Vol. 6. No. 4. April 1900.

Journal of the Amateur Photographic Society of Madras.

CONTENTS.

EDITORIAL NOTES.

OWING to Major VanGeyzel's inability to give the promised demonstration on plate-development, the monthly meeting which was arranged for the 6th instant had to be postponed. There will be no meeting of the Society till October next.

AN abstract of the lecture on the Camera, which he delivered last month, has been kindly prepared for us by Major VanGeyzel and will be found elsewhere. Members who did not have the good fortune to be present at the lecture can thus have what is next best—a printed abstract.

THE list of exchange Journals which we published last month is not quite up to date, Four of the Journals—*British Journal of Photography*, *Photography*, *Anthony's Photographic Bulletin*, and *Il Progressio Fotographico* were, apparently, stopped some time ago. *The Journal of Photography* has, on the other hand, been added to the list.

WE have been asked whether "Glycin" is very much used by amateurs here. Our readers are in a better position to answer this question. We shall be glad if they will communicate to us the results of their experiments with this new developer.

MONSR. F. Dillaye gives, in the *Science Illustre*, the results of his experiments. He recommends it very strongly and says that in every case a brilliant picture was obtained "with all details well-defined, and without the slightest trace of fog or discolouration of the film." He gives two formulæ for making up the solution.

(1) Dissolve in 75 cc. of boiling water 25 grammes of sulphite of soda in crystals; dissolve in this solution 10 grammes of glycin; and when

it is completely dissolved, drop into the solution very slowly (vigorously stirring all the time) 50 grammes of pure carbonate of potash.

(2) Water ... ... 75 cc.
Sulphite of soda ... ... 25 grammes.
Yellow Prussiate of Potash 3 „
Caustic Potash ... ... 3 „
Glycin ... ... 10 „

Solution (2) does not keep so well as (1). Either of these stock solutions is used diluted with water, the quantity of water depending upon whether you want a normal, rapid or slow developer. For the normal developer take 90 cc. of water and 6 cc. of solution (1). A good all round developer can be made by adding 2-6 cc. of solution (2) to 100 cc. of water—a strong solution giving intense and vigorous negatives, and a weak one giving light-coloured negatives with well-defined details.

In using glycin, one great precaution is necessary. If the surrounding temperature rises above, say 77° F., a few drops of a 10 per cent. solution of potassium bromide must be added to the developer. This is for Europe. In this country, the potassium bromide becomes a regular constituent of the developer—the precaution necessary being to do away with it, should the temperature, by any chance, fall *below* 77° F.

THE Photo-Antocopyist, though not quite a recent invention, may be new to some of our readers. It professes to be an instrument by means of which an unlimited number of permanent prints on glazed or matt surface papers can be produced "quickly, easily and cheaply." A Photo-Antocopyist gelatine sheet (sold by the Antocopyist Co.) is soaked in a 2 to 3 per cent solution of bichromate of potash for a few minutes, and then dried. This is now placed under the negative in an ordinary printing frame. When the sheet is sufficiently printed, it is taken out and soaked in water until the bichromate is washed out. The sheet is now placed on the printing frame of the Photo-Antocopyist, and inked. The ink acts only on the indented parts. Ordinary paper is then placed upon the inked surface, pressed in an ordinary copying press and taken out at once. A finished permanent print is thus obtained. We have received a photograph reproduced on this machine and think it a great success. We do not see why a machine like this should not be made to serve useful purposes—say, in illustrating our own journal.

THE unaccountable want of interest on the part of members, noticed some time ago in our journal, has called forth a good amount of amusing sarcasm from our Calcutta contemporary. Our contemporary devotes a full column to us. We can only hope that our contemporary's spicy sarcasm will have a stimulating effect on our apathetic members—if there are any. It is always well to pray for the "giftie" to see ourselves as others see us. All the same, we can't help thinking that our contemporary sees us worse than we are.

THE Practical Photographer gives the following simple method of finding the equivalent focus of a lens:—"Set up the camera and screw in the lens. See that the back and front are parallel and that the back is vertical. Focus the image of an object (so far distant that all beyond is perfectly sharp) in the centre of the screen. Mark the position (extension) of the back on the base board. Now set up a foot-rule, and then focus an image of this in the centre of the screen. Make the image three inches long (one-fourth size of the original). The back will have been racked out further than in the first case. Again mark the position of the back on the base-board. Now measure the distance between the two marks. This distance, multiplied by four, gives the focal length of the lens."

