the only possible method by which to attain speed and excellence. Dotting is a weak and puny process, slow and ineffective. Therefore I would advise: let your touch always have the character of lines as in the illustrations, and that these lines should go across the surface you are smoothing up. We have all seen the thin stripe down the side of a soldier's trouser leg; it carries the eye with it, and makes the leg look longer. A hussar's jacket has bright yellow lines across the chest; they cause the chest to look broader: so that whichever way your lines incline they will lead the eye in that direction, and, if properly placed, will give breadth). This will still leave it patchy; do the same again on a more minute scale, and again if you think it necessary. If the head is large you will find you have now a tolerably even sur-

face, but it is not finished, because the modelling will be defective. You may now varnish it first, making sure that you have filled in the parts you wish to remove as much as the film will take; that is, of course, assuming there are parts that you cannot remove entirely on the one film. You will find that the varnish will remove some of your work, so that all you put on the gelatine film should be done firmly and with decision; but if you rub the pencil on any one part too much, it will become glassy and smooth; you will practically rub away the medium, and that part will come off entirely in the varnishing. A very little practice will tell you how much the film will take. Do not try to put more on, as it will only be attended with failure, and will make extra work.

When it is varnished allow it time to cool and become hard; cover it again with medium, and be very careful to put the medium on smoothly, so that it does not pick up the dirt when the negative is in use. And now proceed to finish the modelling; deal with as large surfaces as possible in order to connect the patches, and let your touch at this stage of the work be of a scumbling character, loose and easy, the lines following no special direction, but of a circular character. Do not pay too much attention to any one part at a time; and at this point I may mention a peculiarity of retouching. If the negative seems nearly finished, but you do not get quite so good an effect as you could wish, turn it on its side, and you will see faint lines of light crossing the face, parallel with the line of the mouth. Remove these,

treating them as lines, and then set the negative up in its original position, and you will most likely find you have got over the difficulty.

The reason for strengthening the lights first will become apparent here. If you had not done so the majority of them would have lost their distinctive shape on account of the work around them. Of course I am in this case describing the work to be done to a good-sized head—say a large cabinet vignette. When you are satisfied with the modelling, you will find that, if you have been careful and clean in your work, you will have acquired a satisfactory texture. A great deal depends on the purpose the negative is applied to. If an amateur photographer is retouching his own work, he has no one but himself to please; if a professional photographer is retouching for a customer, he must use his own taste and discretion; and if a retoucher is working for a photographer, he will probably find that his employer will decide for him the extent to which he wants heads worked up. But whatever the ultimate use of the negative may be, I can say with decision do not try first to acquire texture, as it will retard your progress. Aim rather at improving the modelling without interfering with the likeness. The worst fault an untouched negative has is it is somewhat patchy, owing to the fact that all colours have not the same actinic value. A yellowish mark on the face will come out darker on the print; the same with red or any colour approaching red or yellow. The bluish grays photograph lighter than they appear on the face, and although we may not see them in looking at a per-

son's face, yet they exist, and the camera reveals them in their exact proportion.

This defect can only be remedied by retouching, and although many shallow critics assert that a photograph is better untouched, yet the act of retouching is logically artistic and necessary. How many of us can remember, without reference to the original, the exact shape of any special feature of our most intimate friend? Very few, or we could draw their portraits from memory. We can all draw a square box, a jug, vase, chair, table, globe, or any common object about the shape of which we are certain, but we cannot draw a portrait from memory, simply because we do not remember the exact details of the face. Still less do we remember such minutiæ as freckles, spots, or small lines. We recognise and remember our friends by a much more superficial comparison; and a photograph, to be a likeness of a person, need not be an anatomical diagram of the subject. It is sufficient if it gives us such fidelity as we are likely to notice and remember in our everyday acquaintance with people.

Those who condemn retouching, however, have reason on their side. It is dreadful to see some retouching that is done. You may see faces one mass of white spots; others are covered with little dark rings, with white spots in the centre; others are coarse, with a decided grain. I have seen some retouchers take a batch of negatives, old and young, children and adults, men and women, and treat them all alike, and they all print with one texture of the skin, and that is coarse and spotty. This must be

wrong, because all are really different in nature. A sculptor does not, when he has carved a head, take a tool and chip the whole surface over in order to reproduce the pores of the skin; and if the spots you see on some photographic heads are not intended for the pores, what are they intended for? Retouchers of such extreme conscientiousness do more harm than good, and bring discredit on what would otherwise be considered beautiful.

MODELLING

THE most important consideration in retouching negatives of portraits is the modelling of the features, the success of which depends, in a very great measure, on the general experience possessed by the retoucher, as well as his knowledge of what is or is not artistic. We will begin with the most common pose of the head, and the one which is the best suited to bring out all the characteristics of the face—that is, the three-quarter view, lighted so as to throw the side which is turned away from us into shadow. We shall have a strong light on the brow and temple nearest to us, a line of light down the nearest side of the nose, lights on the upper lip and chin. These are the keys to the modelling of the whole face, and on the maintenance of a proper gradation of these lights with the shadows depends the success of the whole work.

Commence by strengthening the lights if they need it, and in doing so remember that the light on the temples down to the outside corner of the eyebrow will be divided, owing to the fact that there is a depression in the bone at this part; therefore do not make a general mass of light on all one side of the forehead. Of course this rule is subject to alteration, because,

in exceptional cases, we find people with the frontal bone so developed as to show little or no indication of this depression; but generally it is marked, and when it is, it should be observed by the retoucher, as it has a very great influence on the likeness. Having strengthened the lights on the forehead, do the same to those down the nose; and here, again, great care is necessary. It should be remembered that the bone only extends halfway down the length of the nose; then comes the cartilaginous part, ending in the nostrils; consequently in this lighting we shall find there is a break in the line of light just where we find the bone terminate. There is also a tendency for the nose to become thinner and narrower just here, owing to the fact that the cartilage commences in the centre of the bone. This will cause the light to incline towards the centre. Then, in the space between the termination of the bone and the extreme tip, we find the light becomes spread and diffused, losing, in a great measure, its distinctive shape. Then there is a strongly-marked point of light on the tip; and bear in mind that it is the position of this point of light that decides, more than anything else, the length of the nose. In people with thick, stubby noses it will be high up; do not, therefore, in strengthening it, make it any higher, as that will produce caricature, and of a very uncomplimentary order. People with *retroussé* noses will have only one prominent point of light on them, and that will be on the tip. If you think it is desirable this may be lowered, or the light on the bridge strengthened.

It is well to remember that the space between the line of light down the nose, and the edge against the shaded side of the cheek, decides the width of the nose.

It sometimes happens that defective lighting will make the tip of the nose appear too wide and thick; this may be remedied by bringing the point of light nearer to the shaded side of the face.

Classical heads had the nose the same width all the way from where it joined the eyebrows to the tip; of course with exceptions, the "Fighting Gladiator" for example; and I may here remark in passing that any one wishing to become a good retoucher would do well to get a good plaster of paris mask, Juno, Venus, Diana, etc.—they may be bought for three and sixpence at Brucjani's, near Covent Garden—and by putting it in a variety of conventional lights, such as are used in first-class photography, observe how the lights appear, and endeavour to apply the result of these observations to retouching, first painting it a light terra-cotta, as on the pure white plaster the shape of the lights is not so easily distinguished. To colour it, first rub it with a rag dipped in a little boiled linseed oil, and then when this is dry Venetian Red, mixed with boiled linseed oil, and a little turpentine may be put on with a brush, and it will be ready for use in two or three days.

In touching the lip on the negative do not add light close up to the red part so as to make a hard line at the edge; you will observe that the red of the lip begins gradually.

Just below the under lip in the centre there is very often a little irregularity, which causes the shadow of the lip to be somewhat broken in shape. It is the

practice of many retouchers to make all the rest of the face smooth, with a few trifling exceptions, and leave this shadow its original shape. The intention is to preserve the character of the face, but, as Bret Harte makes "Truthful James" say, "the end does not justify the proceedings," it is of the highest importance to preserve the character of the face; but it should be done with system, and it is wrong to give a face a youthful character in one place and an aged one in another.

On the lighted side of the face there will be a small shadow at the corner of the mouth; the retoucher must use his own discrimination in deciding how much of this to remove; but it is certain that in portraits of children and ladies any downward tendency of this shadow may be softened, if not entirely removed, as it gives a grimness and severity to a face which is very seldom admired.

The position and shape of the lips, together with the character of the chin, will be sufficient to give all the strength and decision that is necessary in an expression, and a downward line at the corners of the mouth always accompanies age, so that it is just as well to remove it—perhaps not entirely; leave sufficient to finish the mouth. Wilkie Collins makes one of his characters, a fretful æsthete, complain that servant girls' eyes always appear unfinished at the corners. Do not give mouths this character by entirely removing all shadow from around them.

In the case of heads lighted like the one we are considering, the highest point of light on the cheeks will be on that prominent bone just below the outside

corner of the eyebrow. Do not extend this light towards the nose so that it removes all shadow from below the eyes; leave sufficient to balance that between the eye and eyebrow; and in modelling the jaw there is a tendency to add so much light that the cheek joins the neck with no distinction between the two. This is bad. Some people's necks are certainly as wide as their faces, but folks do not all wish in their photographs to look like athletes.

In cases where the chin is weak, it is legitimate to add light, so as to bring it forward, and also to widen it slightly, but, of course, not so much that it shall be evident it has been done.

One of the gravest faults in commencing retouching is to extend the work so far to the sides of the face as to remove all the delicate shadows at the edges; on the forehead, for instance, of the head we have been considering the highest point of light is on that temple nearest to us, and the farther away we get from that light the deeper becomes the shadow. Do not, therefore, work too deeply into the edges of the face, as one great object in retouching is to attain roundness, which object will inevitably be defeated by destroying these shadows.

We will now reverse the lighting, and imagine the head to be almost full face in pose, but turned slightly from us, with the eyes looking direct into the lens of the camera, and lighter on the side which is turned from us. This is a very good pose and lighting. We get one side of the face in strong light, the other in half light and shade; the lighted side of the nose being turned from us, we do not see. The other side is in

shadow. The light comes round to the shaded side of the face somewhat and catches the cheeks, lighting up that part directly under the eye, and the rest of the face is thrown into deep shadow. The forehead is in partial light and shade, admitting of any amount of alteration; and if there is no moustache, there is a well-defined shadow thrown by the nose on the upper lip. The neck is nearly all in shadow. In this light it is necessary to use a reflector a good deal, so that we have a reflected light on the shaded cheek, and, in fact, on all the shaded side, otherwise it would be too black; and in this case, instead of a shadow indicating the prominence of the jaw, it is a light, on the one side the principal and on the other that thrown by the reflector. The strictest observance of the value of these reflected lights is indispensable; if they are unduly strengthened, it necessitates much more light being added to the shadows, so that we get flatness.

This light is specially adapted to male heads, because it marks the width of the forehead so well, and gives an intellectuality to the subject.

If the face is deeply lined under the eyes, we may remove a great deal, as it will be assumed that the light falling on those parts has taken the deep markings out.

My principal reason for drawing attention to this particular lighting is that the retoucher may not fall into the very common error of strengthening the light on the wrong side of the nose. It appears at a first glance that the strongest light on the front of the nose must be towards that side of the face not in shadow; now, if the face is nearly full, this will be the case, but

the more it gets turned to the three-quarter view, the light remaining in the same position, so the strongest high light on the front of the nose will change its position—will take first the centre and then the head—being nearly three-quarters turned, the light will be strongest nearest to that side of the nose which is in shadow; close to the edge of the shadow will be found the line of high light. The same law will affect the forehead, and the retoucher should be particularly careful how he strengthens light in this pose and lighting.

It is, perhaps, well to soften the shadow thrown by the nose on the upper lip, maintaining as much as possible its outline, as that always gives transparency to a shadow. Of course if there is a moustache this will not be necessary, as it will be lost amongst the hair; and in retouching the neck it will not be necessary to pay much attention to the modelling beyond the fact of preserving the integrity of the reflected light.

We will now consider a profile head with the body turned full towards us, and lighted in the style of Rembrandt. We will say that the cheek turned towards us is in shadow, with just a little direct light catching the cheek-bone, a patch of light on the forehead, a sharp line of light down the nose, a little on the lips and chin, and the merest spot on the neck just below the chin.

In retouching a head of this kind (let us assume it to be a lady's), pay great attention to the patch of light on the cheek, being careful not to bring it down below the mouth, or to add any to it in the neighbourhood of the mouth. As the light only catches the prominent parts,

so if it falls on the cheek-bone and cheek and not so strongly on the sides of the mouth, the assumption is that the face is oval, and not wide or jowly about the mouth ; therefore work away from that part.

The reflector will have to be used again on a head like this. There will be a broad reflected light on the neck, also on the lower jaw, which will be distinguished from the neck by a very delicate shadow. This shadow may be softened as it comes under the chin, but, of course, it must be preserved in its proper shape. A good operator will not use his reflector, so as to make the reflected light too strong ; if it is weak it gives a little more opportunity for the retoucher to improve the shape of the jaw should it be necessary.

The light on the cheek-bone must be softened into the shadow very carefully, so as to preserve the original curve it makes ; also be careful not to make the light on the nose and forehead too wide.

It is sometimes desirable to add a little light to the hair, which is in shadow in heads of this description, as it is apt to come out rather black in the print, especially if the subject is dark.

This lighting will bring out the division between the muscles on the neck very strongly at the point of their insertion. This may be subdued by filling in the shadow we shall find there. If the subject is in evening dress, cut low in the neck, the collar-bone on that side which is most in shadow will be very strongly marked, catching the light on the bone itself, and the depression above it will be very black : fill in the hollow, so as to bring it up to the level of the bone. If you have sufficient skill, you may first scrape the light

down a little with a sharp knife, and then blend the two nicely together with the pencil.

The ear will have a very dark patch in the inner circle; this may be lightened slightly. There may possibly be a reflected light under the chin thrown up from the dress; there will be if the dress is of light material. Do not add to this, as it will give hardness to the face, besides tending to flatten it.

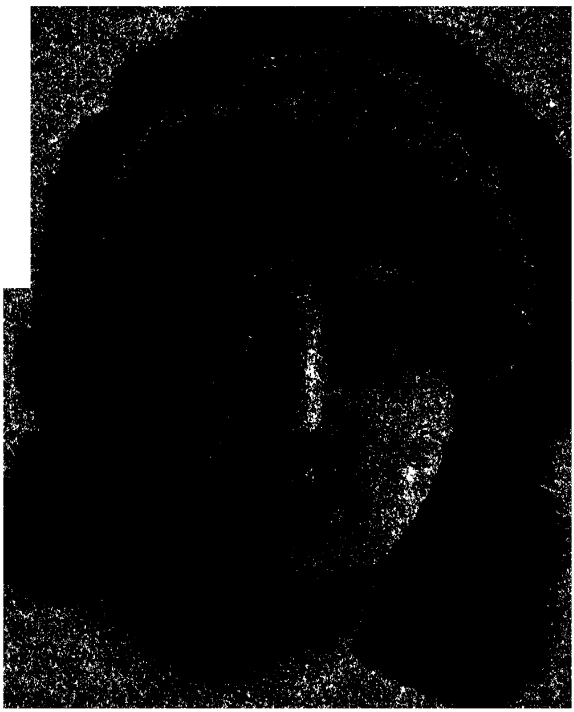
We will now consider a head nearly in profile, but lighted from the other side, the light falling direct on the cheek-bone turned towards the camera, and the body we will say almost full.

The principal danger here is in making the light on the cheek run into the neck, so that the delicate shadow between the two is entirely taken out. If this is done the picture is ruined. This lighting will bring out the shadow at the side of the nostrils, and extending down to the corner of the mouth, very strongly, too much so in most cases; this must be filled up especially when the sitter is a lady and young.

Heads which are turned full face towards us, and lighted from above with the light falling full on the forehead, are the most difficult to manage of all simple lightings, as they give such violent contrasts. The forehead is white and square, the nose has a patch of light down the front. The space under the eyebrows is very dark, so much so as to almost conceal the eyes. The upper lip will have a broad patch of light on it. The red of the upper lip will be very black, the lower will be very white. All that can be done to improve is to lighten the hollows of the eyes, which in an elderly face will be very dark—in fact, lighten all the shadows,

except those at the sides of the face—these must be left to balance the others, unless, of course, they are too black. It is only usual to adopt this light when no other can be obtained, as, for instance, an invalid who cannot be moved about much, and when the operator must take just what he can get. Care must be taken not to add light to the parts already in strong light, especially just above the mouth.

There is one pose and lighting which, if executed well, is very beautiful, and that is the head and body turned full to the camera, and the light falling on the back of the sitter. The reflector has to be brought into use here very much, the face will be in a very delicate half-tone, with the eyes, nose, and mouth marked as in a pencil outline drawing. One side of the face will be lighter than the other. On the opposite side, that is to say, the darkest, there will be a strongly-defined shadow on the side of the nose. This lighting is only permissible in youthful and beautiful faces, as, if it was used in the case of elderly subjects, all the lines and wrinkles would appear very strongly marked; therefore we will assume that the subject is a young lady. By means of the reflector the operator is able to give any value he may please to any special feature, and as he leaves it so it must remain; in point of fact, unless a rough, untouched proof is taken first, when it will be seen better how much to do in the retouching, but without this we may do a little. The light will fall from a point which is comparatively low down, very little higher than the level of the top of the head; therefore wherever the shadow of the head may fall, it will not fall on any part of the sitter, so that if the



subject is in low-necked evening dress, the chest will be in very delicate half-tone, with the light coming round from over the shoulders. The neck will be shaded like a pillar, darkest on the opposite side to the light that is in front. If there is any marking of the muscles here they may be entirely removed. There should be no light added to the nose or to any prominent part of the face, as it is almost certain to be wrong. The whites of the eyes may be cleared up if they appear to need it. The forehead may be made level, as any slight modulation would not appear; and if there is any softness from being out of focus at the edges of the hair, leave it so. On the lower jaw there will be reflected light from the shoulders; do not add to this, as it will flatten and harden the picture.

The red of the lips will be very strongly marked, and if it is thought desirable to make any improvement in their shape, it can be done without being detected: faces lighted in this manner lose a great deal of their natural characteristics, so that if any alteration is made it is not so easily noticed as in an ordinary conventional lighting.

THE MOUTH

In retouching the mouth in ordinary portrait negatives it is sometimes only necessary to make a very slight alteration, such as merely filling in the cracks of the lower lip and softening the line at the corners. In cases such as these of course it is soon done, but in others a great deal more is required, as, for instance, the heads of professional ladies intended for publication, actresses, musicians, etc., it is nearly always advisable to make some improvement if possible.

The most beautiful mouth is generally understood to be of the Greek type, the lines of which follow the shape of the cupid's bow. Of course it is not always possible, or even desirable, to give a mouth this character, but if any alteration is made it is found to be best if it has a tendency in this direction.

Mouths which have the corners drawn down will have a sour or severe expression, those which curve upwards at the corners will necessarily be the reverse. In order to see the extent of the influence the curve of the mouth has on the expression, draw on a scrap of paper a couple of small circles to represent the outlines of two faces, put two dots for eyes, a perpendicular line for a nose, and then put a curve like a half moon for a mouth; in the one let the horns of the crescent

curve upwards, in the other downwards, and the result will be you will have a suggestion of two faces with totally different expressions: bear this in mind in all character portraits.

One fact to be observed particularly in retouching mouths is, that no matter how the negative may be lighted, there is very seldom a marked black line between the lips. There is darkness certainly, but if the head is lighted from any point above the level of the mouth, you will observe there are three depths of tone on the lips. The lower will have the strongest light in the red part. The red of the upper will be some shades darker, but the upper lip will throw a shadow on the lower, and this shadow will be the darkest of all. On large heads this will be more readily apparent than on small, but however small the head, the distinction between the shades is just the same; and if we know where to expect a shadow, and recognise it for what it is, we are not so likely to spoil our work as if we knew nothing about it. There will also be a small sharp bit of light on the red of the lower lip, which has a great influence on the shape and size of the mouth, according to its distance from the centre; it marks the fullest part of the lower lip, and if you change its position, proceed very carefully.