WE are glad our last illustration has given general satisfaction. Our present illustration is by Mr. Jackson, who has already contributed much towards the Journal. Our excellent photograph takes us a few years back; perhaps many of our readers will remember the incident.

SIXTY shillings is not a high price for a photographic outfit. Yet a half-plate outfit, first-rate from all accounts, consisting of a bellows camera, rectilinear lens (9 in. focus) with iris diaphragm, Thornton-Pickard instantaneous shutter, one slide, and three-fold tripod with turn-table top is now supplied for the price of three pounds, by Mr. Wilfred Emery, of Brondesbury, N. W. We cannot wish for anything cheaper.

WHEN will the veil of oblivion which lies over our benighted city be lifted? Not very long ago, the Editor received a communication on a *foreign* post-card, from some place in India. And now we have a letter from a firm in England :—

"DEAR SIR,

We have pleasure in sending you our Illustrated Catalogue printed in Spanish."

We were quite taken aback at first. We remembered an old lady who asked us whether Madras was *very* near San Domingo. Many languages, European and native, are spoken or understood in our city—but not Spanish, we hope. Thank you, sir, we should like to have it printed in good English.

THE CAMERA.

(Abstract of a demonstration given at the last meeting).

BY MAJOR J. L. VANGEYZEL, M.B., F.R.P.S.

THE camera is essentially a box intended to support the lens and the plate, and to exclude all light except what falls directly upon the plate through the lens. The old form of sliding *body* was not only clumsy, but it also permitted light reflected from its walls to fall upon the plate. This was partly obviated by the use of square diaphragms placed within the body, but the bellows form of body gets over the difficulty more effectively while it also diminishes the weight of the camera.

The front of the camera is usually provided with horizontal and vertical sliding movements. The former is not absolutely necessary, but it is a useful movement to have when only a portion of the plate is to be exposed. It is, however, a necessity for taking vertical pictures if the camera is not provided with a reversing back and has to be turned bodily; the horizontal movement in such a case of course becomes the vertical movement. The latter is in all cameras an absolute necessity; and it is required for (1) raising the lens in order, *e. g.*, to get in the upper part of a building or to reduce the extent of foreground in the picture, and (2) lowering the lens if the operator is in an elevated position.

The back of the camera *must be vertical*, otherwise the vertical lines in the picture (*e. g.*, of a building) will converge. While all camera makers admit this, there are very few who provide the means wherewith the operator may judge whether the back is plumb or not. A circular spirit level fixed to the back or a plumb line is therefore absolutely essential. It is sometimes necessary to tip the camera, especially for architectural subjects, but the camera back must be made vertical and therefore the back must have a *vertical swing*, *i. e.*, the back must swing like a toilet glass. When the lens is pointed somewhat upwards, the back should be made vertical by pushing the top of the back nearer to the lens. It must be remembered that the distant parts of the picture are imaged on the lower part of the screen and the foreground on the upper part, that by pushing the upper part of the swinging back nearer the lens, the distant and foreground portions of the picture are thrown much out of form. To remedy this a small stop should be used on the lens. On the other hand, by pushing the top of the swing back away from the lens, focussing is made easier, but there will be an undue proportion of the upper part of the subject and distortion of the picture. It is an aid to focussing which requires skilful handling and should be avoided by the novice. A *horizontal swing* is also useful for focussing a row of receding objects, and obviates the necessity for a small stop. This is an advantage, *e. g.*, in photographing street scenes when short exposures are a necessity; but the distance is dwarfed by the use of this device and it should not be employed except under necessity. *Dark slides* are usually made double, and the best form is that which does not slide but pushes into a recess: The slides should fit tight so that no light leaks between it and the camera back. An important point to test, but one which is never thought of in getting a camera, is to see whether the dark slides register accurately, *i. e.*, whether the sensitive plate in the dark slide agrees with the position of the ground glass focussing screen. This can easily be tested by first focussing upon the focussing screen a distant object, with the full aperture of the lens, and then putting in one dark slide after another with a piece of ground glass in the slide instead of the plate. Draw out the sliding door and see whether the picture is as sharply focussed as it was on the focussing screen.