It very seldom happens that a head is lighted from the level of the mouth, but it may occur in pictures taken at home, where an ordinary drawing-room window is the source of light; in that case there may be somewhat of a line between the lips, but that line can only happen in such cases, or in those in which the head is turned with the face full towards the camera, and

lighted full on the back of the head, the whole of the face in reflected light; and, as I have before said, the opportunities for changing the shape of the mouth are greatest in that lighting, but it is not often used; unfortunately it is not suitable for the average sitter. If the teeth show on account of the lips being parted, do not add light to them; but if it is practicable, take a little off with the knife.

THE EYE

WE now come to the eyes, the retouching of which demands a very great deal of care. It is the mistake of many retouchers to what they call "sharpen up the eyes," and the way this "sharpening up" is effected is by retouching, that is to say, adding light to the white of the eyes, and leaving a clean hard line round the outer edge of the iris. Sometimes the pupil is darkened by having tiny holes pricked in the film of the negative with the point of a needle, the result being that the pupil of the eye becomes darker and the white part lighter. I have even seen this carried to such an extent that the slight humidity which is often seen at the lower part of an elderly eye, and which catches the light, and becomes thus white, has been completely taken out by the surrounding parts having been raised to its level; this must be absurd, and the practice of indiscriminately adding light cannot be too strongly deprecated.

Any one who has any experience in drawing portraits, either with the pencil or brush, knows how important it is to exercise care in the treatment of the eyes. Probably no part of a face, unless it be the mouth, has so much influence on the expression as the eyes; and I would strongly advise all who are begin-

ning to learn retouching to leave the eyes until they have seen a proof, when they will be better able to judge the extent to which any alteration they meditate may be carried. It is very often the custom to touch out the shadow under the eye, and leaving small dark marks sticking out from the lower lid like the teeth of a garden-rake, all alike, each one very stiff and straight and formal—these are supposed to represent eyelashes.

Now a very little observation will show any one that the hairs of the lower eyelash do not stand out like this, singly and formal, but are nearly always inclined to mass together, no two masses of which are alike; and in leaving suggestions of eyelashes endeavour as much as possible to maintain this character, which if well done will give an exceedingly natural effect.

The shadow of the lower lid may in youthful faces be very much softened; in people past the prime of life we must proceed more carefully. In youth take out as much as you can without injuring the character; in elderly faces less must be removed.

If there are a number of reflected lights on the pupil or iris, reduce the minor ones and leave the most important one; but this must only be done, as before said, after a proof has been seen.

If the eyes look sleepy, raising the curve of the upper lid—that is to say, making it more arched—will give brightness to the expression.

When people smile or laugh the lower eyelid is raised; lowering this will of course give a more serious expression. In faces the expression of which is very

calm, the curve of the lower eyelid is always very low, and naturally the reverse of this may be said of faces the expression of which is bright and lively. It is by the knowledge of such facts that the retoucher who wishes to make any material alteration to a face is enabled to avoid augmenting that character, which he would wish to see subdued.

In retouching the upper eyelid care must be taken that it be not lightened immoderately, as that takes the attention from the eyes themselves. The eyebrow never has its two sides parallel, therefore in adding light round them we must endeavour to leave them their original shape. Eyebrows which are raised in the centre of the curve give blandness to the expression.

When we frown the eyebrows are drawn together in the centre, so that if we wish to remove a frown we can do it better by widening the space between the eyebrows than by merely removing the wrinkle which is caused by their contraction.

In frowning the eyebrows are also lowered, which throws an unusual amount of shadow over the space between the eyebrow and eyelid, so that if we wish to increase the amiability of an expression, we can do so by adding light to this part.

THE NECK, BUST, AND ARMS

In retouching the neck, bust, and arms, the necessity for attending strictly to the rule by which we determine the direction the lines of retouching should take becomes very marked, for on such large surfaces as we should find on a portrait of a lady in a low-cut evening dress it is not profitable to spend much time, therefore we should endeavour to adopt a method of handling the pencil which should get over the ground as quickly as possible, and yet print with the desired effect.

To attain this we should work in a broad and open style, using the pencil freely and easily, so that if it should happen that any indication of our lines should print, it would not matter if they have the right direction, and this direction should be parallel with the lower line of the jaw, that is, across the neck and never up and down; when we have reached the bust we may change the direction slightly.

Very few ladies like to show a bony or scraggy neck, therefore all muscles, such as the large one proceeding from the back of the ear to the collar-bone, which is used for turning the head from side to side, should be removed, at least as far as its perpendicular character is concerned, leaving, however, an indication

of its insertion in the breast-bone, which indication marks the limit of the length of the neck.

In profile heads with Rembrandtesque lighting, if the light falls directly on the front of the face, the shadow on the neck will be very flat, owing to a reflector having been used; do not therefore attempt too much modelling on a neck so lighted, as it will have no value.

On the necks of some ladies a slight crease appears on the skin running round the front and sides of the neck; it is occasionally desirable to leave this, reducing it only as far as any blackness in the line is concerned. The taste of the retoucher can be the only authority to decide when to subdue it and when to remove it entirely.

When we proceed to touch the bust we may change the direction of our lines, and instead of making them follow the curve of the jaw, they may make an angle of 45° with the perpendicular of the body, but almost any direction is allowable except perpendicular which can only be used in touching the nose.

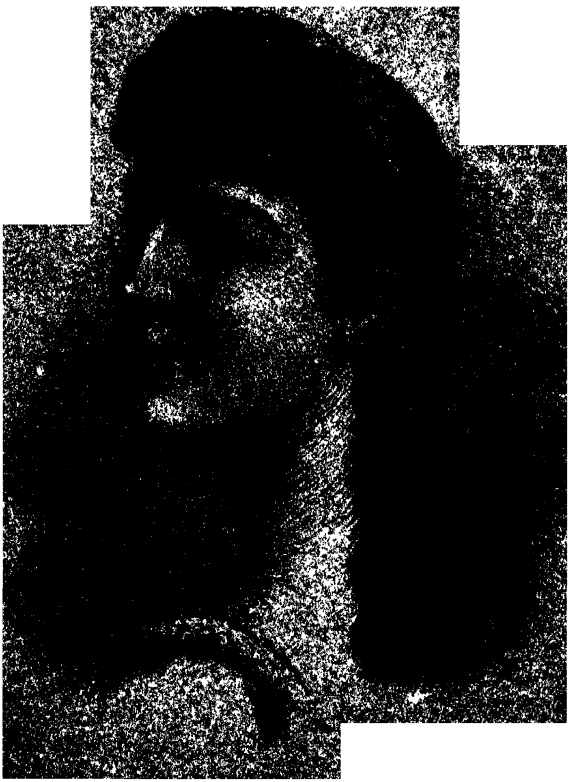
If the subject is of full habit, the shadow between the breasts will most likely be very dark; this should be lightened and no hard line allowed. The result will be the whole of the chest will be brought forward, which is preferable to the breasts being too prominently displayed.

In negatives of ladies who are very thin the divisions in the breast-bone will appear; these should be taken out.

In retouching arms we have very great variety in the texture of the skin, but one style of handling will

be found sufficient. Let your touch be of a scumbling character, taking any direction except parallel with the length of the arm; do not let it be at right angles directly across its width, and having once decided on the direction, keep to it from the shoulder-strap down to the bracelet, if there is one, and to the wrist if there is not.

If the arm is hanging down, the veins of the hand become more prominent than is desirable; these may be nearly, if not quite removed. On no account should the marking in front of the elbow be taken out, as that produces a wooden effect.



HAIR

IT is sometimes necessary to retouch hair, as, for instance, when the sitter has moved during the exposure, or where the negative is slightly out of focus.

If the head be turned three-quarters, and the eye which is nearest to us be directly in focus, it very often happens that the other eye is out of focus, and consequently everything which is in the same plane as that eye will also be out. If the subject has long hair hanging down at the sides of the face, whenever it is in the same plane as the farthest eye it will be out of focus, and it is necessary to sharpen it.

Those who retouch badly generally proceed in sharpening hair to make lines running in the direction of the growth of the hair, so that when they have finished the hair looks very much like bunches of candles and very little like hair. To avoid this and similar mistakes get a good photograph of some one with curly hair, or examine a good oil painting or first-rate steel engraving, and you will see that the lights on the hair do not follow necessarily the direction of its growth, but really run at right angles with it. This is so markedly in curly or wavy hair. Let the handling of your pencil be certainly in the direction of the growth of the hair, but the mass of light which you

strengthen will most likely run across it. This will give brilliancy to the hair, whereas long lights in the opposite direction will have the effect of making the hair look gray.

On men's heads, when the hair is cut short, there will be a mass of light which will follow the shape of the head, and as no part of the head contains a straight line, in strengthening this light be careful to maintain the curve which it takes, and you will thus retain the proper shape of the head.

Of course the light across a curl of hair will not be a straight line, or even a line at all, but will be a zigzag patch. Remember that long lights on hair make the hair look white or gray. Get a photograph of an old man, and you will see that the lights on the hair, if it should happen to be gray, are really no whiter than the high lights on black, shiny hair. The main difference is they are longer, and of course the shadows are lighter in comparison.

Red hair will photograph black. If you object to it you may make the lights longer, or you may put a little colour on the negative with a brush, so as to lighten the hair generally. Some photographers put powder on the hair of these sitters, especially on the shaded side of the head, when taking a picture with a Rembrandtesque lighting, which is a great assistance in bringing up the detail, which would otherwise be lost in the shadow, but it has a tendency to photograph spotty.

In cases where you have a flat surface of hair in shadow which is too black, do not try to lighten every individual hair in this part, but add a few lights, soft

but firm, to indicate the masses, and then add a general wash of water-colour on either side of the negative.

When the hair is long and lank, hanging down as children wear it, the lights will naturally be longer than on crisp and curly hair, but they will take up a very small proportion of the surface ; the majority will be in half-tone and shadow.

THE DRESS

THE dress of ladies occasionally needs a great deal of retouching, and as there are so many different materials used in their manufacture, so each must have a different character of touch.

We will begin with a lady who has been photographed in the costume of presentation at court; she will have ostrich plumes in her hair and perhaps on her dress, which will be of light-coloured material, most likely white—always white on a first presentation. The number of plumes is decided by her condition; being three if married, two if unmarried. She will also wear a tulle fall, and will probably carry a bouquet. Now if this lady's complexion and hair are dark, and if, as very often happens, she be photographed in the afternoon after the presentation, the light will possibly be weak, the negative will very likely be defective. The operator will expose for the hair and face, and if they are fully exposed the dress, etc., will most likely be exposed too much. The feathers will be patches of white, and a very great deal of the detail of the dress will be lost owing to the over-exposure, or if the dress is satisfactory, the face will very likely be under-exposed.

The edges of the tulle, or wherever folds occur in

it, will have to be strengthened with strong lines of light. The feathers will want touching, so as to leave a division down the centre of each if possible; and bear in mind that all materials which print white will want firm touching, as weak, thin lines will have no perceptible effect. Silk will most likely be the material of which the dress is made, and in the train it will be on the floor in masses with sharp, hard lights (the regulation length of a court train is three yards, but they are generally four). These lights must be strengthened with decision. If the train is brought round to the front of the figure in a curve, be careful only to strengthen those lights which will assist the idea of its arrangement. Only one side of the body can be in the strongest light, therefore do not strengthen both sides equally. I have seen negatives where the head has been lighted on one side, and the lights on the body strengthened equally all over, so that it appeared to have no connection whatever with the head. This is a grave mistake, which should only need to be hinted at to be avoided.

Thick soft dress materials will have round folds in them with soft, broad lights, so be careful not to make the lights sharp and hard, as, if that is done, it is seen at a glance to be artificial, and looks very unsightly.

Velvet has very characteristic lights and shades. The half-tone predominates, as indeed in all combinations of light and shade; and the lights, which are what the retoucher has most concern with, are narrow and well pronounced, but not sharp, and never white unless the velvet is white or light blue.

Plush will have light somewhat similar to velvet, but broken up irregularly. Satin will be of the same character as silk, but more pronounced in the lights.

When retouching lace collars, etc., in small heads try and do it quickly; notice the shape of the lights, which will vary with every different pattern, and endeavour to impart to your hand a movement corresponding with their shape and direction. Work rapidly, as far as your experience and practice will permit, and work with decision, being sure in the first place that your hand is sufficiently under control before touching the film. If this is done well it will give crispness to the look of the material.

In retouching flowered patterns on lace do not try to follow every thread and simply make them whiter, but decide which is the part that is most important, and touch that and that only. A very little examination of first class works of art in museums and picture galleries will show you that in painting lace only the parts that are in prominent light are emphasised, all the rest is treated very broadly. There is a picture in the South Kensington Museum by George Morland. It represents the interior of a stable. On the ground is a heap of straw, which is surely as thready a subject for painting as one could desire, and a most striking and graphic effect is produced with a very few strokes of the brush; but every one of those strokes means something. It appears to be done in three paintings, first, the general local colour of the spaces between the straws, next, a few straws which may be accepted as the top ones of the heap, and lastly, a few sharp touches of light on these or on some of the most prominent ends.

Now lace should be handled in the same manner, feathers the same, and plumes on military head-dresses, the same rule applies to all; and the conscientious retoucher who wishes to become first class at his work should observe how the pictures by great artists are handled, and be sure that the same rules of art which are used in the execution of a great picture by a great master apply with equal force to so humble a piece of work as retouching a photographic negative. If they are applied with discretion, they are an invaluable help; if without, no matter how honest and painstaking the retoucher may be, the negative is better left alone.

FOLIAGE AND GRASS

PHOTOGRAPHING landscapes would be a much easier task than it is if there was no wind. Mountains, rocks, houses, fences, and even cattle will remain still, but trees sometimes give a great deal of trouble by their utter disregard of the commonest courtesies of life; while they are being photographed they will move when the wind blows, and very often pictures which are well chosen, well exposed, and most skilfully developed, are rejected because some wretched clump of trees or rushes moved during the exposure. This is annoying, but in many cases it is not quite irremediable, and a little skilful retouching has saved many a valuable negative which would otherwise be considered useless.

Retouching trees requires, in the first place, a little observation of the trees themselves on the part of the retoucher. The important item to be observed is the shape of the masses of leaves. These masses obey one general law in the regulation of their shape. Nearly all leaves have a tendency to lie flat, so as to present the largest possible surface to the rain and light, and the same law affects the growth of the branches. We will take an oak and consider the shape of a large limb growing direct from the main trunk. The smaller branches which grow from this limb do not grow one

above and another below alternately, but proceed more or less from the sides. The attraction of the earth inclines them somewhat downward; and although we cannot go so far as to say that every line about a tree beyond the main trunk is a horizontal one, yet all have a tendency to take that direction, so that if we stand in front of the oak and fix our attention on one branch, we shall see that the foreshortened view of the mass of its leaves presents a crescent shape, the horns of which point downwards. This is subdivided into smaller and more divergent forms. Those boughs which are nearer the top cause the masses to incline more to the horizontal, consequently the crescent assumes more the character of a horizontal line, making due allowance for the change in the point of sight.

Now, all trees obey this law relatively, and before we attempt to retouch a negative containing trees which have moved slightly or which are too dark, we should first see what sort of a tree it is, and observe carefully the shapes of the masses of its leaves, then with a brush full of colour carefully draw in, as if we were painting a picture in water-colours, each mass as it catches the light, leaving the spaces between to represent shadow; and when it is dry, and the negative is varnished, we can with a pencil touch in a few lights on the edges of the masses, being careful to remember that only one edge can be in prominent light. If the tree is in the immediate foreground, we may even paint in the smaller masses into which it is subdivided. If it is so close that we can distinguish every leaf plainly, and it has moved much, we had better leave it alone, as it is impossible to make anything of it. Do not

even attempt to touch every leaf, or to let your work have that character. Breadth is the important consideration in art.

If your picture has been taken at noon, the light will of course be at its highest point, and in that case only the tops of things should have any light added to them; but the morning and afternoon lights are the best suited to pictures containing large masses of foliage.

In retouching grass or rushes it is better to retouch with the brush if they are in the foreground, endeavouring to do as much as you consider necessary in one stroke, as then you are least likely to produce muddle; and, as in retouching trees, observe the general shape of the masses, and keep to that shape. Do not attempt to individualise single blades of grass, or you may as well reject the camera at once, and set to work to paint the picture throughout from nature.

SNOW AND CLOUDS

WHEN retouching snow scenes only add lights to the foreground and middle distances, and do not get out of those planes. If there are many prominent points which have caught the snow, such as the eaves of cottages, stumps, steps, stones, fences, and bushes, etc., touch a few of the most important only, and remember that even in snow there are gradations of light and shade. So do not plaster the light on indiscriminately, but remember that that part which is turned to the light will be whiter than any other.

If it is necessary to add light to clouds, let it be done with a stump charged with "Sauce Velour," which may be bought at any artist's colourman; and when the negative is varnished it may be strengthened in places with a black lead pencil with a soft broad point. And here, again, a little observation is very profitable Remember clouds have a definite shape, and that shape is not always that of a powder puff or a dough dumpling. Some retouchers appear to think it is, and act accordingly. In order to learn how to add clouds to a negative the best advice I can give is, examine carefully the works of such artists as Turner, Birket Foster, Leader, Linnell, Constable, etc., and you will learn more than your own observation of nature would

be likely to teach you; and, above all, never attempt to put clouds into a photographic picture unless it is easy to do it, and difficult, upon examination, to say that it has been done. Clouds that are manifestly the work of man are seldom attractive.

WATER

As a rule, landscape is one of the first subjects the amateur photographer attempts, and from the difficulty in dealing with the light, landscapes are generally less successful than portraits, not alone from the variation of the light, but from other causes too numerous to mention here, but which will be understood by all who have had experience of landscape photography. Landscapes with water are very much beautified if the water comes out well. The sea, lakes, ponds, rivers, streams, all have their different characteristics, and each presents a different field to the retoucher in the event of the negative being defective. Rivers, for instance, differ from ponds or lakes in one marked respect; they flow, and the wind blowing on the surface even of a sluggish river will produce waves of a different shape from those on a pond or lake.

Any one who has varnished a negative with a paper label on the side will remember how the varnish will run off in streaks from the corner of the paper, so any irregularity of the banks of a stream will cause lines to appear on the surface of the water, and these lines should be seized upon by the retoucher and strengthened if there is any mistiness or indecision in the negative. It should also be noticed that all waves

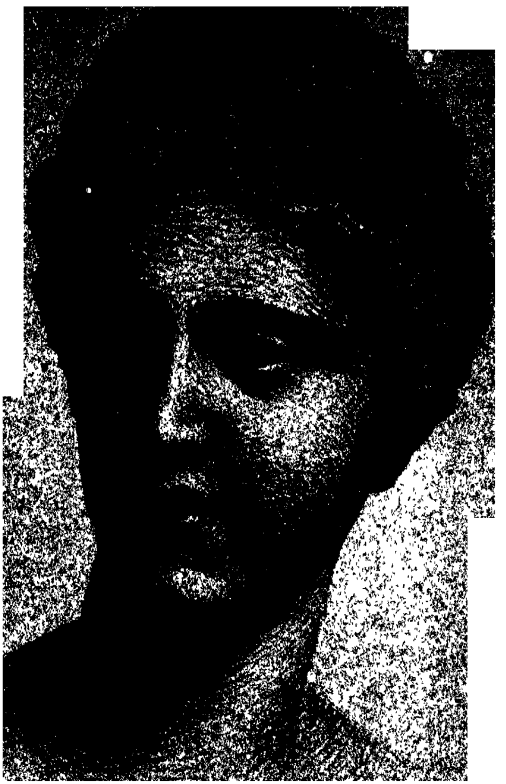
on a river run in curves, and never in straight lines; these curves should be very carefully observed, and their direction accentuated if it is thought necessary. These curves are never any part of a circle, but are either hyperbolas or parabolas. I have seen photographs of water in which all waves have been touched equally, each one lighted at its crest, the result of which has been the photograph has looked like a Japanese or Chinese painting, where every wave is a duplicate of the one before or behind it.