A great many photographers, while they take immense pains to learn all about the movements and the little "tricks" of the camera itself, neglect to find out "all about the lens." The intelligent use of *the lens* is indispensable for successful photography and there is little practically that need trouble any one. The classification of lenses into "portrait" and "view" is unscientific, for under some conditions a view lens will be superior to a portrait lens for pourtraiture and *vice-versa*. The rapidity of a lens depends upon many things, *e. g.*, the thickness of the glass, its color, the number of surfaces, &c.; but the only controlling circumstances upon which the operator can calculate in actual practice are :—(1) the focal length of the lens for parallel rays, or, as it is commonly called, the *focus* of the lens; and (2) the aperture or opening of the lens. It will be easily understood that the nearer the plate is to the lens (*i. e.*, the shorter is its focus), and the larger the diameter of the lens, the stronger will be the light which falls on the plate, and therefore the greater the rapidity of the lens. The proportion which the diameter of the lens bears to its focus is consequently one of the most important factors in calculating the exposure to be given for any subject; and this proportion is usually expressed by means of a fraction, *e. g.*, if the focus of the lens is 8 inches and its diameter is 1 inch, the fraction will be 1 divided by 8 or $\frac{1}{8}$ of $\frac{1}{f}$

where $\frac{f}{}$ stands for the focal length and this fraction is briefly expressed as $\frac{f}{8}$. If now the diameter of the opening of the lens be diminished say to half by inserting a *stop*, then the ratio will be ½ divided by 8, or $\frac{1}{16}$ of $\frac{f}{}$, or briefly $\frac{f}{16}$ &c. The exposure to be given when using stop $\frac{f}{16}$ is four times the exposure required for stop $\frac{f}{8}$ and hence manufactures provide an intermediate stop (about $\frac{f}{12}$) for convenience; and so on through a range of $\frac{f}{22}$, $\frac{f}{32}$, $\frac{f}{45}$ usually up to $\frac{f}{64}$. Very rapid lenses even have apertures working below $\frac{f}{8}$ *viz.*, at $\frac{f}{4}$ or $\frac{f}{5}$.

Finally, the camera should be quite rigid, its movements should be smooth, front and back parallel, the lens axis at right angles to the lens, it should be dead black all over inside, and it should have a firm stand.

OUR HOME LETTER.

March 1900.

THOUGH we are within a day or two of the spring quarter, there has just been another cold snap, and a fall of several inches of snow. The photographer, however cosmopolitan his taste, is therefore still driven to occupy his leisure here indoors, for no sensible man is prepared to encourage Nature in her eccentricities; so although I might have had an enjoyable day among the snow laden trees, I considered the fresh burst of winter so unseasonable, that I did not venture out, and exercised an Englishman's privilege of grumbling freely.

There has been a lot of discussion this winter on the subject of backing plates, and whether this operation so essential for suppressing halation, has any effect in diminishing the speed. Opinions *pro* and *con* have been expressed pretty generally, but hitherto no one seems to have made any decisive experiment upon the point. I am interested therefore in observing that the Editor of *The British Journal* has practically investigated the subject, and decided definitely or experiment that backing does not decrease the speed. He cut a half plate in two backed one half of the piece, and exposed the backed portion under a Warnerke sensitometer to the light of a naked gas flame, burning at a constant pressure, for exactly one minute. He immediately exposed the unbacked half in an exactly similar manner, and for the same length of time. After developing in a normal pyro-soda solution for four minutes at a temperature of 60° F., the results were carefully examined, and found to be identical as regards the sensitiveness. Duplicate experiments were made with precisely the same results.

Writing on these technical matters reminds me of a method I saw recently advocated for the improvement of hard negatives, particularly useful for underexposed prints, which give negatives wherein the high lights are too dense, and the shadows too thin. The modus operandi is as follows:—The negative after being washed and dried, but not alumed, is placed in a weak solution of bluish green colour and water, and allowed to remain there for some time. The film absorbs the colour, and that to a greater extent in the parts where the gelatine contains little silver than in those where the silver hinders the absorption. After drying, the shadows are therefore less penetrable by the light, while the high-lights are scarcely denser than before, and the result is therefore a far better proportion between the high-lights and the shadows, and consequently much superior prints.

The operation of toning is at the best and however carefully performed usually liable to some uncertainty. That fact has no doubt done a great deal to make processes like carbon and platinotype popular, not to mention their superiority from an artistic point of view. It has also created a demand for self-toning papers, that is to say, papers which merely require fixing after printing without any intermediate process. It may be therefore of interest to quote from a German contemporary a practical note relating to the proportion of these self-toning papers. I cannot vouchsafe for its effectiveness, not having tried it myself. Dissolve by gentle heat 5 grammes of previously softened gelatine in 200 ccm. of distilled water, and add by degrees 8 to 10 ccm. of alcohol. Into this gelatine solution drop the following solution:—

Gold chloride	0·5 gram.
Lithium chloride	1·5 ,,
Distilled water	20 ccm.