Still water sometimes reflects the banks so clearly that it is difficult to say where the bank ceases and the water begins. If it is examined closely it will be seen that one is darker than the other, therefore it is not amiss to slightly strengthen the peculiarities of the bank just at the water's edge, adding light to the corners of stones, etc. It is never good to put a horizontal line of light at the water's edge unless there is one already there, but if there is a slight indication of one it may be strengthened.

Waves of the sea afford the greatest variety of shape, but in one respect they are all or nearly all similar. They do not run directly parallel with the line of the coast, but are generally at an acute angle with it.

On the west coast of England and Ireland the waves are long and regularly formed, rolling in almost parallel with the line of the coast if the wind is blowing direct from the sea. I have seen waves there which have appeared to strike the shore in one unbroken line of foam a mile in length.

In retouching waves it is well to select the best-



looking ones—those that are most wavelike and leave the others; and in photographs of beach scenery, when the sea is taken into the picture, the waves nearly always run in a curve. This should be attended to by the retoucher, and in strengthening the lights on waves do not work timidly. If you are pretty sure what you want to do, you may retouch with a sable brush charged with burnt sienna.

If it is practicable, see such pictures as "Toil, Glitter, Grime, and Wealth on a Flowing Tide," painted by Wyllie, and "Their only Harvest," by Colin Hunter, both of which are hanging in the Chantry room at the South Kensington Museum. The one by Wyllie in particular is a magnificent example of water painting; and if you would retouch water well, it is impossible to get a better lesson than by noticing how it is handled in such pictures as those I have mentioned. That by Colin Hunter is also a very fine example of broad, powerful handling.

Water may be said to have two distinct characteristics—its general colour and the variations of light and shade which occur when its surface is disturbed. It is with the latter that the retoucher has to deal principally.

Photographers living by the sea will naturally take a good many pictures of the sea; and very often it is impossible to get the waves sharp and well defined, so that it becomes absolutely necessary that they should be retouched, and sometimes, owing to the fact that the subject is so interesting, the negative becomes very valuable. For instance, a negative of a lifeboat going to the relief of a vessel in distress. In retouching

such pictures only touch a few of the most prominent features, and in doing so use either the brush or a soft and black pencil, and having decided what to do, work boldly and firmly, paying attention only to those parts which are in the foreground and middle distances.

ANIMALS

PHOTOGRAPHERS are very often called upon to take pictures of favourite animals—horses, dogs, cats, birds, etc.—and in one respect they are all alike—they move at inopportune moments, so that the retoucher is in constant requisition in restoring ears that have been laid back, paws that have changed their position, tails that have been wagged, etc.

Sometimes we have negatives of dogs with two tails; in such cases select the best one, and with a penknife scrape away the lights on the other, and with a pencil fill in the shadows; the same with horses with four ears. Such phenomena would doubtless be very interesting to a naturalist, but the owner of the original would perhaps fail to recognise his property.

Negatives of dogs with long hair sometimes cause a great deal of trouble, but the remarks in the chapter treating on hair will apply equally to all hair. If we have a negative of a collie, a retriever, or any dark-coloured dog with long shaggy hair, and the animal has moved, it is comparatively easy to sharpen it up with a few judicious touches; but when animals are smooth-coated, such as horses, terrier dogs, etc., it is perhaps better to leave them as they are, unless the movement only appears as a doubling of the outline, in which case

it is sufficient to scrape away the dense parts of the outer line and fill in the light parts.

It often happens that people owning valuable or favourite animals like to be photographed with them, and you pose the owner, with the dog (let us suppose it a Newfoundland or a collie or a black retriever) sitting down by the side or in front. Well, the owner's face is very white compared with the colour of the dog, so that either the dog is under-exposed or the owner's face gets exposed too much. The operator must do the best he can with the negative in the dark room, and the retoucher can only put a little colour on the back of the negative to lighten the body of the animal.

There is always a tendency to give animals too short an exposure, for fear of their moving ; so very often we get a black patch to represent the body of a dog, and if the face is turned towards us, the only indication of the nose is a point of light on the tip ; its length is quite lost. If it is possible, endeavour to indicate the line of the nose by bringing a soft light up from the point to between the eyes, spreading it out directly it has passed the eyes, and then add a little light to the point.

DEFECTS IN EXPOSURE

NEGATIVES which are under-exposed have a very unpleasant effect. If they are portraits, the prominent parts of the face are patches of light, and the other parts are patches of shadow without any detail; and in order to get rid of the intense blackness of the shadows, it is usual to develop in such a way that the intensification is slow in proportion to the development. But with all the care that can be taken, an under-exposed negative will give a hard, black and white result. In such cases strengthen the high lights with decision, as what you add will print rather weaker than it appears on the negative. The print may be exposed to the light for a minute after being taken out of the frame, in order to get rid of the pure white. In such cases a warm tone is preferred for the print, as the contrasts are thus lessened.

If we have a negative of an old gentleman, and the exposure has been too short, all lines and wrinkles about the face will appear very marked and hard. It is then best to take the worst of them out with colour. Varnish the negative, cover it with medium, and commence retouching it as if it was an entirely new and untouched negative, and you will be able to do all that is necessary to an elderly face on the outside of the

varnish. Negatives which have been exposed too long have the opposite character; they are flat and thin. It is best to retouch them carefully in the ordinary manner, strengthening the lights a little more, and when they are finished cover the back with matt varnish, and, if you think it necessary, stump the face or any part which you wish to bring out strongly in the print. If it is a landscape, you may cover the back with "papier-vegetable," and with a sable brush and colour work it up in a bold and sketchy style. Almost any colour will do, but you must remember that colours which approach red or yellow will print stronger than gray, blue, or green.

If you have a portrait which prints too dark in proportion to the depth of the background, you may cut a piece of paper the shape of the face, and when the face is printed sufficiently put it at the back of the negative before you go on with the background. This is if you are an amateur, and do your printing yourself. In large firms where a regular printer is kept he will know how to manage, or, as is generally the case now, the negatives are sent to one who prints for the trade; then it is only necessary to draw attention to the defect.

COLOUR

BEFORE commencing to colour photographs, it is just as well to pay some attention to a few of the elementary laws of the harmony of colour, and the most important that one could wish impressed on the mind of the beginner is that there are only three primary pigmentary colours, which are red, blue, and yellow, and that all colours are either these or are combinations of these. Red and yellow are considered the warm and advancing colours. Orange, which is a combination of red and yellow, is the warmest colour in nature. Blue is considered the retiring and cool colour. Therefore, if we wish a figure to stand out in strong relief in a picture, we should paint the figure some warm colour, against a cool, quiet background ; and in vignetted heads on either ivory, paper, or porcelain it is well to make the background of some combination of blue, gray, or green.

This rule has been insisted upon by some masters in art. Sir Joshua Reynolds, for instance, laid it down as arbitrary that the principal figure in a picture should be warm in colour, and the background and surroundings cool. This has given rise to a great deal of controversy, and one of the other leaders of the English artistic world, "Gainsborough," painted his celebrated picture known as "The Blue Boy," in which the single

figure in the foreground is dressed entirely in blue, while the colour of the background is a warm brown. It has been asserted that this picture was painted to refute the principle laid down by Reynolds, his rival; but whatever the motive was, it really proved nothing, because, although the "blue boy" does stand out with sufficient prominence against the warm background, yet the contrast would have been much greater if the colours had been reversed, although it might have been harsh. By painting it as he did, Gainsborough obtained an effect of breadth and repose of colour.

The analysis of colour, by means of the prismatic spectrum, breaks white light up into nine simple colours; but it should be remembered that these are pure colours, and that in pigments it is impossible to obtain pure colour, just as it is impossible to obtain pure white paper. It is sufficient to say that there are but three simple pigmentary colours. Now each of these colours is called complementary to a combination of the other two, and *vice versa.* Thus red is complementary to green, which is a combination of blue and yellow; blue is complementary to orange, which is a combination of red and yellow; and yellow is complementary to purple, which is a combination of red and blue. These combinations are called secondary colours, and combinations of them are known as tertiary colours, and so on.

If we want to get a very strong contrast of colour, we should oppose one colour to its complementary. For instance, nothing could be more glaring than a bright green hat with a red feather, because the green throws off red rays, making the red appear redder,

while the red in turn throws off green rays, making the green appear greener.

In order to test the truth of this get a clean sheet of white paper, and mix a delicate pure gray with indigo, rose madder, and Vandyke brown (or Payne's gray, such as is used for colouring cast-iron in machine-drawing, will do), and paint three small circles, each about the size of a halfpenny, about seven or eight inches apart, and surround one with a broad belt of red, another with a belt of blue, and the third with yellow. Let the belts be about two and a half inches wide. You will then see that the gray circle that is within the red belt appears green, owing to the green rays thrown off by the red. That within the blue belt appears orange, on account of the orange rays thrown off by the blue; and that within the yellow belt will appear purple, on account of the purple rays thrown off by the yellow. Thus we are enabled, by a knowledge of this law, to emphasise or to neutralise the intensity of any colour.

If we are painting the portrait of a gentleman with a very red face, all we need do is paint the background and surroundings very warm, and the face will appear not so red. Ladies in white dresses appear fresh and rosy because of the contrast of the red of their cheeks and lips and the white of the dress. A gentleman with a fresh, reddish complexion and auburn hair may wear a brown hat, because the contrast is less than it would be if the hat was black. We all know what a man with a red face and a white hat looks like—something too glowing to contemplate, unless through the medium of smoked glass, and suggesting profuse perspiration.

It is impossible to lay down arbitrary rules for the colour of a picture, even if it has one single figure, or is even only a head, as there are so many keys in which a subject may be treated legitimately; but we may bear in mind certain combinations that have proved effective, and, if we are not ambitious, and do not care to strike out any new and original path for ourselves, we may repeat these combinations to the best of our ability. Therefore an amateur colourist should avail himself of all the opportunities he has of seeing good examples of art, to do which he cannot do better than visit the South Kensington Museum, and make notes of the different portraits that are to be seen there, particularly those of Sir Thomas Lawrence, Sir Joshua Reynolds, Thomas Gainsborough, Watts, Frith, and others. Also he may attend the National Gallery, where there are many magnificent portraits and character heads. In the season he should not fail to pay as many visits as possible to the Royal Academy, and notice the works of such masters as Millais, Holl, Ouless, Long, Alma Tadema. For portrait-painting in oil there is nothing better as a model than the work of Millais and Holl. Their colour is so fine, and the handling is in itself a study for a lifetime. But for colour, as applied to photographic portraits, especially miniatures, porcelain and paper, the best living model is Sir F. Leighton. The distinguishing characteristic of his colour is its extreme delicacy and purity.

A photograph which is to be coloured presents one very great difficulty; and that is, it is already a picture in monochrome—that is to say, in one

colour—which will most likely be a purplish neutral gray, warm or cool according to the taste of the photographer; in fine, nearly a study in black and white. Of course it will be necessary to destroy some of this colour, especially on the face; other parts may be left with very little alteration; and it will be evident that the more we can leave of the original modelling of the face, the better for the preservation of the likeness, so that in composing our colours we must take into consideration the colour that is already there, and the difficulty is to do away with the black tones. Now, as I before said, the colours of Sir F. Leighton are remarkable for their purity and the absence of muddle, and particularly the absence of black; so that if we can follow his arrangements of colour, we shall find that they will admit of more black being added to them than those of any other artist; and if we accept his harmonies as being good, we shall do well to try and work in the same keys, or in as close an imitation as we may be able to attain. If we have a porcelain of a young lady, delicate and fresh in colour, and we can remember or have notes of a picture by Sir F. Leighton of a similar subject, it is not amiss to try and work on the same principles and use the same order for colour. In the exhibition at the Royal Academy in 1885 there was a picture by Sir F. Leighton which was a portrait of a young lady. Nearly everything in the picture, except the face, was blue, or inclining to blue. That, of course, was a very bold thing to do, and can only be done successfully by such masters in

art. There is a picture by Mulready in the South Kensington Museum called "First Love," which is one blaze of warm, brilliant colour; there is not a cool tint in the whole picture. I would by no means advise a beginner to copy such models as these, as it would inevitably be attended with failure.

The works of Watteau afford very fine examples of arrangements of colour, which would be suitable for photographic colouring, as they are delicate, and at the same time bright and fresh; but a knowledge of the elementary laws of colour is sufficient to enable an amateur to at least steer clear of any harsh discords.

MATERIALS FOR WATER-COLOUR PAINTING

FOR painting photographs in water-colours the student need exercise a little discrimination in selecting his materials. As one artist will work on the same subject in a different key from another, so he will also use a different set of colours; but the following list will be found suitable:—

Chinese White.	Burnt Sienna.
Light Red.	Raw Sienna.
Vermilion.	Indian Yellow.
Rose Madder.	Lemon Yellow.
Vandyke Brown.	Carmine.
Cadmium No. 2.	Ultramarine.
Crimson Lake.	Terra Verte.
Aureolin.	Gamboge.
Cobalt.	Indigo.
Emerald Green.	Yellow Ochre.
Sepia.	Scarlet Lake.

It will also be necessary to provide oneself with an easel, mahl-stick, small pan of oxgall; a porcelain slab about a foot square is the best palette; let it lie flat on a small table at your right hand; arrange so that all your implements are on your right, so that in reaching

for anything your hand does not have to pass in front of your work. Sit so that the light falls on the picture you are at work upon, from over your left shoulder. It is not always possible to obtain a regular studio window, but if it can be managed, let the lowest source of light be at least six feet above the floor.

In choosing your brushes always use red sables, as they are infinitely better than camel hair, being more springy. Camel hair has very little elasticity, and when you make a touch with it it flattens and drags the colour, producing a wiry, streaky effect. You may purchase your brushes either at Messrs. Winsor and Newton's or MM. Lechertier, Barbe, and Co. They are equally good.

FINISHING SILVER PRINTS IN WATER-COLOURS

IN colouring ordinary silver prints on albumenised paper, one of the most important considerations is to get the colour to run easily on the surface. If possible choose a good clear print, one that is not dark, and then with a large soft sable brush wash the surface with clear water, which should cover every part readily before you attempt to add colour. If the print seems to be greasy, put a very small touch of oxgall in the water; two brushfuls of water will be sufficient to cover a cabinet photograph; do not use more or less than is necessary, and do not rub the surface of the paper more than you can help, as you are liable to rub off the albumen, and it is necessary to keep the surface smooth and even. When this is dry you may proceed to lay on your large washes of colour.

And here I must draw attention to a few important facts. If you intend to work up the background of a vignetted picture, and put into it a suggestion of foliage or furniture, tapestry, curtains, etc., the background should be finished first: for this reason—if you were to colour the head and figure first, and finish them, you would find, on adding the background, that it would weaken what you had already done to the face, so

that the face would be spoilt, because you could not strengthen it sufficiently without washing it all off and commencing afresh. Therefore commence by laying in the background at its full strength if you intend it to make much difference to the picture. This rule obtains particularly with pictures that have had the background masked out, and which present a plain white surface to the colourist, notably in the case of porcelains; and in commencing to lay in a background always decide on the exact position of everything you may draw in, even to the thickness of a line. Water-colour drawing should be done on the principle of mosaic work—every colour should be laid on with as little after-disturbance as possible. Mix your tints and lay them on carefully but boldly, so that each wash comes exactly up to the edge of another. The necessity for mapping in your work (as it is called) becomes evident.

And now is a suitable time to allude to some of the characteristics of water-colour pigments, which have to be remembered when we are engaged in any large water-colour drawing. If you were to paint a picture—a landscape, we will suppose—and were to use the transparent colours for the distance and the opaque ones for the foreground, we should find that the effect would be, the foreground would retire and the background would come forward; this would be inartistic, so we must remember that all distance must be painted with colours that are more or less opaque. Cobalt, yellow ochre, vermilion, Naples yellow, light red, emerald green, etc., are opaque colours; while indigo, ultramarine, Indian yellow, rose madder, crimson lake, Vandyke brown, etc., are transparent

colours. So that when we wish to paint distance, which is always purplish unless it is sky, etc., we must add Chinese white to our colours if they are not naturally opaque.

It is the custom of some artists in water-colours to prepare that part of their paper which will be painted to represent sky or extreme distance with a weak wash of Chinese white before commencing the painting.

The background in landscape should be painted first, the foreground last; middle distances should be painted with colours that are neither very opaque nor quite transparent.

It was formerly the custom to teach water-colour painting thus: first paint in the shadows purplish, next wash with the general colours, and touch up afterwards. The system is now, lay on every colour at its full strength, and as near the right colour as possible, and, if necessary, add supplementary washes; but neither of these rules will do for colouring photographs on either ivory, porcelain, or paper, for one sufficient reason. It is advisable not to touch the same place twice except in stippling and hatching, and as neither of these materials, ivory or porcelain, absorb the moisture, be careful not to touch a place twice until the first touch is quite dry.

If you are colouring a photograph printed on ivory, and the background is not vignetted, but is to be painted in solidly, first lay on the colour of the background as near its full strength as possible; next lay on the general masses of colour on the figure, face, hair, etc.; then finish the background and figure before proceeding to the face.

Always use as large a brush as possible, as you thereby get breadth of touch and save work. It is very desirable to avoid either a niggling style, or that your work should suggest that you had been used to work with a pencil, and not with a brush. Artists who work with a pencil or graver, if they wish to draw a broad shadow, will use a number of lines; a water-colourist will cover the same space with one stroke of the brush, adapting the size of the brush to the size of the surface to be covered. Therefore proceed with care; but having decided on any colour, and the amount of space it is to occupy, work boldly, taking care that your brush is always charged with sufficient colour, without having too much. Having washed the surface of the photograph in the manner described, we can proceed to the colour. The faces of young people have more pink and white in them than those who are more advanced in years, therefore in mixing the first wash bear this fact in mind, and do not make it too yellow, although sufficient yellow is necessary to neutralise the purple of the photograph.

Let us suppose we are colouring the portrait of a young lady with a fresh complexion, fair hair and blue eyes. The first wash for the face may be composed of yellow ochre, pink madder with perhaps a very little vermilion, and if the photograph is very purple, add a very little Indian yellow. Lay this on quickly, so that it does not dry in any one part before the whole surface is covered. Before it is quite dry wash your brush, dry it on a piece of white blotting-paper, and with its point remove the colour from between the eye and eye-brows, from the eye itself, from the lips, and from just

where the forehead joins the hair; it is necessary to do this expeditiously and neatly. When this is dry you may proceed to the lower lip, which may be washed with a mixture of carmine and vermilion; if the subject is very young, the vermilion in excess. The upper lip, being generally in shadow, may be washed with pure vermilion, which is rather opaque, and will consequently conceal the dark colour of the photograph more effectually than a transparent colour would, but which darkness will, however, show through somewhat, and will balance the lower lip.

While that dries you may proceed to the eyes, which may be washed with cobalt with a little emerald green added; the white of the eye may be left the original colour of the photograph, or it may be touched softly with a little neutral gray. You may now proceed to the hair, which we assume to be fair. Let your first flat wash be composed of yellow ochre, sepia, and a very little raw sienna, very thin; allow this to dry, and now you have the predominant colours of the large surfaces. You may now return to the face. At that part of the forehead where it joins the hair, and where the flesh colour was wiped away, you may put a little cobalt blue and emerald green, very faint of course, which will be the groundwork of the delicate shadow which is found there; and with the same colour you may softly touch the gray shades on the neck, at the sides of the nostrils, at the outside corner of the eye above the eyebrow, at the corners of the mouth. You may add a little yellow—raw sienna will do—and touch the shadow under the eye; next touch the inside corner of the eye and the cartilage of the nose, if

it is visible, with pink madder and Venetian red. You will now have all the general colours of the head and face laid on, and may proceed carefully to finish.

First consider how brilliant you intend the colour of the cheeks to be, and make up a mixture of vermilion—light red and rose or pink madder, putting more vermilion if you wish them to be very bright. Softly stipple this on to the cheek, beginning with smooth, short, broad touches, about twice, or, at the most, three times as long as their width, inclining downward from the ear to the mouth, being very careful not to make the stroke hard. They should be visible on examination, but if they are plainly perceptible at a first glance, the effect will be harsh, no matter how well their direction is considered or how well the colour is chosen. In laying on this colour be very careful not to bring it too near the nose, but to spread it well away towards the ear; you may softly stipple some of the same colour, adding a little more rose madder into the hollow parts of the ear, which is always rather pink in colour. Avoid putting your warm colours on the face their full strength at once, because you can always increase a warm colour when it is very difficult to reduce one. Now mix light red, pink madder, and yellow ochre, and with it gently touch the dark shadows in the corner below the eyebrow nearest to the nose, the hollow of the nostrils, under the chin, etc.; the object of this is to neutralise the blackness of the shadows in these parts.

If the photograph is originally too white, you may mix a delicate gray of indigo or ultramarine, pink madder, and any good transparent brown, such

as Vandyke brown, if you wish the gray to have a yellowish tinge, or sepia, if it is to be purely a neutral gray, and with it strengthen the half-tones on the face. Do this immediately after the first wash of colour, and remember that as a gray half-tone approaches a warm part, such as the red of the cheeks, there should be no abrupt change in the colour.

Although the complexion of a lady or child may be very fresh and brilliant, yet the predominant mass of colour is not warm. We may see a lady with a bright red feather in her hat. She conveys a suggestion of warmth and colour; and yet the part which is actually brilliant in colour is very small in comparison with the whole surface of her dress, which may be a quiet gray. So a face will have its largest surfaces pale with very little yellow in it, but with the red of the cheeks soft, yet brilliant, and the half-tones, the delicate shadows, the bluish and greenish grays of the face very much in excess of those parts which are strong in colour. So if we wish to avoid confusion in our work, we should do well to put the warmest colours on last, because, as I have before said, it is easy to strengthen the warmth of a colour, while it is very difficult, and almost impossible, in photographic colouring to reduce the warmth of a part. You can only add green to a red, or purple to a yellow, and then it becomes dark and grimy. If it is thought desirable, you may, in finishing, touch the highest lights on the face with a little Chinese white and yellow ochre, but be careful that these lights are not too strong and sharp.

In working up photographs on ivory the same peculiarities exist that are found in finishing carbon enlargements on paper or porcelain, so that, having learnt to do one, all that should be necessary is care and practice.

FINISHING IN OIL COLOURS

FIRST make a careful selection of colours, brushes, etc. You will need several other small articles, such as pale drying oil, turpentine, knife-eraser, etc. The same list of colours used in water-colour painting will do, substituting flake white for Chinese white. But a much greater variety of brushes is necessary. You should have a few large, flat hog-hair brushes for large surfaces, such as plain backgrounds, etc.; smaller ones for hair; stumpy, flat ones for painting flesh; long, thin badger brushes for painting anything that requires a long line; small, flat sables for finishing delicate and minute parts; large badger softener for blending colours, and, by the way, this should be used as charily as possible; a tube of megilp; a few rags for wiping brushes, or wiping out any part which you have painted, and which does not meet your approval; and a large, flat, wooden palette, either the elliptical or the oblong shape. I prefer the former. Let it be light and pale in colour, but not too yellow. And although the following rule is by no means common, even amongst artists of first-rate repute, yet it would not be controverted by the very best; and that rule is, "Always keep your brushes and palette clean."

See that after setting your palette you do not put the caps on the wrong tubes; clean all the waste colour off your palette after a day's painting; wash your brushes in clean turpentine; wipe your palette knife; keep everything scrupulously clean; make a habit of it, and you will never regret it. The comfort of commencing a day's work and finding everything clean and in good order cannot be overrated.

To commence a portrait in oil, if the photograph is printed in carbon on the canvas stretcher, first cover it with some priming, such as a wash of very thin starch with gum in it, and when it is dry begin by setting your palette thus: flake white in the corner nearest your thumb; next, yellow ochre; and so on, making the colours deeper in tone as they get farther from the white. Colours that are similar keep together, such as the reds, the blues, the yellows, so that the deepest and most sombre colours are the farthest to the left. Let them go round the palette, leaving a space in the middle for mixing. And now proceed to the first painting.

The rule of laying on those colours first which are to represent lights, as in water-colour painting, is entirely reversed when working in oils. The lights should be the last consideration.

It is impossible to lay down arbitrary rules for the composition of colour, or, at least, to say that such a combination is right and another wrong. All we can do is to give illustrations. So we will assume that we have to paint a portrait of an old gentleman, with white hair, grayish white beard and moustache, slightly bald; face strong and rich in colour, inclining to florid.

The head turned almost full towards us, with the light falling on that side of the face that we see most of, but lighting directly, however, a good deal of the other side. This is a common style of portrait, and one that often has to be painted.

Commence by mixing terra verte, brown madder, a little raw sienna, and a very little light red. Let this mixture incline to a warm gray, and with it paint in those parts which are near the deepest markings of the face, such as the shadow below the eyes, the edge of the cheek by the whisker on the shaded side (and whenever you are working over a tolerably deep shadow on the photograph you may add a little flake white to render the colour more opaque, and so destroy the purple of the photograph) under the eyes. You may add a little yellow, as the shadow there is somewhat greenish in colour.

Now mix yellow ochre, flake white, and light red, and a little emerald green may be added to take away the crude intensity of the red and yellow, and with it paint carefully those parts which are between the extreme high lights and the grays of the middle tone. Let this combination incline to a weak, yellowish red.

Now mix flake white, emerald green, cobalt, and the least touch of light red, and a very little burnt sienna, and with it lay in the middle tints on the forehead and nose. These may be kept cool in colour. Now mix terra verte with burnt umber and flake white and a very little cobalt, and with it touch the flesh just where it meets the hair of the whisker, moustache, and the hair at the sides of the head; and, as the subject is slightly bald, you may carry this cool gray round the top of the

head. Now mix burnt umber, rose madder, and emerald green, making an opaque warm colour, and with it paint broadly the outlines of the eyes. The lips may be touched with pure carmine; the upper lip may have a little light red added to the carmine. You may now proceed to the lights. Mix yellow ochre, flake white, and the merest touch of light red, the whole forming a yellowish white; a little emerald green will not be amiss to keep it low in colour. With a broad, flat brush paint firmly first the lights on the forehead, next the cheek-bone, the nose, etc. The eye we will assume to be a bluish gray, and in painting this do not make it violet; very few people have eyes that colour. Antwerp blue, emerald green, and white will do; and remember that what is called the white of the eye cannot be painted with white, but must be made a bluish gray. The pupil may be touched with Antwerp blue and sepia. Endeavour to avoid the use of black anywhere. Next, with a little carmine and white, touch the inside corner of the eye, the cartilage of the nose.

You may now proceed to the coat, which we will assume to be black. Let us consider there are only three gradations of light and shade on it—lights, half-tones, and deep shadows. The half-tones may be painted with a mixture of Vandyke brown and Antwerp blue, the whole forming a brown, not blue. The shadows can be touched with the same colour mixed, but inclining to blue; a little crimson lake may be added with advantage. The lights with the same colours in combination, but inclining to a bluish gray; so that we have the shadows and lights

cool, and the middle tones warm. The middle tones will occupy a much greater space than both lights and shadows; and I may here say a word about the handling of the brush in draperies. If you are painting a heavy fold either in a curtain, a garment, or any woven material, let the direction of the stroke made by your brush be nearly at right angles with the fold, never down its length; and in painting the half-tones, do not let your colour go over the surface to be occupied by the lights; leave a space for them. All painting in oil should be mosaic, each touch occupying its own space and going no farther. M. Legros used to demonstrate the value of this system by painting portraits, using only the palette knife to lay the colours on with, and the effect produced was magnificent. All the great portrait-painters adopt the principle. The portrait of Thomas Carlyle in the South Kensington Museum, by Watts, R.A., is a splendid example.

Having got so far, you may next rub in the background, which may consist of terra verte and sepia, inclining either to the green or to the brown. If you want to break it up at all, let that part you make darkest be on that side of the head which is in shadow, not close up to the head, but as if it was the shadow of the head thrown upon a wall at a little distance. Do not, for the sake of effect, paint your background darkest on the light side of the head, and lightest on the dark side. You will certainly get contrast, but it will be horribly vulgar. You may paint in the necktie, if it is visible, and collar, putting the shadows of the collar a warm gray, inclining to

yellow. This will do for the first painting, which must be allowed to get quite dry before proceeding any farther. When it is so, which will be in two or three days, if you have used much drying oil, and longer if you have not, first sponge it with clean, cold water until the water will almost stand on it; dry it carefully with a clean rag, and if there are any pieces of colour obtrusively prominent, they may be removed with the eraser.

You may now proceed to finish. You may strengthen the colour on the cheeks by scumbling over it with a brush sparingly charged with the same colour as at first, but yellower or redder as your taste dictates. The grays of the face should be next done, and here great care is necessary, so that they do not degenerate into dirt instead of shadows. The nose and forehead may be rubbed over with thin washes almost of light red, pink madder, and yellow ochre, very thin. The hair may be glazed with gray, inclining to yellow. The eyes may be touched up and lightened wherever they seem to need it. All shadows may be strengthened, and remember the second painting is only to strengthen and correct the first. And now touch up the lights, strengthening them wherever they seem to need it, and do not use the softener in finishing a head; it may be used slightly in connecting the touches in the first painting, especially on the large surfaces, but not afterwards.

Glaze the coat with crimson lake, Antwerp blue, and raw sienna, inclining to warm purple. Touch up the lights in a strong, brushy style, and strengthen the background, making it deeper or lighter as you

think fit. Do not let the outline of any part, either on the face or figure, be a hard, sharp line. Some photographers like it so, but it is utterly false in art, and any one with the slightest knowledge of the scientific laws of light and our physical powers of appreciating them, may demonstrate it for his own satisfaction if he wishes to.

I may here mention a few of the characteristics of colour which may possibly be new to some amateurs. The reason that some chromo-lithographs appear so cheap and tawdry is not that the printers did not know how to do them any better, but because they actually are cheap. There have been as few blocks made as possible; a colour has been shaded with simply another impression of the same colour. We are all familiar with the common German lithographs, with their glaring reds, blues, and yellows. Each colour has been left crude and raw, without any other colour to foil it; and whenever we see this form of cheapness we may look for haste, and, consequently, incompleteness.

A cloak or dress of any black material will have two, at least, distinct colours in its composition. Generally more if the lights are warm, the half-tones may be expected cool, and the reverse. Black hair will often have the lights blue, in which case the half-tones will be warm. I have seen a green robe painted with the lights a distinct light red, like the russet on a green apple. I have seen purple robes with the lights a decided orange, and so on; and this is correct in art Of course it must not be taken too literally. All pigmentary colours have a very large amount of gray

in them; but the only condition in which any object is quite colourless is when it is in total darkness—when all things are colourless. When anything is in the light it takes to itself reflections from surrounding objects, which fact contains one of the elementary principles of harmony of colour.

At the South Kensington Museum there is a large fresco, painted by Sir Frederick Leighton, containing a large number of figures most brilliant in colour, and from the necessities of fresco-painting, every colour is distinct, and the method of lighting and shading any piece of drapery, armour, masonry, flesh, or anything that is in the picture, is very evident.

The student of colour cannot do better than examine this and other works by great artists for the best arrangements and combination of colour.

FINISHING PHOTOGRAPHS IN CRAYONS

IT has been decided by eminent artists that the best representation of the character of flesh, its texture, etc., can be attained with the brush and oil colour, and the nearest approach to the handling of that in crayon-drawing is with the stump and bread. That is the process taught at the Royal Academy schools, but it is one that cannot be applied to finishing photographs in crayons, for the simple reason that the drawing is already there, slightly defective on account of the exaggeration of any little defect during the enlarging. It is only usual to finish large vignetted heads in crayon, as it is not suited to those which are heavy in character. If a photograph is to be finished in Swiss pastels, the greatest difficulty is in selecting a set of colours; and the reason is the makers, or rather the retailers, do not sell them in convenient assortments; they try to sell boxes which appear to contain a nice set, but which are nearly all too crude. Finishing in pastels is very similar to finishing in oil. To be done well the touches should be laid on without any after disturbance, and, of course, on this principle there can be no mixing of pastel colours, consequently we want nearly a different set of colours for each style of head. Therefore in choosing your colours proceed thus:—

Before you buy make a drawing in water-colour, laying each colour separately, and take it with you to the shop, and try each pastel on a piece of white paper, applying it to your drawing until you get a set, which, if not in the same key, are harmonious in a somewhat similar one. This will be attended with a great deal of trouble, and it is an open question whether it is worth it, as pastels fade quickly and, worse still, do not fade equally.

If, however, you have a good set, proceed in this manner. The enlargement will most likely be in carbon, or it may be in silver on salted paper; if in carbon the surface will have to be roughened with fine pumice powder before it will take the pastel well. If it is in silver on salted paper no roughening will be necessary, the same with platinotypes. It is possible to buy a siccatif to roughen a surface, which is put on with a spray, but I cannot answer for its efficacy, as I have not any experience of its use. I have always thought it must be too readily subject to atmospheric changes to be of much value.

If the print is in carbon shake a little of the pumice powder over the print, and then knock it on the floor, so that only the very finest particles remain on it, and then rub this smoothly with the palm of the hand until the whole surface has a distinct tooth; this will serve a double purpose, as it will do away with any greasiness that may be on it.

Now proceed to lay on your colours, commencing with the grays, and let them be very much in excess of any other colour, using the warm colours only to brighten up the picture. Add the warm colours to the

head and face last of all. The picture will be best with a plain white background, marked out, and all that there is in it should be done by the colourist. If it has been marked out, it will be well with a sharp penknife to soften any edge, that round the head and shoulders in particular. Pastels are best suited to finish the heads of young ladies with fresh complexions, blonde hair, blue eyes, etc., but as the colour of pastels is so fugitive, it is perhaps just as well that they have nearly gone out of fashion.

Finishing photographs in black crayons is quite another matter; they are permanent, are much easier to manage, besides being adapted to any age, sex, or depth of colour.

It is now very common to have photographs enlarged in carbon on Whatman's drawing-paper for working up in crayons; in such case it generally needs no roughening. First examine it, and if any part is too black, scrape it with the penknife until it is light enough, taking care not to produce scratches. Do not mind the granulated effect you will produce, as that will be the general character of the whole when finished; you may next stump slightly over any part that appears too light, and then proceed to work carefully over it with a blunt point, using the crayon in a free, sketchy manner; the paper will cause a general grain to appear wherever you touch. Soften all edges, and in working up vignetted backgrounds commence with a few parallel strokes, following the line of the tops of the shoulders, and then cross them at a slight angle. Work on the dress in a strong, decided manner; notice the shape and character of a fold, and endeavour to reproduce it

in as few strokes as possible; it will need a good deal of practice before you can hope to attain much success, because it is precisely the same as drawing the head directly from another picture. The photograph does not actually give you much more than can be obtained with the sciopticon or the pantograph, in fact, the less there is of it the better; therefore choose a very light print, and one the tone of which is rather cold. There are many different kinds of black crayons—Conté, Italian chalk, Academy chalk, Perry's solid black ink, are all good. I prefer Perry's to any other, as the surface is similar in character to that of the photograph.

WORKING UP CARBON ENLARGEMENTS IN WATER-COLOUR (MONOCHROME)

CERTAINLY the most common form of photographic enlargement is that of the carbon and gelatine film printed on smooth paper, and consequently the method of finishing them is the most useful one to acquire, especially to one who wishes to make a living by finishing photographs.

In large photographic establishments one meets with all manner of subjects. Portraits, horses, dogs, cattle, landscapes, marine subjects, houses, and an endless variety of others. To attempt to give rules for all these would be a task far exceeding the limits of this little book. But the one subject most in use is portraiture, in which again there is much variety; from the panel photograph of some celebrity, the best of its kind, finished in the first place on the negative as well as it is possible to be done, and enlarged to almost life-size. From this to a copy of some wretched old Daguerrotype or glass positive, full length carte size, enlarged to a six-inch vignetted head full of patches of blackness, where the surface of the original has been damaged, and with every defect exaggerated.

Now suppose we have one of the latter kind, copied, we will say, from some old glass positive,

with part of the film damaged. The first thing to do is to see that the surface will take colour well and equally, and is perfectly free from grease spots. To do this rub it lightly with a flat piece of india-rubber or ink-eraser, provided the ink-eraser is not hard enough to scratch, and then wash it with a sponge and cold water. If the water will lay evenly, you may consider there is no grease. Dry it carefully, but not too suddenly, as if it is exposed to a too sudden heat the film may crack and peel off.

Now take a sharp eraser or penknife, and with it scrape away any parts that you may consider too black, and soften any hard edges. When this is done you may examine it, and determine, in your own mind, if the balance of light and shade and half-tone is as you would wish it to be. If it is, well and good; but if, for instance, the face is too white, you must take a large red sable brush, and mix some colour to exactly match the colour of the print. Vandyke brown, crimson lake, and lamp black will give you the colour of ordinary carbon prints, and mix with it a little pure gum-arabic, such as you would buy of an artist's colourman. Be careful not to put too much gum, as if you do every touch will be seen distinct from the photograph. With your brush charged with this colour put on, in broad, clean strokes, the deficient half-tone, and also, if the head is vignetted, the mapping of the masses of shade you will have in the background. Now take a smaller brush, and with it take out carefully any small white spots about the picture, and anything that looks like a scratch, and then you

will have a very good beginning for your work. It will neither be too black nor too white. The bulk of the masses of light and shade will be there, and all you have to do is stipple and hatch the whole to a sufficient degree of finish. Begin with the background, and finish it before going any farther. The reason for this has been explained. Then do the hair, working boldly and firmly, using the brush in as broad a manner as possible, leaving the lights clean and sharp. Next do the coat; and lastly the face, so that when you have finished the face there will be nothing left which can weaken the delicate work you will have to put on then. Let the direction of your lines in hatching up the face be similar to those used in retouching a negative or in colouring a porcelain in water-colour; but do not make them decided lines, but have the character rather of broad, short patches a little longer than their width.

Commence, as in retouching, with the largest surfaces possible, and take out all patches. When this is done repeat it on a smaller scale, until you have reduced the face to a series of very small patches all about the same size. It is very easy now to stipple it up to the necessary finish, and in doing so you may use the eraser considerably, and take out any little bit that may be too dark. You may then touch the eyebrows; darken them if necessary; darken the pupil of the eye; and then clean up all lights with the eraser, using it across the forehead, down the nose, on the cheeks from the ear to the mouth, round the chin; and then, with a brush charged with a little weak gum, touch carefully such parts as the shadows thrown

by the head upon the shoulder, if there is one there, the deep shades on the hair, etc. But be very careful not to do too much of this, as a very little too much will give an effect of vulgarity, which cannot be too strongly deprecated.

Working up porcelains in water-colours, using only one colour, is precisely the same as if the print was on paper, with one slight difference, and that is, every touch you put on the porcelain will dry sharp and hard, so that if while it is wet a touch looks dark enough, when it is dry it will be found too dark. Allowance must be made for this.

And now, in conclusion, I would say that no matter what the subject may be, whether it is painting a great picture or retouching a full-length carte negative, the principles of art remain the same. Breadth is the great consideration for the photographic finisher. By intelligent industry he will be able to find some method by which his work will attain that character. But do not get into the habit of copying some other man's method. It may be good, but, depend upon it, you will arrive at the desired end much quicker if you consider first why you put every touch on a picture. If you get into a muddle at first you need not be either surprised or disappointed; you will not be alone in that respect. The best men find that they lose their way at times. If you are intending to follow it as a profession, work at it; you will infallibly succeed. If you merely take it up as an amusement, and you have begun on a basis of intelligent system, even if you do not become very capable, you will have the satisfaction of know-

ing that you have understood what you have been doing all the time; and if you have produced nothing very beautiful in an artistic sense, you will have done nothing that would be shocking to an educated eye.

THE EYE COMPARED WITH THE LENS AND CAMERA

THEREFORE, before attempting to lay down laws to regulate the composition of a subject to be photographed, let us consider well the material we have to work with, the capacity of the tool we have to use. A camera and lens is made on the same general principles as the human eye; there is the objective lens, the stops, and the sensitive plate. The iris of the eye, or, in other words, that part which we see to be blue, brown, gray, etc., is simply a screen with a hole in the centre; it is provided with two sets of muscles to expand and contract the aperture; its use is exactly the same as that of the metal stops used in an ordinary lens. Next comes the crystalline lens, and then the retina, which is a surface sensitive to the action of light. One difference that exists between the eye and the camera is that in the eye the rays of light, after coming through the lens, are concentrated upon one spot on the retina, while in the camera they cross and expand again before reaching the sensitive plate.

But the great difference that we have to deal with is that in the eye the lens is provided with a set of muscles, the use of which is to reduce the convexity of its exterior surface and so alter the focus. These

muscles are smooth, that is to say, they work independently of any effort of the will. We are quite unconscious of their action, which is so rapid that we look from one object to another at a greater distance and see them both in focus apparently at once. Such optical defects as short and long sight—myopia, presbyopia, hypermetropia—are simply defects in the construction of the lens, which in one case focuses the objects it sees somewhat in front of the sensitive spot, in another at the back of it. While other defects, such as astigmatism or blurred images, are owing to want of regularity in the cornea, its surface presenting different curvatures accordingly as it is measured vertically or transversely.

It will readily be seen that a lens which has the power of altering its focus, while taking in the details of a picture, is a much more perfect instrument than one which is fixed to all, when the focus has been decided upon for any one point. An ordinary lens of course has not that power.

Most photographers know that there are at least two kinds of lenses used in photography, known as landscape or single lenses, and portrait or compound lenses. The single lens has the quality of showing everything sharp with a depth of focus that is limited only by the depth of the landscape, but it shows everything in perspective, diminishing in size as it recedes from the eye. So that in the case of a group of people it will represent the ones in front very much larger than those at the back, although their actual proportions may be the reverse. This is evidently not a desirable instrument to produce anything either artistic or mechanically

accurate, because the nearer the objects are to the lens the greater becomes the distortion. If a single portrait is attempted, and it is desired that the head should be large enough to fill the surface that the lens will cover, if it is taken in full face, the nose will be out of proportion to the rest of the face because it is nearest, and every other feature will be the same. Again, a single lens has this disadvantage. Let us assume that we are focusing the interior of a room; well, the front of the focus will be a curve which will be parallel to the convex exterior surface of the lens, so that if we place the camera six feet from the floor, and the room is twelve feet high, then if we focus a chair, let us say eight feet in front of us, everything behind that chair will be in focus, and also other things at the sides, above, and below—things which are a little nearer to us,—and they will appear disproportionately large. Now the compound or portrait lens is somewhat differently constructed; it is a combination of two lenses, one of which corrects the distortion of the other; but then, while showing things in more correct proportion than a single lens, it has a very much shorter focal depth; it is best adapted to portraiture, where the sitters are brought comparatively close to a background which limits the depth of the picture, for copying works of art, bas-reliefs, statues, paintings, etc.

Of course it may be urged that the human eye also sees things diminishing in size according to the distance they are removed from the spectator; that is perfectly true, it does, but the human eye is a double instrument which takes in two views of one object at one and the same time, in the same way that a stereoscopic view is

taken. While at the same time it is provided with some means of combining the two to form one view of greater roundness and relief than an ordinary photograph will give. So that a single lens is only an approximation in its results to the views obtained by ordinary human vision. Then bearing in mind that the eye changes its focus with every change of the details of the subject, and so sees each one equally well, we must consider also that the brain of man plays an important part. We know that in a suite of furniture the small chairs of a dining-room are probably all the same size, so that if our eyes do present images of similar things different in size, our understanding accommodates one to the other, and we realise that they are the same in actual size. If a painter wishes to give a greater importance to one part of his picture than others, he may subdue and make subordinate to it all other parts by painting them in a lower key, by representing them with a broader handling; while the photographer must, in the case of a landscape, take whatever is there; he has none of the latitude that his more fortunate brother in art may allow himself.

ACCESSORIES

NOW having considered the difference in the means employed, let us give some thought to the ordinary accepted methods of making use of the means we possess. In photographic studios we see furniture screens, backgrounds, and general accessories for the composition of pictures ; it is usual in ordinary portraiture to pose and light the sitter surrounded by such accessories as the operator considers suitable, taking care of course that all shall be as much in one plane as is consistent with reason and probability. Then at the back it is usual to have a level surface, painted either plain, or graduated, or broken up into masses, or, as is more frequently the case in pictures of groups or full and three-quarter length portraits, the background is painted to represent some scene. Either an interior, or a woodland glade, a bit of the seashore, a garden, a conservatory, a stair, and a hundred other subjects, some legitimate and suitable, others grotesque and ridiculous, and it is against the fault of unsuitability I would warn the amateur. I have seen such combinations as a lady before a drawing-room background in boating costume with a boat's scull in her hand, another in a low-cut evening dress, with a snow scene for a background ; carpets laid on the ground where the background represents a

forest; a soldier, with an imbecile smirk on his face, standing resting upon his sword with his helmet in his hand, and two flower-pots containing ferns, one on each side of him; these, I have been told, were "to balance the figure." I have seen—who has not?—at the sea-side photographers' windows pictures of a mild young gentleman in a black silk hat and a tail coat, sitting in a papier-mache boat, so constructed that the spectator can see the whole of one side of it and a large proportion of the other. Little boys kneeling on tops of masts, holding on to ropes that are presumably part of the rigging of some ship, but which evidently have no connection with any vessel that floats. Pictures of children playing upon the beach, armed with the conventional spade and pail, their shadows falling upon the sails of ships in the distance, and the children engaged in digging with their wooden spades what is evidently the floor of a studio.

Then, on the other hand, I have seen pictures of young ladies, one, say, in a white summer dress, lying in a hammock, with the background representing a garden, a book in her hand, her large straw hat upon a garden seat close by, and the model herself looking up with a smile, the whole forming a picture which is possible to all photographers, easy to most, and which does no violence to one's sense of the probable. It may not be a very great work of art either in pose or composition, but it is not a ridiculous absurdity; it may and does happen. It is reasonable to assume that a picture taken of a lady at home sitting in her own drawing-room, surrounded by objects with which she is familiar, and with which she is accustomed to be associated, must be

better than one of the same lady taken in a photographer's studio, in a pose which she probably never assumed naturally in her life, and surrounded by objects with which she is totally unacquainted; the probability of the photographer arranging the picture in an artistic manner is as great in the one case as in the other. Mark Twain, in the *New Pilgrim's Progress*, has a passage which ought to commend itself to the notice of all aspiring artists with the camera. He mentions that the party with which he is travelling had been advised to provide itself with a number of blue spectacles, in order to counteract the glare of the sun, and large white umbrellas lined with green, and then he draws the picture they present. He says—I cannot give his exact words, "We are surrounded by the scenery of the Bible, the bare desert ground, the dreamy haze of the distance, strings of sleepy-looking camels stalking solemnly by, ridden by men in the costumes of the patriarchs, and lo! intruding upon a scene like this comes our mob of spectacled Yankees, strung out in line, with their elbows flapping, their white umbrellas bobbing up and down all along the line, out of time, bestriding and belabouring little donkeys that are so small, that, in order to keep the rider's feet off the ground, he must sit with his knees up to his ears."

That is undoubtedly an incongruous picture. Unavoidable perhaps. It does not follow that if an American wishes to visit the Holy Land, he must attire himself in a bournous and caftan, ride a camel, and expose himself to a glare of sunlight to which his eyes are unaccustomed, in order to preserve what

Mr. Curdle calls the "unities"; but when that gentleman is considered as an integral part of the composition of a picture, he must admit that his little donkey, his elevated knees, his white umbrella and blue spectacles do not harmonise well with Eastern and Scriptural surroundings.

Most people are familiar with the old-fashioned photograph of twenty-five years ago when glass positives were the fashion, and when gentlemen were posed with one hand resting on a pillar, a stick or hat in the other, their eyes fixed and glaring, the head-rest palpably in view, and the whole presenting a picture of suffering and misery. Well, I may tell photographers that, judging by the opinions of great thinkers, such a photograph is better in many respects than some of the pretentious jumbles of incongruous nonsense we see nowadays. I have in my mind at this moment a photograph of one of the popular burlesque actresses, "with short frock with many frills and flounces, bare arms, neck, and chest, tights on the legs, high-heeled French boots. The lady herself reclining upon a classical marble seat (Greek), a volume of *Punch* by her side, and a background painted in imitation of part of the Alhambra in Spain." I have known this photograph to be admired; but it is not admirable, and such examples should be carefully avoided by all amateurs. I will quote Mr. Ruskin upon such matters. In one of his lectures to the students of South Kensington he mentions that he had been struck by the utter absence of artistic design in some of the rustic dwellings of the Scottish highlands; and he reflects also upon the very great prevalence of art in India and other Eastern nations.

He says then that a superficial reasoner might assume from our knowledge of Eastern superstition, from our knowledge of the revolting cruelties that the Indian character has shown itself capable of, that art is an associate of moral degradation; while the virtue, courage, humanity, and moral simplicity for which the Scottish peasantry are celebrated, are to be expected where art is not. This he says is erroneous, the cause of the existing condition of things is to be found in the fact that the art of India finds delight in depicting monstrosities, that it deviates wilfully from nature. Mr. Ruskin says, "It is quite true that the art of India is delicate and refined; but it has one curious character distinguishing it from all other art of equal merit in design—it never represents a natural fact. It either forms its compositions out of meaningless fragments of colour and flowings of line; or, if it represents any living creature, it represents that creature under some distorted and monstrous form." A little further on in the same lecture Mr. Ruskin says, "And you see enough to justify you in suspecting, while if you choose to investigate the subject more deeply and with other examples, you will find enough to justify you in concluding, that art, followed as such and for its own sake, irrespective of the interpretation of nature by it, is destructive of whatever is best and noblest in humanity; but that nature, however simply observed, or imperfectly known, is, in the degree of affection felt for it, protective and helpful to all that is noblest in humanity.

"You might then conclude further that art, so far as it was devoted to the record or interpretation of nature,

would be helpful and ennobling also; and you would conclude this with perfect truth."

A little further on he says, "Wherever art is practised for its own sake and the delight of the workman is in what he does and produces, instead of in what he interprets or exhibits; there art has an influence of the most fatal kind on brain and heart, and it issues, if long pursued, in the destruction both of intellectual power and moral principle." You might logically infer another thing, namely, that when art was occupied in the function in which she was serviceable, she would herself be strengthened by the service, and when she was doing what Providence without doubt intended her to do, she would gain in vitality and dignity just as she advanced in usefulness. And this is the truth also. So long as art is steady in the contemplation of natural facts, so long she herself lives and grows.

That is the kind of lesson I would like to recommend to the photographer. It is pure cold reasoning from well considered premises. It is impossible to talk about the artistic merit of a picture like the one I have mentioned of the burlesque actress; it may be, as it undoubtedly was, a good photograph, well exposed, and most judiciously developed, but that is all, and that does not alone constitute art, even in its simplest form, because such a photograph as the one I have mentioned violates the first principle of art; it is unnatural, and on that account bad. No one would attempt to work out one of the theorems of Euclid who did not first admit the definitions, axioms, and postulates. Hamlet's advice to the players is another warning in art, "O, it offends me to the soul to hear a robustious periwig-pated

fellow tear a passion to tatters, to very rags, to split the ears of the groundlings, who for the most part are capable of nothing but inexplicable dumb-shows, and noise. . .

"Be not too tame neither, but let your own discretion be your tutor: suit the action to the word, the word to the action; with this special observance, that you o'erstep not the modesty of nature: for any thing so overdone is from the purpose of playing, whose end, both at the first and now, was and is, to hold, as 'twere, the mirror up to nature: to show virtue her own feature, scorn her own image, and the very age and body of the time his form and pressure. Now this overdone, or come tardy off, though it make the unskilful laugh, cannot but make the judicious grieve; the censure of the which one, must in your allowance o'erweigh a whole theatre of others. O, there be players that I have seen play, and heard others praise, and that highly, not to speak it profanely, that, neither having the accent of christians nor the gait of christian, pagan, nor man, have so strutted and bellowed that I have thought some of nature's journeymen had made men and not made them well, they imitated humanity so abominably. . . .

"And let those that play your clowns speak no more than is set down for them; for there be of them that will themselves laugh, to set on some quantity of barren spectators to laugh too; though, in the mean time, some necessary question of the play be then to be considered: that's villainous, and shows a most pitiful ambition in the fool that uses it."

Now to mention that Shakespeare is a reliable artist for imitation is about as novel a piece of intelligence as the time-honoured bit of news relating to the decease

of Queen Anne. Photographers would do well to believe that art is not one thing in painting, another in photography, in sculpture, in architecture, another in acting, singing, playing upon musical instruments, in poetry, etc. etc.; but is one and the same thing in all, and that a man's claim to the title of artist is to be measured only by the idea he wishes to interpret in his work. It is customary to talk about artists and photographers as if they were two different classes. It is not so, of necessity. I have seen villainous painters and draughtsmen, men whose work has fallen immeasurably short of some badly exposed and badly developed photograph which, however, was an attempt in the right direction; while all those artists with the brush that I have known, whose claim to their title is best substantiated, are the first to admit the artistic merit of certain camera pictures. There is a photograph in one of the shops in the Strand which is, in the opinion of all the artists of my acquaintance who have seen it, simply beautiful, a picture of a number of boys bathing from a boat. They appear to be unconscious that they are being photographed; some are in the water; some sitting on the gunwale of the boat; one scrambling into it. That is a good picture, because it is natural; the grouping is good; it is not a studio boat with water turned on by the retoucher, but an actual, real boat, floating on some river; it is also a good photograph, the exposure, development, and all that most operators pride themselves upon, are in their way excellent. Producing such a picture is "occupying art in the function in which she is serviceable."

PERSPECTIVE IN BACKGROUNDS

NOW having considered, first, the capacity of the tool we use, then the faults to be avoided in the injudicious selection of material, I would like to draw the photographer's attention to another matter which is of great importance in the composition of pictures in the studio. There is one law which is as fixed and immutable for the painter as for the photographer, and that is the law of perspective, the law that causes all parallel lines to tend to one point. All photographers know that as an object recedes into the background, so it appears to become smaller; in fact, all pictures suggest looking down the inside of a hollow cone.

Now for illustration let us imagine we are looking upon the interior of a building as in the engraving. We will consider our eyes to be about five feet six inches from the ground or floor, then an imaginary line drawn from our eyes at right angles to the horizon and terminated by the horizon is called the line of direction, and the points at either end of it are called the points of sight; it is easy to understand that any object that may intervene below the line of direction or below the point of sight we shall look down upon, and any that is above it we shall look up to; thus in the picture we are considering we shall look down upon the floor the whole of the distance. Now we see

that the bases of the cylindrical pillars which support the roof rest upon the floor, a line traced round the base of each pillar should describe a circle upon the floor. Let us then take a piece of card cut in the form of a circle and lay it upon the floor several yards in front of us, and we shall see that it becomes elliptical in form ; let us walk farther away, and we shall see that the ellipse becomes flatter the more we recede from it. A glass tumbler resting upon the floor will afford another good simple illustration ; let us now raise the tumbler until the circular top of it is on a level with our eyes, and we shall see that the circle which had become an ellipse on being placed on a level with the floor, and at some little distance in front of us, has now become a straight line, so that we may say, a circle placed horizontally on a level with our eyes appears a straight line. Let us now raise the tumbler still higher, and we shall see that the straight line becomes a curve again, until, when it is the same distance above the point of sight as it was originally below it, it assumes the same elliptical curve it had when we first considered it.

Now we should remember that all shapes in any picture we may attempt are governed by the same law ; whether they be houses, trees, cattle, figures, mountains, lakes, or valley, groups of people, or what not. Therefore if we wish to represent any number of objects in their proper relative proportions, we must remember that all must be seen from one point of sight. I have drawn attention to this in order to emphasise the necessity for care in the selection of backgrounds, and not only in their selection, but in the proper placing of them in the studio. The commonest mistake that

is made is to get a background painted to look like some interior, with at least half a dozen points of sight in it, in fact, the lines pointing anywhere in general and nowhere in particular; and then to crown this mass of absurdity, a figure is posed in the foreground and photographed from another point of sight. Sometimes this is not all. The folly of the thing is rendered still more glaring by wings hinged upon the background at its sides, painted in imitation of windows, doors, etc. And then you hear a lot of stuff talked about the "opposition of lines," about "breadth," etc., *ad nauseam.* If a photographer goes to a cheap background painter, he may expect to get something faulty, and the commonest fault of that fraternity is, they know nothing whatever of perspective. It is the practice of one of the best photographers, who is also an excellent draughtsman, to arrange a model in the studio, and then paint a background that shall suit it—that is reason, and art of a high order may be expected from so conscientious a practitioner. I am speaking of Sarony of New York, from whose studios some of the best photographs ever done have proceeded. Unfortunately this is out of the reach of the ordinary photographer; then he should think if there is any way of meeting the difficulty, and if he cannot paint his own background to suit each subject, and cannot afford, or does not feel willing to pay a competent artist to do it for him, why then, as Dogberry says, in his charge to the watch, "the less you meddle or make with them, the more is for your honesty." The best background I know is either a plain one, or one in which masses of light and shade are shown without any positive shape being indicated; if the photographer has

posed a figure, and he feels that a little light or shade here and there on the background will be an advantage, let him put it on himself with a little powdered chalk and charcoal. This is done in many of the first-class studios, and the result is always better than the more pretentious but more faulty painted background where everything is pretended and nothing really done.

I am aware that this is flat heresy, that photographers may say that backgrounds, such as any one may buy for a sovereign or two, make up beautifully, and that it is hypercritical to say that it is not artistic to use them for ordinary work. To such I would reply in the language of Mr. Ruskin in *Modern Painters*, "It is sufficiently evident there is no process of amalgamation by which opinions wrong individually can become right merely by their multitude." I may also add that the opinion of the educated public tends to the same idea. I have frequently heard Mr. William Downey, the photographer, say that amongst the thousands of photographs taken in his studios for publication, the best have been those taken against a perfectly plain or very slightly graduated background, so that the amateur who confines himself to that which he can do well, and does not attempt to rush in where photographers of forty years standing fear to tread, will be following a better standard than the one who is devoured by ambition, and who fancies that Michael Angelo and himself are two people of almost identical capacity.

SIMPLICITY IN COMPOSITION

MR. RUSKIN says, "It is far more difficult to be simple than elaborate;" so that a photographer who binds himself down to that which is possible, need not think that he is degrading his genius. Oliver Wendell Holmes says that in all human affairs perfection is attained by proceeding from the complex to the simple. One need only go to the South Kensington Museum to see this. Stand before the old steam-engine, "Puffing Billy," and look at the scaffolding of pipes and rods, cranks and pistons, and then look at a Great Northern Railway Goods engine; it will suggest an engine with all its working gear removed. Mechanics have discovered that such and such a rod is superfluous, that such a steam-pipe need not traverse the whole length of the fabric, and so on, until it has become simplified to what we know it. The upshot of all this is to point out the amateur that as the means he employs are of a restricted kind, so the difficulties of composition of an elaborate kind are almost insuperable, therefore he will attain the greatest measure of success if he will only attempt simple subjects. I have seen books which quote some of the works of the great painters containing ten or twelve figures as suitable subjects for the amateur to try and imitate. I consider such advice is

misleading, because there is so very much to be attended to in the disposition of one figure only; and, moreover, only certain poses are suitable for photography of even one figure. For instance, if a man is to be photographed on a half-plate with a cabinet lens, let us suppose an archer in the pose of "Teucër," by Hamo Thornycroft; well, there are only two views which can be taken with any degree of accuracy, by means of photography,—they are either direct in front, or direct at back. This is owing to the fact that the lens which gives least distortion also has the least depth of focus. I suppose the figure is sufficiently well known, but in case it is not, I will describe it. It is the figure of a tall slender young man standing upright with the legs, feet, and body facing one way, the left arm is extended as far as possible towards the left, the hand clenched, apparently grasping a bow. The head is turned, facing the left hand, the right arm is raised, so as to bring the hand about on a level with the chin, and is apparently pulling upon the bowstring. Now it is certain that if we were to attempt to photograph this figure from the left hand with a landscape lens, we should get the left hand disproportionately large, if from the right hand the right upper arm and shoulder would be too large, while the left hand would, if visible, appear as the hand of an infant.

I have made a sketch of the Perseus, with the head of Medusa, from a photograph of the statue in the Vatican, which affords another good example of the same idea; in fact, it is better than the other, because there is still greater difficulty in this case. The left arm, as you see, is extended to the left, holding the

Gorgon's head, while the right is partially extended in the opposite direction, giving a breadth of picture which in actual measurement is only one head short of the entire height of the figure. Now if we attempt to photograph this with a landscape lens, we shall get the same disproportion that we should in the former example—that is, if we take our station at the side, while if we use a portrait lens from the same position, one hand might be in focus, the other could not. There remain only two views then which will give us any measure of accuracy either from the front or back, and no one will dispute that the front view is best; therefore we have arrived at the fact that there is only one view which is suitable, and the reason for this obtains in photographing every single figure, or every group of two or more. We must therefore endeavour to pose our figures so that they shall occupy a plane which shall as near as possible be parallel to the front of the lens; if it is only one figure, it must be disposed according to the same rule, or we shall have to sacrifice either sharpness, or proportion, and we cannot afford to lose either. A man must not be posed, sitting in a chair facing the camera, with his head leaning back, and his hands placed upon his knees, or we shall find his hands enormous or blurred. Try to get each part as much in one plane as possible, and then have that plane parallel with the front of the camera. And in considering a subject before posing, we shall do well to remember what Leonardo da Vinci says in his *Essay on Composition*, "Observe decorum in everything you represent—that is, fitness of action, dress, and situation, according to the dignity or meanness of the subject to be represented. Be careful that

a king, for instance, be grave and majestic in his countenance and dress ; that the place be well decorated ; and that his attendants or the bystanders express reverence and admiration, and appear as noble in dresses suitable to a royal court.

"On the contrary, in the representation of a mean subject, let the figures appear low and despicable ; those about them with similar countenances, and actions denoting base and presumptuous minds, and meanly clad. In short, in both cases, the parts must correspond with the general sentiment of the composition."

Now this principle, although the essay containing it is addressed to historical painters, is just as necessary to be observed by photographers. Any one who has seen Edward Righton, the actor, dance a burlesque imitation of a *première danseuse*, will realise how utterly ridiculous want of suitability and propriety may look. Imagine a short, stout, comfortable-looking gentleman, of the Mr. Pickwick type, dressed in a very low cut bodice, with exceedingly short skirts of muslin, pink tights on his sturdy legs, aping the lightness and grace of a young woman. Of course this is a very far-fetched simile, but we see photographs of women who are evidently domestic servants or something of the sort, trying to look easy and comfortable in poses of exalted dignity, with palatial vistas painted on the background. Or else it is a picture of some old gardener standing bolt upright like a soldier at attention, dressed in immaculate black broadcloth that may have been bequeathed to him by his father. Of course it would be despicable to sneer at the fact that a poor old man

should dress himself in the best clothes he possesses, but that is no reason why the photographer should try to make him stand like a footguard on parade. Leonardo da Vinci says, "The motions of old age should not be similar to those of youth, those of a woman to those of a man, nor should the latter be the same as those of a boy."

A great deal has been said about the necessity for the maintenance of a pyramidal shape in the composition of a group of figures, and accordingly we see conscientious photographers trying to maintain that character in their groups without having first considered why a pyramid is a desirable form to be copied either in a group or in the composition of a single figure.

A pyramid suggests one character beyond all others, and that is repose, which also implies solidity and a perfect distribution of weight, without which there can be no repose. Therefore we may assume that groups of figures that are intended to indicate a number of people in solemn conclave, may be arranged with perfect propriety in a somewhat pyramidal form, not too pronounced; we must not invite the somewhat equivocal praise, "Notice how well he has arranged them in a pyramid." There are other forms to be observed quite as much as that. If we are arranging a family group, we may remember the pyramid, but do not let us attain it by placing the head of the family in the centre, and the children grouped round him, the smallest at the sides; the trunk of a tree is very seldom the highest point. A pyramidal character may be attained by having the parents sitting somewhere near the centre, and the female members of the family, for the most part, sitting,

the males standing, although it is permissible to place an elder daughter standing; and in arranging them, let a son, we will say the eldest, stand with his hand on his mother's shoulder, so that he forms the highest point of the group; a daughter may be placed next to the father, a young boy of twelve or fourteen close to the mother, also a grown-up daughter next to the mother, and the youngest, if a girl, may be placed between the father's knees. This is the order in which the sympathies and affections frequently arrange themselves. The eldest son generally invests himself with the disposition of the destinies of the entire family; certainly if he is a right-minded man, he extends his august protection over his mother; the boy of twelve will certainly be near the mother in most of the events of his life, for is she not as a shield and a buckler to him at times when his propensity to mischief has brought him into contact with any of the others? She is his city of refuge, to which he flies when the avenger pursueth, and in most young boy's lives that happens hourly.

If it is intended to introduce the figure of some favourite servant, such as the nurse who has grown old in the family, let her be placed sitting at the side.

The father should be placed in a position of dignity, not stiff or formal but certainly dignified. The eldest son will probably attend to that appearance in his own proper person. The greatest variety of pose may be attempted in the younger female figures, but the poses should all of them be quiet and simple. The pose of the boys may be suggestive of a restrained vitality, one hand being held by the nearest adult. The mother

should be posed simply, care being taken that her hands are not brought too prominently forward.

I make no excuse for attempting to show how a family may be posed and arranged, because, although I maintain it is extremely difficult to do it really well, I am aware that it is one which the amateur will infallibly be called upon to attempt whether he is willing or not. It takes the same position of importance in the family album as the favourite horse or dog, both of which we shall have to consider.

I have brought into notice the arrangement of a family group because it is one of the illustrations in which the pyramidal grouping may be observed. But because that form is legitimate in such a composition, it by no means follows that it should be the invariable rule to be followed in all groupings.

One of the most perfect examples I know of a single human figure forming part of a pyramidal group, is the bronze of an Indian mounted on horseback, and thrusting at a serpent with a spear, the work of Mr. Thomas Brock, purchased by the Royal Academy under the terms of the Chantry bequest. But we must bear in mind that it is illustrative of action only on the part of the Indian ; the horse is helpless, the serpent is coiled round one of the horse's hind legs, and is also comparatively motionless. In fact, we might almost consider the Indian to be motionless also, because, although I have said thrusting at a serpent, it would be more correct to say about to thrust at a serpent. His right arm is partially extended above his head, the hand grasping the spear, close to its head, and about to use it as a dagger ; his left hand grasps the reins so as to be

ready to control the violent action of the horse, which will immediately follow the blow that shall relieve him from the restraint that is being put upon his movements by the constrictor, for it is evidently a serpent of that class.

I may mention another instance of the pyramid in the grouping of two figures,—"Harmony," by Frank Dicksee; repose is again indicated; the action of the female figure is very slight; the idea conveyed is some andante piece of music being performed, full of grand, solemn chords—

> "Untwisting all the chains that tie
> The hidden soul of harmony."

Now if we want to consider whether the great masters of art confine themselves to this rule of pyramids, let us examine some of their works. I have before me an engraving of Rembrandt's picture of the "Five Syndics"; it represents five figures of men (I presume it is known that a syndic is a public officer in Holland); they are with one exception sitting, the exception is standing in a stooping position; they are all in one plane, or very nearly; at the back stands a clerk, bareheaded; the syndics are wearing broad-brimmed Dutch hats; a line traced along the tops of their heads will not be a pyramid, but will be another and more important line in art, that which is known as Hogarth's "line of grace and beauty." All are turned towards the spectator, and we may imagine them sitting in conclave, listening to some report, some statement, or complaint upon which they will be expected to give their opinion. This picture is possible in photography if a good lens is used.

I turn to another illustration in order to show that

the great masters did not adhere to one rigid rule in any composition. This illustration is Christ bearing the Cross, painted by Raphael, in which the figure of Christ is actually the lowest in the picture. In another picture of the same subject, the work of Albert Dürer, Christ is in the same position; the incident chosen is when Christ fell down, overcome by the weight of the Cross; but though lowest in the picture, He is still the centre of interest; and that is what constitutes the key of the picture. Such compositions would be impossible in photography; I merely mention them to show that there is no hard-and-fast rule that will apply with equal force to all subjects. Any one who attempts to lay down a rule to be always observed, does that which is ridiculous; in the language of Leonardo, "The parts must correspond with the general sentiment of the composition." And if an artist attempts to paint Christ, who "gave His back to the smiter, and His cheeks to them that plucked off the hair," he would scarcely represent Him in a position raised above others in the picture. In the composition of the Last Supper the positions are changed; there He is represented as the central figure of a group of men who have been accustomed to regard Him as Divine, but mark how the principles laid down by the great painter are carried out in his own work. Christ called Himself the "Son of Man;" He is represented as man, and man only, not raised above His fellows, but on the same level; the space that exists between His figure and those of His nearest disciples is simply the deference that would be paid to the Master; and that space is all that is necessary to distinguish Him from the others.

Photographers might say, "What possible connection can there be between Leonardo's picture of the Last Supper and the principles of composition to be observed in photographing a single figure of a man or woman in modern dress?" which is what we want to be informed about. The connection is this: The principle involved in the one is the same as that which is necessary in the other, and that if we would understand the methods employed by the great masters, we must associate ourselves with their works. For, says Sir John Falstaff, "it is certain that either wise bearing, or ignorant carriage, is caught as men take diseases one of another; therefore let men take heed of their company."

Moreover, the great masters have considered the subject in its smaller details, such as a single figure; and as a single figure contains all the principles that a group necessitates, so we will consider what we should avoid and what approach in the composition of a single figure picture. We will commence with a simple head and first take the pose. I have heard photographers lay down as a general axiom that the head should be turned from the body, which should also be turned from the spectator, and the eyes from the direction in which the head is turned, so as to give action to the picture. This is wrong. Such an arrangement is permissible in a full-length figure, because we will assume that a person is standing, say with his body turned at an angle of twenty degrees from a plane at right angles to the line of direction. I have previously indicated what is the line of direction. This person's attention is called in another direction; he slightly turns

his head to the new source of interest, and in the very act of turning his attention is arrested and directed to another point; the eyes turn in the direction of the interruption, and the result is the three positions which, taken collectively, do not indicate any special idea, and, as Leonardo says, "A figure which does not express by its position the sentiment and passions by which we suppose it animated, will appear to indicate that its muscles are not obedient to its will, and the painter very deficient in judgment."

Now a simple head and shoulders will not be sufficient in itself to convey a good idea of shyness, as in a child, when the three positions of the body, head, and eyes might happen; moreover, you cannot pose a child to look shy. If you do attempt it, the result will be very artificial.

Let us rather consider the statue of the Fighting Gladiator, in which there is action enough to please anybody. It is the figure of a young man, with every muscle trained, hard and fine; he is armed with a short sword, designed more for thrusting than for striking, a shield has probably been on the left arm,—it is at least suggested; the figure is posed to convey one idea only. Every one who has seen two men fighting will have noticed how each combatant describes a circle round the other, each one trying to find an unguarded spot; this is what the Gladiator is doing, and the statue represents him in the very act of warding off a blow or thrust from his opponent; his whole energy is directed in one curve. Examine the engine turned back of a watch case, and you will see a lot of curves that proceed from the edge towards the centre. Although the curves

on the back of a watch have this appearance, on being examined with a magnifier, they are seen to be really different. It is a curve like one of them that he is describing; his attention is fixed on two ideas only—one to protect himself from his antagonist, and the other to find a suitable place to strike.

Again, take the figure of Antinoüs, an outline of which will be found on the opposite page, and you will find that simplicity of pose is its distinguishing characteristic. Remember the Apollo Belvedere, the Venus of Milos, any one of the well-known statues of antiquity, and you find that as the head is turned from the body, so the eyes will be found to follow the same direction. Now there is nothing in that rule to be avoided in photography, but the reverse; so we may settle it that in the pose of a simple head the eyes should be turned in the same direction as the head, which may be turned upon the shoulders as much as your taste dictates, of course within reasonable bounds.

I have seen the written opinion of one of our prominent photographers, in which he says that the head should be turned from the light. So it should, in some cases, but not in all, nor yet in half, because as art is the interpretation of all that is best in nature, so that art that distinguishes the best view of a face and the most suitable lighting for it, best fulfils the purpose we are adapting it to; and it is indisputable that some faces are best in one position only; either full, or three-quarters, or in profile, with the head raised or lowered, according to that part which we wish to bring forward or to subdue. I have in my possession an engraving of a portrait of Molière, painted by Mignard, in which the face is turned

directly to the light. Most people have seen the portrait of Mrs. Siddons in the National Gallery, painted by Gainsborough ; the head is in profile, turned directly to the light. Also the picture of a " Parish Clerk," by the same artist, also in the National Gallery ; in fact, if one has time to walk through that splendid collection with a note-book, he will find hundreds of instances of portraits and heads which are simply studies where the face is turned directly to the light. There is no rule that can be considered arbitrary ; and the person who attempts to form one, without showing full and indisputable authority, should be treated with reserve, as any standard that a beginner is to follow should be attended with such reason that it leaves very little room for doubt and indecision. I know those who try honestly to compose studies for photographic studies based on some precept that has been instilled into them. They do not know why they believe such and such a method is right, beyond the fact that some one who ought to know has said it is. That is weak. Settle each point as you go on. You would not put the plate into the camera if you were uncertain whether the focus was right or wrong ; you would not take the cap off the lens if you doubted whether there was a plate in your slide or not ; you would try and be sure of each stage as you proceeded. Still more necessary is it to have a definite reason for each part of your composition ; to do nothing by guess work, trusting that it would come out all right, because that is a very excellent method to obtain a very large percentage of work that is all wrong.

I would advise all photographers to go to the National Gallery, the South Kensington Museum, the Academy

in the season, and if time is not an important consideration, to any of the good exhibitions of pictorial art, to examine closely the works of great artists,—Reynolds, Lawrence, Gainsborough, Lely, Holbein; and in our own time Millais, Watts, Sir F. Leighton, Culess, and any others who have attained celebrity in the artistic world, and about whose work there is no very great dispute. Study them carefully, read good standard books on the subject—books that are recommended by artists to artists; do not be satisfied that because your lens and chemicals will produce a representation of some object, that on that account you range up alongside the men who have been trained from boyhood to old age to draw, as some photographers maintain, with less accuracy than the camera does.

FULL AND THREE-QUARTER LENGTH STUDIES

Now we will assume that we have taken some good pictures of single heads, and would like to try a full or three-quarter length study. If we are dealing with a modern subject, such as a lady in an ordinary morning dress, standing, we must endeavour to keep the pose quiet, if nothing but a portrait is intended. First consider which is the best side of the face, which is the best view of the face, whether profile, full face, or three-quarters. A face which has weak or very irregular features may with propriety be turned from the light, and we can settle that point very easily, because if the general expression be bad, it is not well to let too fierce a light play upon it; remember "the rich attorney's elderly ugly daughter," who "would very well pass for forty-two in the dusk, with the light behind her." If the subject has a clear-cut Grecian profile, straight nose, small mouth, firm chin, long full neck, then we may consider that a profile view will be suitable. If we decide upon that view of the face, pose the body simply. It is quite legitimate to have body and head turned in one direction, because a lady of exceptional classical beauty will most likely be aware of her gifts, and will not be in the habit of looking about to see if she is

admired quite so much as another might who was at all uncertain about so important a matter. A slight change in the position of the body and head will also be good. Keep the head well raised, with the eyelids slightly drooped if the subject is tall. If you decide to have the body turned full to you, let the head turn slightly from you, let the principal weight of the body rest on the foot on that side to which the head is turned ; that will raise the corresponding shoulder a little higher than the other, and will give variety to the pose of the head and shoulders. In any case keep the hands low; one may rest easily upon some article of furniture, the other may hold some trifling object, such as a fan, a book, etc. Another suitable pose for a lady, standing, is to have the body turned at an angle of about eighty degrees from the line of direction, the head turned round almost full to the camera, and the eyes directed to the camera or a little above it ; both hands may rest on the back of a chair, easily and naturally. Be very careful to avoid any stiffness in the position of the hands, and at the same time endeavour to place them so that they do not present the broadest view of them to the spectator. In this pose the light may proceed from either the side to which the body is turned or from the opposite ; either side will be suitable.

A good pose of a sitting figure of a lady is to have face, body, hands, and feet all turned one way—that is, at an angle of about forty-five degrees with the line of direction, the hands clasped loosely on the lap, the light to proceed from a point, so that the highest light falls on the temple nearest to the camera.

Another variety of it is to have the body, feet, and

hands turned at the same angle as in the foregoing pose; in fact, the only difference in the pose to be that the head is to be turned three-quarters towards the camera, the eyes to follow the pose of the head, but to be rather more turned towards the camera; the light in this case to proceed from a point almost opposite the camera; of course higher than the camera level, so that it does not shine directly into the lens, or you will get halation; the light in this case is to strike the head first on that point that is farthest from the camera, so that all the light that is on the face is to come from reflectors; this will give a very charming effect if the subject is young and pretty. The hands may be lightly clasped on the knees, and holding a fan, which should be closed and hanging down in front of the knees; the body may be bent forward, so that the wrists will be bent over the knees; the head raised slightly, and the face to wear an expression of listening attention; the figure should be sitting on a low seat in an evening dress and wearing suitable ornaments.

Another good pose is to have the sitter reclining in a lounging chair, leaning back with the head turned almost directly full face, and the light falling so that the side of the cheek which is nearest to us is in soft shadow; the arm which is farthest from us may rest on the arm of the chair, the other hand may rest on the lap and may hold a book, a flower, a fan, or any small article that is suitable, so that the fingers be not too spread out.

Another simple pose for a lady is to be sitting at a table or writing-desk, with paper in front of her, a quill-pen in her hand, the head bent slightly forward,

the eyes turned down upon the paper; one hand may hold the leaves of a book open upon the table, some small object, such as a vase of flowers, or, better still, one or two flowers in a glass of water, may be placed among the articles on the table; but do not have a bust or a large statuette upon the table—you do not want the interest of the picture divided; this may be lighted from a point immediately above the camera, the light falling directly upon the cheek nearest to us; or the light may proceed from a point in front of the sitter.

A lady may be posed sitting at a piano—that is, of course, if she is a pianist, not otherwise—with both hands resting upon the notes, not leaning upon them; perhaps upon the ivory keyboard would be the more correct term. The head in this case may be turned round towards the operator, and a pleasant expression of attention on the face, as if at the conclusion of some pleasing piece of music having been played, the performer were asked some question relating to it.

A lady may also be posed reclining upon a couch, not lying upon it, as that is a position demanding so much care in its arrangements, but slightly raising herself on one elbow, a book in one hand, a small occasional table somewhat in front of the foot end of the couch, with a vase of flowers or a fern in a pot upon it, a paper-knife, a fan, or any small article that does not appear out of place.

Elderly ladies should be posed in positions that are suggestive of comfort, and at the same time on dignified, capacious armchairs; and, in the case of extreme age, footstools may be introduced, because as ladies get into years they pay more attention to

catching cold, or rather to avoiding that inconvenience, than do the young, who sometimes might be represented sitting on a balcony or terrace outside a ballroom, with their throats and chests exposed, eating Neapolitan ices and courting pneumonia. But as the object of this article is not to show how to produce a picture of human folly, we will not go into the details of that composition.

Almost any simple lighting will suit old age except, we remember, that if the light is too high and too much in front, the eyes will be lost in shadow, the upper lip will be too pronounced, the shadow on the neck will be very black.

In posing and arranging men in modern English dress do not attempt much variety. Avoid display. Be careful not to make a man look like "Arry"; a gentleman does not walk using his elbows as fins, and when he sits or stands, his sense of decorum prohibits him from assuming any vulgar or grotesque attitude; try and attain the mean between dignified self-control and stiffness. Oliver Wendell Holmes says that a gentleman is "calm-eyed and firm-mouthed;" and I suppose that if all our sitters are not gentlemen by birth, instinct, and education, there can be very little harm in making them look as if they were intellectual. Holmes says, "Vulgar people cannot control their limbs and faces." And one reading of that may be that a man of a vulgar type of mind—that is, a common type—cannot assume an expression of ease and self-control. The Italian maxim, "Never display wonder" (*nil admirari*), is one that is very seldom followed in the bucolical districts. How often do we see in country photographers' windows pictures of men with mouths in the highest state of development

but brains evidently in embryo; some looking as if they feared the camera was an infernal machine which was likely to explode at any moment if they relaxed a muscle; others looking as if it were an instrument gifted with a malignant intelligence, and needed conciliation to incline it to mercy?

CHIAROSCURO

ON the subject of lighting considered simply, I cannot do better than quote verbatim from Leonardo da Vinci, "If you wish to make good and useful studies, use great deliberation in your drawings, observe well among the lights which, and how many, hold the first rank in point of brightness and go among the shadows which are darker than others, and in what manner they blend together; compare the quality and quantity of one with the other, and observe to what part they are directed. Be careful also in your outlines, or divisions of the members. Remark well what quantity of parts are to be on one side, and what on the other; and where they are more or less apparent, or broad or slender. Lastly, take care that the shadows and lights be united, or lost in each other, without any hard strokes or lines; as smoke loses itself in the air, so are your lights and shadows to pass from the one to the other without any apparent separation."

Sir Joshua Reynolds frequently inculcated these precepts in his lectures.

Leonardo da Vinci also warns painters against a fault, which warning applies with the greatest force to photographers. He says, "Lights separated from the shadows with too much precision have a very bad

effect. In order, therefore, to avoid this inconvenience, if the subject be in the open country, you need not let your figures be illumined by the sun; but may suppose some transparent clouds interposed so that the sun, not being visible, the termination of the shadows will be also imperceptible and soft." Mark that he says, "need not be illumined by the sun;" he does not say, "must not." The common error photographers fall into is to be satisfied with producing a good negative—that is, one in which the lights and shadows are clearly defined,—and having attained that, they call it "a good picture;" brilliancy must not be put before every other consideration.

To quote further from da Vinci, "Be very careful in painting to observe that between the shadows there are other shadows; those shadows which in nature are undetermined, and the extremities of which can hardly be perceived, are to be copied in your painting in the same manner, never to be precisely finished, but left confused and blended.

"A small light will cast large and determined shadows upon the surrounding bodies; a large light, on the contrary, will cast small shadows on them, and they will be much confused in their termination; when a small but strong light is surrounded by a broad but weaker light, the latter will appear like a demi-tint to the other, as the sky round the sun; and the bodies which receive the light from the one, will serve as demi-tints to those which receive the light from the other.

"You must not mark any muscles with hardness of line, but let the soft light glide upon them, and

terminate imperceptibly in delightful shadows; from this will arise grace and beauty to the face."

Now these precepts are addressed to painters, to artists who have colour at their command; how much more forcibly do they apply to photographers who deal only in monochrome, and whose work, if it looks hard in the original subject, will appear additionally so when restricted to the ordinary conditions of photographic printing?

PHOTOGRAPHIC COMPOSITION OUT-OF-DOORS

I HAVE recently seen a number of negatives, taken by a lady, which have comprised about thirty different subjects, and they have, with one or two exceptions, been taken in the very worst manner as regards composition—portraits of gentlemen sitting in garden chairs, with the head placed in front of a tree trunk about the same width, apparently, as the head. One of a gentleman sitting on a seat with a hard horizontal line in the background coming just on a level with the chin, and apparently cutting off the head of the figure; another of a small man sitting on a low seat with the camera placed very much higher than the head; and numerous instances of a like nature.

The best lens for outdoor portraiture is a rapid rectilinear, because there is less distortion than is produced by an ordinary landscape lens, and greater depth of focus than a portrait lens will give, while at the same time the depth of focus is not great enough to render all objects behind the sitter quite sharp. If you are taking a single figure, endeavour to get the subject in front of a mass of light and shade which is sufficiently broad, so that no hard line impinges upon the outline of the head; endeavour to arrange the

figure with the background, so that there is sufficient relief to the parts that you consider should be most prominent.

Leonardo da Vinci says that the ground that surrounds the figures in any painting ought to be darker than the light part of those figures, and lighter than the shadowed part. This is of course the fundamental rule for the proportion of all backgrounds; if you depart from it and have, say a figure which is darker on its lights than is the background, you will produce a picture of a negro; if, on the contrary, the background be darker than the darkest part of the picture, the result will be very hard indeed. I know such pictures are sometimes admired in photography, but they are tricky and bad.

If your figure be dark, place it on a light ground; if it be light, upon a dark ground; and if it be partly light and partly dark as is generally the case, contrive that the dark part of the figure be upon the light part of the ground, and *vice versâ* (da Vinci).

In the composition of many figures, observe that the parts of these different subjects ought to be darker in proportion as they are lower (da Vinci).

There is one warning that should be particularly addressed to photographers, and that is: There is no beauty in a photograph as a work of art if it depends entirely on the perfection of negative, the nicety of the exposure, or the judgment displayed in its development. A negative may be soft, round, brilliant, good in colour, and well adapted for printing; but if it be posed badly and lighted badly, then it is rubbish, and I would strongly advise photographers to pay the greatest

attention to those qualities, and then if the negative be good photographically, so much the better. In conclusion, let me say, that as the scope of the art is limited, so the ambition must be, and any one who teaches that in photography as much can be done as in painting, is either ignorant or misleads wilfully. I know personally some of the very best photographers in the land, and have been intimately associated with their work for some years past; many thousands of their negatives passing through my hands. All are agreed on the main points; there is little or no rivalry amongst them as producers of negatives—that is accepted as a matter of course; it is as artists they compete; and nowadays the photographic artist is a very different being from the gentleman of some years ago, whose ambition did not soar above a quarter plate full-length figure. But even now, with the enormous advance that has been made, the best men are those who, recognising the impossibility of their becoming universal, endeavour to do one thing, and do that one thing well.

THE END

Printed by R. & R. CLARK, *Edinburgh.*

ADVERTISEMENTS

ADVERTISEMENTS

Marion's Mediums, Varnishes, &c., for Retouching.

CADETT'S "MATTLINE," FOR RETOUCHING.

(MARION & Co. Sole Agents.)

Price 1/ per Bottle.

This desideratum to the Retoucher is the result of long study and many experiments. One drop applied to the surface of a Negative varnished in the ordinary way gives a most delightful medium for the pencil to work on. It has been prepared with the following objects in view:—(1) It permits the varnishing of a Negative with a Hard Elastic Varnish, prepared with a view to keeping qualities, and not for retouching, it being well known that it is very difficult, if not impossible, to make a Varnish which will serve both for protecting the film and retouching on, with thorough keeping qualities. (2) Ease of application, with a minimum of trouble, to be ready for working without loss of time. (3) A perfect surface for the Retoucher.

DIRECTIONS FOR USE.—Take a small piece of flannel or cotton wool and fold it between the fingers into a little pad. Let *one* drop, *and no more*, of the Mattline fall on the place requiring to be retouched, then with the pad work it with a light circular movement over a space about the size of a crown piece, till the Mattline *sets* of a delicate Matt surface, which will be in about thirty seconds. Let the Mattline applied to the Negative be graduated off so as not to leave a visible line. The Negative should now be warmed over an ordinary gas flame till it is a little hotter than the hand can bear, taking care to move the Negative whilst so doing, and with the varnished side away from the source of heat; as soon as the Negative is cold it is fit to work on. If the retouching should not be satisfactory, it may be immediately removed with a little Spirits of Turpentine and cotton wool, and the Mattline again applied as before. If many prints are required from the Negative, it should be re-varnished to protect the retouching.

MARION'S SOHO MATT VARNISH, FOR RETOUCHING, &c.

A perfect substitute for Finely-Ground Glass, for Focussing Screens.

Price 1/6 per Bottle.

DIRECTIONS.—Pour the Varnish on the plate cold, and it will set instantly a very fine Matt surface. No heat required. It may be applied direct on the film, or after varnishing.

The Varnish may also be used to advantage in the case of a thin Negative, applied to the glass side.

HUBBARD'S NEGATIVE AND RETOUCHING VARNISHES.

(MARION & Co. Sole Agents.)

Hubbard's Negative, for Dry Plates, 4 oz. 1/; 20 oz. 3/; 40 oz. 5/; 80 oz. 9/.
,, Negative Retouching, for Dry Plates, 3 oz. 1/; 20 oz. 4/; 40 oz. 7/; 80 oz. 12/.
,, Negative, for Wet Plates, 4 oz. 1/; 20 oz. 3/6; 40 oz. 6/; 80 oz. 10/6.
,, Negative Retouching, for Wet Plates, 3 oz. 1/; 20 oz. 4/; 40 oz. 7/; 80 oz. 12/.

MARION'S SPOTTING MEDIUM.

Price 1/6.

This Medium is invaluable for remedying defects in Negatives and for Spotting Prints. It is particularly useful for Enamelled Prints, as, being perfectly insoluble, it will not run or wash off in the Gelatine Bath. Should the Medium harden on palette, it can easily be thinned by adding a little Methylated Spirit.

MARION & CO., 22 & 23 Soho Square, London, W.

Marion's Sundries for Retouching.

RETOUCHING PENCILS.

Faber's	Ever-pointed, all grades, Holders	. . . .	1/ per doz.
,,	,,	Leads for refilling	5/4 ,,
,,	,,	,, ,, 2d quality . . .	2/8 ,,
Hardtmuth's	,,	Holders	/6 ,,
,,	,,	Leads for refilling	1/ ,,

SPOTTING BRUSHES.

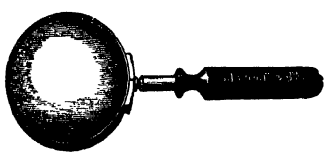
Red Sable in Tin, Nos. 0 and 1, 6/; No. 2, 9/; No. 3, 11/6; No. 4, 14/; No. 5, 18/6; No. 6, 23/ per doz.

TRANSPARENT PAPERS FOR RETOUCHING.

Papier Minéral, for backing-up thin Negatives, tracing, &c. . . 5/6 per quire.
This paper is thin but strong, and has very little grain.
Papier Végétal, for tracing, &c., stouter than above . . . 7/ ,,

COLOURS FOR RETOUCHING.

Prussian Blue, per ½ Cake . . . . . 6d.
Burnt Sienna, ,, ... 6d.



MAGNIFYING GLASSES for Examining Negatives & Photographs.

(BEST QUALITY ONLY.)

Number	18	21	24	27	30	33	36	39	42	45	48	51	54
Diameter in inches	1½	1⅞	2⅛	2⅜	2⅝	2⅞	3⅛	3½	3⅝	4	4⅛	4½	4⅝
	1/3	1/6	1/8	2/3	2/10	3/2	4/	4/4	5/4	5/8	6/4	7/4	8/
	3/	3/6	3/10	4/8	5/8	6/10	7/10	9/	10/	11/4	12/8	16/	17/6

WAX PAPER CLOUD NEGATIVES.

Wyles's . . .	½ pl. 1/6;	¼ pl. 2/;	10×8, 3/;	12×10, 4/;	15×12, 5/ each.
Perry's . . .	,, 1/6;	,, 2/;	,, 3/;	,, 4/;	,, 5/ ,,
Green Carbon Film	,, 2/;	,, 3/6;	,, 4/6;	,, 5/6;	,, 7/6 ,,

TALC (Best Quality).

Packet containing 25 pieces, Carte-de-Visite size 3/6
,, 12 ,, Cabinet size 12/

N.B.—Sold in packets as above only.

22 & 23 Soho Square, London, W.

Marion & Co.'s Dry Plates

are now being issued with the speed-determining number marked on each packet as per Hurter and Driffield's system, so that there can be no error in exposing the plates when worked in conjunction with Hurter and Driffield's Actinograph.

Sizes.	Britannia Ordinary Rapidity (Yellow Label).	Rapid Britannia (White Label).	Instantaneous (Brown Label).	Academy Landscape (Cream Label).	Cowan's Gelatino Chloride Plates (Green Label).	Cowan's Chloro Bromide Plates (Violet Label).	Bromide Opals (Yellow Label).
	Per dozen.	Per dozen.	Per dozen.	Per dozen.	Per dozen.	Per dozen.	Per dozen.
1¼ × 1¼	1/	1/3	1/6	..	1/	1/	..
2 × 2	1/	1/3	1/6	..	1/	1/	..
3¼ × 3¼	1/	1/3	1/6	..	1/	1/	..
3¼ × 2½	1/	1/3	..	..	1/	1/	..
4¼ × 3¼	1/	1/3	1/6	1/6	1/	1/	3/6
5 × 4	1/7	2/	2/6	2/6	1/7	1/7	..
6½ × 3¼	2/2	..	..	..	2/2	2/2	..
6½ × 4¼	2/2	2/9	3/3	3/3	2/2	2/2	..
6½ × 4½	2/3	3/	3/8	3/8	2/3	2/3	7/6
7½ × 4½	2/10	..	4/10	..	2/10	2/10	..
7½ × 5	3/5	4/6	..	4/10	3/5	3/5	..
8½ × 6½	4/3	5/6	6/6	6/6	4/3	4/3	13/
9 × 7	5/	6/6	7/6	7/6	5/	5/	..
10 × 8	7/3	9/6	11/	11/	7/3	7/3	16/
12 × 10	10/	13/	16/	16/	10/	10/	26/
15 × 12	18/	23/	28/	28/	18/	18/	40/
16 × 11	18/6	23/6	29/	29/	18/6	18/6	..
16 × 12	21/6	27/	33/	33/	21/6	21/6	..
16 × 13	22/	27/6	35/	35/	22/	22/	..
16 × 14	24/	30/	38/	38/	24/	24/	..
17 × 11	22/	28/	38/	38/	22/	22/	..
17 × 12	23/	29/	40/	40/	23/	23/	..
17 × 13	24/	30/	42/	42/	24/	24/	..
17 × 14	26/	33/	44/	44/	26/	26/	..
18 × 16	37/	45/	53/	53/	37/	37/	..
20 × 16	41/	49/	64/	64/	41/	41/	..
24 × 18	51/	63/9	77/	77/	51/	51/	..

CONTINENTAL SIZES.

Centimetres.	Per gross.	Per gross.	Per gross.	Per gross.	Per gross.	Per gross.	Per gross.
9 × 12	15/	18/	22/6	22/6	15/	15/	60/
11 × 15	25/6	33/	38/3	38/3	25/6	25/6	..
12 × 16½	27/	36/	40/6	40/6	27/	27/	..
12 × 20	41/	54/	61/6	61/6	41/	41/	..
13 × 18	30/	39/6	45/	45/	30/	30/	120/
18 × 24	60/	79/	90/	90/	60/	60/	180/
							Per dozen.
21 × 27	108/	138/	162/	162/	108/	108/	17/6
24 × 30	120/	156/	180/	180/	120/	120/	26/
	Per dozen.	Per dozen.	Per dozen.	Per dozen.	Per dozen.	Per dozen.	
26 × 32	13/6	17/	20/3	20/3	13/6	13/6	30/
30 × 40	21/	25/	32/6	32/6	21/	21/	45/
50 × 60	80/	90/	120/	120/	80/	80/	..

MARION & CO., 22 & 23 Soho Square, London, W.

SUNDRIES FOR FINISHING.

Moist Water-Colours in half-pans.—Vermilion, 6d.; Indian Yellow, 1/; Rose Madder, 1/6; Cobalt, 1/; Aureolin, 1/6; Chinese White, 6d.; Vandyke Brown, 6d.; Emerald Green, 6d.; Sepia, 9d.; Prussian Blue, 6d.; Raw Sienna, 6d.; Crimson Lake, 9d.; Scarlet Lake, 9d.; Indigo, 6d.; Light Red, 6d.; Terra Verte, 6d.; Burnt Sienna, 6d.; Yellow Ochre, 6d.; and Gamboge, 6d.

Brushes—Red Sable, Black Camel (see page 138).
Stumps, 2d. each; **Knives**, 1/ each; **Bottle Gum-Arabic**, 6d.
Box of Chalks, 3/6; **Pan of Oxgall**, 6d.; **Box levigated Pumice Stone**, 6d.

MARION'S ARGENTIC BROMIDE PAPER.

A new Bromide Paper for Enlargements, &c., giving a superior tone to all other Papers, and with a perfectly even coated surface fit for full printed Prints as well as Vignettes. White or Rose Tint. It is also more rapid than most other makes.

In Packets of 12 Sheets.

4¼×3¼	per packet 0/8	12½×10½	per packet 5/6
6½×4¼	,, ,, 1/6	15½×10½	,, ,, 7/6
8×6	,, ,, 2/6	24½×19 in packets of 20 sheets	,, ,, 32/3
10×8	,, ,, 3/6		

Rolls 10 ft. 8 in. × 24½ in. . . . . 10/9 per roll.

FORMULÆ FOR DEVELOPER.

No. 1.	No. 2.	No. 3.
Distilled Water, 72 oz. Oxalate Potash (neutral), 21 oz.	Distilled Water, 18 oz. Protosulphate Iron, 5½ oz. Sulphuric Acid, 2 drops.	Distilled Water, 18 oz. Citric Acid, 8½ oz.

Each of the above solutions should be filtered. At time of Development take 5 oz. of No. 1, and into it pour 1½ oz. of No. 2, and ½ oz. of No. 3. Lay the exposed paper, face upwards, in a flat tray, and pour the Developer over it, rocking the tray backwards and forwards until the print is sufficiently developed. Then wash quickly in several changes of water, and place in fixing baths composed as follows:

FIXING BATHS.

BATH No. 1.

SOLUTION No. 1, Water, 35 oz.
Hypo-Soda, 5 oz.
SOLUTION No. 2, Water, 7 oz.
Powdered Alum, 2 oz.
The two solutions are mixed together.

BATH No. 2.

Water	35 oz.
Hypo-Soda	7 oz.

The prints are first placed in Fixing Bath No. 1, until they lose the yellow colour, and then passed into Fixing Bath No. 2, where they should remain at least ten minutes.

After fixing, the prints should be washed for five or six hours, taking care that the water is repeatedly changed; it is a good plan to give them a fresh change of water the last thing overnight and allow them to remain in it till the morning, when they should be rinsed through two or three changes of water, and then suspended to dry.

MARION'S ARGENTIC BROMIDE OPALS.

PRINCIPALLY USED FOR ENLARGEMENTS.

So perfect are the tones, and so clean and even the emulsion, that very little artistic work is required to make a finished picture.

Plates—4¼×3¼, 3/6 per doz.; 6½×4¾, 7/6; 8½×6½, 14/; 10×8, 20/; 12×10, 27/; 12×15, 44/.

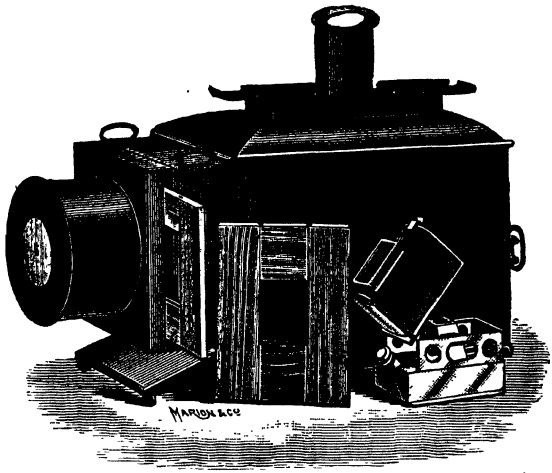
MARION & CO., 22 & 23 Soho Square, London, W.

Marion's Enlarging Apparatuses.

METAL ENLARGING LANTERN.

A well-made Lantern, fitted with triple wick lamp, giving a very powerful light.

The Condensing Lens is formed of two plano-convex Condensers of the finest quality, fitted in a brass cell. It is supplied with, or without, front Lens, any ordinary Portrait Lens serving for the purpose.

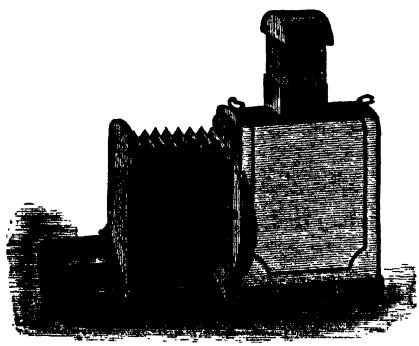


		Including Front Lens.
Lantern with 5½ in. Condenser; fully covering 4¼ × 3¼ plate	£4 10 0	£5 10 0
,, ,, 8¼ in. ,, ,, ,, 6½ × 4¾ ,,	8 0 0	10 5 0
,, ,, 10½ in. ,, ,, ,, 8½ × 6½ ,,	13 0 0	18 0 0

The 10½ in. is fitted with carriers for 8½ × 6½, 6½ × 4¾, and 4¼ × 3¼ plates.
The 8¼ in. is fitted with carriers for 6½ × 4¾, and 4¼ × 3¼ plates.
The 5½ in. is fitted with carriers for 4¼ × 3¼ plates.

ENLARGING APPARATUS.

With a pair 7-inch Condensing Lenses. Price £6 : 13s.



Constructed with a Special Lamp for Paraffin, which gives an effective and bright light. Will enlarge Negatives ½ plate and smaller sizes. This Apparatus also serves as an effective Magic-Lantern. The hood covering the Lamp and all parts are movable, therefore the adjustment is easy. Will enlarge up to 48 inches.

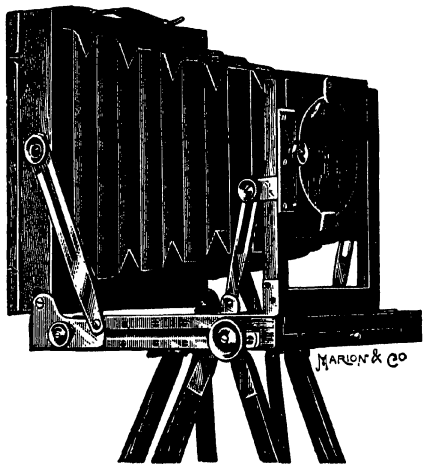
May be had fitted with Cabinet Portrait Lens, Complete, £8 : 18s.

Easel Stand for carrying Bromide Paper, &c., £1 : 1s.

MARION & CO., 22 & 23 Soho Square, London, W.

MARION'S "PERFECTION" CAMERA.

Highly Finished and of the Best Quality Mahogany.



A very strong and yet very light Camera. A very short focus, with no bottom board projecting; yet it has a very long focus when racked out. Rising and swing front, double swing back. Patent Turn-table for fixing stand to. Every desirable movement has been provided for in the most practical way.

PRICES (Complete),

with Three Double Backs, and with Folding Ash Tripod.

For plates $6\frac{1}{2} \times 4\frac{3}{4}$	£8	5 0
,, $8\frac{1}{2} \times 6\frac{1}{2}$	9	15 0
,, 10 × 8	12	5 0
,, 12 × 10	14	10 0
,, 15 × 12	18	5 6

A CHOICE OF LENSES FOR THE ABOVE.

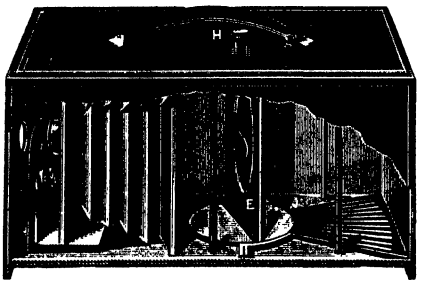
	The Soho.	Voigtländer's M. R. Euryscope.	M. & Co's. wide angle.	Voigtländer's Anistigmatic wide angle
For plates $6\frac{1}{2} \times 4\frac{3}{4}$	63/	92/	60/	64/
,, $8\frac{1}{2} \times 6\frac{1}{2}$	78/	123/	80/	80/
,, 10 × 8	102/	145/	100/	100/
,, 12 × 10	140/	176/	140/	120/
,, 15 × 12	200/	264/	200/	180/

MARION & CO., 22 & 23 Soho Square, London, W.

MARION'S NEW HAND CAMERA.

THE RADIAL.

(DICKINSON'S PATENT.)



The RADIAL CAMERA takes its name from the novel method of carrying the plates in radiating grooves, which find their common axis in the centre of the exposing position.

The exposing groove runs across the axis of a drum. The drum is made to revolve in such manner that this groove can, with great exactness, be brought to, and made to form a continuation of, any one of the radiating grooves wherein the plates are stored. When the plate is transferred from the one half of this now combined groove into the other half, the drum is again turned to a defined position, and the plate is then in its exposing position. It will be seen that to transfer the plate into its original groove and to obtain another, it will only be necessary to repeat the action already taken until all the 12 plates have been exposed. Size of plates $4\frac{1}{4} \times 3\frac{1}{4}$. The Camera is supplied either polished or covered in morocco, and the shape is such that it can be very conveniently carried. We specially invite inspection. The working parts of the Camera are made of metal, and will stand any climate.

PRICES.

ONE QUALITY OF WORK ONLY—THE BEST.

1. The Radial, Camera complete in every way, with shutter, etc., outside finish, polished mahogany, and leather handles, *but without lens*, including fitting customers' own suitable lens . . .	£5 10 0
2. The Radial, complete in every way as above, covered in best black morocco leather, *but without lens*	6 6 0

	No. 1.	No. 2.
If fitted with a cheap but still very good rectilinear lens that covers well to edges	£7 0 0	7 15 0
If fitted with Marion's now well-known and highly-approved "Soho" ¼ plate lens, guaranteed	7 15 0	8 10 0
If fitted with Voigtländer's new specially made "Hand Camera Lens" of best possible construction . . .	10 0 0	10 15 0

The Half-plate Radial to hold 12 plates $6\frac{1}{2} \times 4\frac{3}{4}$. Size of Camera $14\frac{1}{2} \times 7 \times 7\frac{1}{2}$.

The most compact ½-plate Camera in existence.

Price in best Spanish mahogany	£12 0 0
Do. covered with leather	13 0 0

The Lantern Radial, in preparation, for 12 plates $3\frac{1}{4} \times 3\frac{1}{4}$.

MARION & CO., 22 & 23 Soho Square, London, W.

METAL MINIATURE CAMERAS—*Continued.*

FOR PLATES 2 × 2.

Camera, Lens, and Shutter, with one Back	£2	5	0
Single Backs for same . . . . . each	0	2	0
Extra Rapid Plates . . . . . per dozen	0	1	10
Walnut Case, with Partitions, very neat	0	10	6
Complete Set, viz. : Camera and 12 Slides, in Polished Walnut Case, 6 dozen Plates, Trays, Chemicals, &c., necessary for development, and a supply of Printing Material and Apparatus. The above complete in Polished Mahogany Box	5	10	0
Similar Camera as above, for Plate $3\frac{1}{4} \times 3\frac{1}{4}$	4	4	0
Backs for $3\frac{1}{4} \times 3\frac{1}{4}$ Camera . . . . . each	0	3	4

MARION'S

"PARCEL" DETECTIVE CAMERAS (PATENT).

WITH 1892 IMPROVEMENTS.

FOR PLATES $4\frac{1}{4} \times 3\frac{1}{4}$.

This Camera is made box-shape and neatly covered with brown linen-lined paper, and tied with string like an ordinary parcel, of which it has the exact appearance. The object is to disguise its real use, and to permit a Photograph to be taken without raising the slightest suspicion. It is so constructed that the focus can be instantly set for the different distances desired; after slipping the plates in from the holder, which may be done in daylight, it is only necessary to touch a spring to obtain a sharp Negative; the Plate is then returned to its holder. These Plate-holders are made of India-rubber, impervious to light and atmosphere, and being flexible and thin, are light, and will pack in a very small compass. The Camera is fitted with a good double combination, quick-acting Lens.

PARCEL CAMERA, complete	£4	0	0
Extra India-Rubber Plate-Holders . . . per dozen	1	0	0
Above Camera covered in Leather instead of Paper, with Leather Straps and Handle	4	14	0

MARION & CO., 22 & 23 Soho Square, London, W.

DR. KRUGENER'S PATENT BOOK CAMERA

THIS Camera, as the name implies, is in the form of a book; it therefore can be used secretly, and is consequently a real Detective Camera. It carries twenty-four plates $1\frac{5}{8}$ in. square, fitted in metal sheaths (Samuel's Patent), which are exposed in rotation by a very simple movement.

The Lens, which is of excellent quality and made from the new Jena glass, gives very fine definition and great depth of focus.

For full description of this excellent Hand Camera see our Pamphlet, which can be had free on application.

PRICES.	For smaller Book Camera.	For larger Book Camera.
Dr. Krugener's Patent Book Camera, with Metal Sheaths	45/	150/
Solid Leather Case, with Shoulder Strap	7/	12/
Box of (50) Marion's Instantaneous Dry Plates or (30) $3\frac{1}{4} \times 3\frac{1}{4}$, on thin wafer glass	3/6	7/
Bottle of Developing Solution No. 1. Bottle of Developing Solution No. 2	3/6	3/6
Metal Plate-holders, for handling plates during development	1/4	2/8
Glass Measure, 6 oz.	1/4	1/4
Hyposulphite of Soda in Jar	/4	/4
Alum	/4	/4
Set of Three Papier-maché Dishes for Developing, for fixing, and for alum bath	3/3	5/3
Marion's Collapsible Dark Room Lamp	4/6	4/6
Printing Frames for taking ten smaller Negatives, or three larger	4/6	4/6
Aristotype Paper in Packets (12 pieces $6\frac{1}{2} \times 4\frac{3}{4}$)	2/	2/
Cutting Glass	/9	1/
Cards for mounting two Pictures . per 100	3/	5/
Enlarging Apparatus complete with Lens	84/	84/
Cowan's Chloride Lantern Plates . per doz.	...	1/6

NEW SIZE OF DR. KRUGENER'S PATENT CAMERA.

FOR PLATES $3\frac{1}{4} \times 3\frac{1}{4}$ (Lantern Size).

The Small Book Camera being such a success, we have introduced this larger size, which will also serve well for the favourite Lantern pictures. The Camera carries 30 plates, which are exposed in succession by the simple means of a push on a small carrying rod. The Sheaths that carry the plates are, as in the small Book Camera, Samuel's Patent. A Lens by Steinheil has been specially made for this Camera. The directions for working are the same as for the smaller size.

PRICES ABOVE.

MARION & CO., 22 & 23 Soho Square, London, W.

MARION'S LENSES.

Marion & Co.'s Lenses have now been before the public for several years and have won much approval.

WE GUARANTEE EACH LENS PERFECT.

THE "SOHO" LENS.

Rapid Rectilinear for Landscapes and Groups.

(LONDON MAKE.)

Each Lens Guaranteed. Works sharp at full aperture.

10 cover plates	$4\frac{1}{4} \times 3\frac{1}{4}$	40/
,, ,,	$6\frac{1}{2} \times 4\frac{3}{4}$	63/
,, ,,	$8\frac{1}{2} \times 6\frac{1}{2}$	78/
,, ,,	10 × 8	102/
,, ,,	12 × 10	140/
,, ,,	15 × 12	200/

WIDE ANGLE RECTILINEAR LENSES.

No.	Size of Plates.	Diam. of Lens.	Back Focus.	
6.	$4\frac{1}{4} \times 3\frac{1}{4}$	$\frac{3}{4}$	$1\frac{3}{4}$	45/
7.	$6\frac{1}{2} \times 4\frac{3}{4}$	$1\frac{1}{16}$	$2\frac{3}{8}$	60/
8.	$8\frac{1}{2} \times 6\frac{1}{2}$	$1\frac{5}{16}$	5	80/
9.	10 × 8	$1\frac{1}{16}$	8	100/
10.	12 × 10	$2\frac{5}{16}$	12	140/
11.	15 × 12	$3\frac{3}{16}$	$15\frac{3}{4}$	200/

PORTRAIT LENSES.

100.	SERVICEABLE PORTRAIT LENS for C.D.V., $1\frac{9}{16}$ diameter, 4 focus.	£1	8	0
101.	SERVICEABLE PORTRAIT LENS for CABINETS, $3\frac{3}{16}$ diameter, $6\frac{1}{4}$ focus	2	5	0
102.	EXCELSIOR C.D.V. and CABINET LENSES, $2\frac{7}{16}$ diameter	3	5	0
103.	For PROMENADE and CABINET, will cover a whole plate, Nickel Mounts: quality guaranteed	13	0	0
104.	EXTRA RAPID C.D.V. PORTRAIT LENS, Nickel Mounts	3	10	0
105.	EXTRA RAPID CABINET ,, ,, ,,	9	0	0
106.	EXTRA RAPID PROMENADE and CABINET PORTRAIT LENS	10	0	0
107.	PORTRAIT LENS for 10 × 8 plates, diameter 4", focus 17", Nickel Mounts	20	0	0

MARION & CO., 22 & 23 Soho Square, London, W.

VOIGTLÄNDER LENSES.

(MARION & CO. Sole Agents.)

The new Patent "EURYSCOPE" is unequalled. We believe these world-renowned Lenses to be the **best obtainable.** They possess every desirable quality, and in no single particular are they excelled by any Lenses sold.

RAPID EURYSCOPE.

No.	Aperture.	Equiv. Focus.	Size of Landscape.	Size of Group.	Price.
0	1 inch	$4\frac{3}{4}$ inches	$4\frac{1}{2} \times 3\frac{1}{2}$	4×3	£3 6 0
00	$1\frac{1}{4}$,,	$6\frac{1}{2}$,,	$5\frac{1}{2} \times 4\frac{1}{2}$	$4\frac{1}{2} \times 3\frac{1}{2}$	4 8 0
1	$1\frac{1}{2}$,,	$8\frac{1}{16}$,,	6×5	$5\frac{1}{2} \times 4\frac{1}{2}$	5 10 0
2	$1\frac{3}{4}$,,	$9\frac{1}{2}$,,	7×6	6×5	6 7 0
3	2 ,,	11 ,,	$8\frac{1}{2} \times 6\frac{1}{2}$	7×6	7 14 0
4	$2\frac{1}{2}$,,	14 ,,	$10\frac{1}{3} \times 8\frac{1}{2}$	$8\frac{1}{2} \times 6\frac{1}{2}$	11 0 0
5	3 ,,	$16\frac{3}{4}$,,	$13 \times 10\frac{1}{2}$	$10\frac{1}{2} \times 8\frac{1}{2}$	16 10 0
6	$3\frac{1}{2}$,,	$20\frac{1}{16}$,,	16×13	13×11	22 0 0

MEDIUM RAPID EURYSCOPE.

Equal in rapidity to the Lenses sold by other Makers as Rapid.

No.	Aperture.	Equiv. Focus.	Size of Plate.	Price.
0A	1 inch	6 inches	5×4	£3 15 0
00A	$1\frac{1}{4}$,,	$8\frac{1}{4}$,,	$7\frac{1}{2} \times 5$	4 12 0
1A	$1\frac{1}{2}$,,	$10\frac{3}{4}$,,	$8\frac{1}{2} \times 6\frac{1}{2}$	6 3 0
2A	$1\frac{3}{4}$,,	13 ,,	10×8	7 5 0
3A	2 ,,	16 ,,	12×10	8 16 0
4A	$2\frac{1}{2}$,,	20 ,,	15×12	13 4 0

WIDE ANGLE EURYSCOPE.

No.	Aperture.	Equiv. Focus.	Large Stop.	Small Stop.	Price.
1	$\frac{6}{13}$ inch	$3\frac{1}{4}$ inches	4×3	5×4	£3 13 0
2	$\frac{9}{13}$,,	$4\frac{1}{16}$,,	5×4	$7\frac{1}{2} \times 5$	3 19 0
3	$\frac{7}{12}$,,	$5\frac{1}{3}$,,	$6 \times 4\frac{1}{2}$	8×6	4 8 0
4	$\frac{8}{12}$,,	$6\frac{1}{3}$,,	$7\frac{1}{2} \times 5\frac{1}{2}$	9×7	4 19 0
5	$\frac{10}{12}$,,	$7\frac{1}{3}$,,	$8\frac{1}{2} \times 6\frac{1}{2}$	10×8	6 7 0
6	1 ,,	9 ,,	$9\frac{1}{2} \times 7\frac{1}{2}$	12×10	8 7 0

PORTRAIT LENSES OF EQUAL QUALITY. Prices on application.

We shall be pleased to send any of the above Lenses on trial for a few days.

The measurements given, both as regards diameter and size of plate, are rather under than above.

MARION & CO., 22 & 23 Soho Square, London, W.

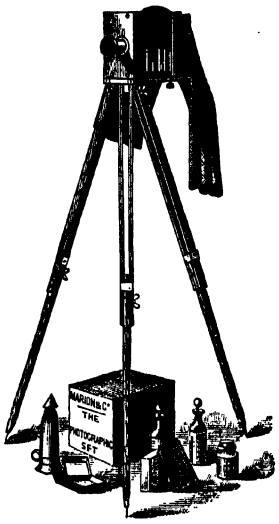
AMATEUR PHOTOGRAPHY.

MARION'S

OUTFITS

For Amateurs,

COMPLETE WITH APPARATUS AND MATERIAL.



The NONPAREIL, for plates $4\frac{1}{4}\times3\frac{1}{4}$	£1 10 0
The Printing Set for above	0 12 6
The A. B. C. for $4\frac{1}{4}\times3\frac{1}{4}$ plates	2 5 0
The Printing Set for above	1 3 0
The STUDENT'S or BEGINNER'S Set, for plates 5×4	2 10 0
The Printing Set for above	1 5 0
The OXFORD Set, for plates $6\frac{1}{2}\times4\frac{3}{4}$	5 0 0
The Printing Set for above	1 10 0
The COMPACT Set, specially for Ladies, size of plate $4\frac{1}{4}\times3\frac{1}{4}$	7 10 0
The UNIVERSITY Set, for plates $8\frac{1}{2}\times6\frac{1}{2}$	10 0 0
The Printing Set for do.	2 0 0
MARION'S Superior HALF-PLATE Set, Leather Cases, Box, Extra Backs, and Extra Stock of Material	17 0 0
Do. do. do. for plates $8\frac{1}{2}\times6\frac{1}{2}$	20 0 0
Do. do. do. for plates 10×8	28 0 0
Do. do. do. for plates 12×10	34 0 0
MARION'S Superior Printing Sets for the above—$6\frac{1}{2}\times4\frac{3}{4}$, 45/; $8\frac{1}{2}\times6\frac{1}{2}$, 60/; 10×8, 85/; 12×10, 100/.	
The ACADEMY CAMERA Set. Each Camera holds 12 plates—	
No. 1—For plates $1\frac{1}{4}$ inch square	6 10 0
No. 2 ,, 2 ,,	8 5 0
No. 3 ,, $3\frac{1}{4}$,,	10 15 0
No. 4 ,, $4\frac{1}{4}\times3\frac{1}{4}$,,	12 15 0
MARION'S Metal MINIATURE CAMERAS, fitted with quick-acting Lenses, and Metal Drop Shutter, for plates $1\frac{1}{4}$ inch square	1 5 0
Extra Slides for do. per dozen	0 12 0
Britannia Plates, $1\frac{1}{4}$ inch square per dozen	0 1 0
Do. do. Extra Rapid per dozen	0 1 6
CAMERA for Plates 2 inch square	2 5 0
Extra Slides for do. per dozen	1 4 0
Britannia Plates, 2 inch square per dozen	0 1 3
Do. do. Extra Rapid, 2 inch square per dozen	0 1 10
Complete Set of $1\frac{1}{4}$ inch square, Comprising Camera and Slides in Leather Case, 6 dozen Plates, Trays, Chemicals, &c., necessary for development, and a supply of Printing Material and Apparatus; the whole complete in a Polished Mahogany Box	4 0 0
Do. do. 2 inch, complete	5 10 0

MARION & CO., 22 & 23 Soho Square, London, W.