To this is further added, in small quantities, and being vigorously shaken, the following solution:—

Silver nitrate	20 gram.
Distilled water	100 ccm.
Gelatine	5 grain

And finally another addition is made of:—

Sodium citrate	3 grams.
Citric acid	0·5 ,,
Distilled water	20 ccm.

The emulsion is spread on a glass plate, and raw photographic paper squeezed thereon. After being removed the paper is ready for use.

I suppose that a good concourse of photographers will be gathered together in Paris during the International Exhibition which opens in May. A conference of photographers is in fact announced. Those who contemplate going to Paris will be interested in hearing that hand cameras may be used without restriction in the grounds of the exhibition, but stand cameras must be paid for at the rate of 50 centimes every time used, that means I suppose 50 centimes for each exposure.

The rage for pictorial post cards is steadily making headway in this country, though up to the present we have not got to anything like the excess

reached in Germany, where it is said that some ten or twenty thousand work people find continuous employment in factories solely in manufacturing these novelties. In fact the pictorial post card had its origin in Germany, where a photographer of Passau some years ago, sensitized an ordinary post card, and printed a view upon it. But in England here we have already souvenir post cards at almost all places of interest, portraits of actors and actresses, of generals, and other celebrities in the army, of ships, and even coloured views of locomotives. There may be other subjects not in my memory at the moment. It has occurred to me that photographic clubs might possibly find this a useful and interesting form of advertising their existence, and securing fresh accessions. Most of them have annual exhibitions at which certain pictures of merit receive awards. Why should not one or more of these pictures be selected for reproduction, a post card made and sold to members at a low price. The card should bear the name of the Society, place of meeting, and such information as would tell the would-be member where to make application.

PERCY LUND.

OUR ILLUSTRATION

is a photograph of the British India Co.'s steamship "*Secundra*," taken on the 29th September 1896, whilst the steamer was ashore in the Madras Harbour.

It will be remembered that, on Friday the 27th November 1896, whilst the "*Secundra*" was preparing for sea a fierce squall set in just before noon, this caused one of the cables to part from the buoy, and the steamer was driven on to a sand bank how perilously near the breakwater may be judged from the illustration. After several unsuccessful attempts to rescue the ship from her dangerous position, she was finally towed off on the 2nd December, by one of the steamers belonging to the British India Co.

EDITOR'S TABLE.

WE have received the new *Supplementary Catalogue* issued by Messrs. Babaji Sakharam & Co. of Bombay. A large and varied assortment of cameras is supplied by the firm. The list is quite up to date. We find quotations for the Telephotagraphic lens and a complete outfit for colour-photography (Joly process). The "Birtac," a simple and portable machine for taking and projecting animated photographs, is also sold by the firm. Prices are also given of developers, such as Amidol, Metol, Adurol, and the new developer Kachin. We can only recommend our readers to write for the catalogue and see for themselves.

MESSRS. Thornton and Pickard have sent us a leaflet giving particulars of their new Photographic Competition. The competition is divided into three classes. Competitors in the first class must use both the Thornton-Pickard camera and shutter. In the second class, the Thornton-Pickard Focal-Plane shutter, and in the third either their "Time and Instantaneous" or "Snap-shot" shutter must be used. In these classes, the competitors can use any make of camera. Five prizes, amounting to £35, are given in each class for the best sets of instantaneous photographs. The competing photographs must be sent so as to reach the firm on or before the first of October next. We shall be glad to give further information if any member asks for it.

EXTRACTS.

Ortol.

By James Ross.

Has the introduction of so many developers been of benefit to photography? I doubt it. I have spent much time that might have been given to picture making, and some money that might have been better employed, in experimenting with all or most of them, and have learned little from it. That might have been my fault, as each is said to have some quality not possessed by the others, although I have not been able to find it so. One thing I *have* learned, and that is, when you have found one that suits you, stick to it.

For me, and I think it will be so with all who have tried them all, as I have done, Ortol is that one. It may not have all the good qualities of all the others, but it has all that I have ever needed, and it certainly has some not possessed by at least most of the others. It is sufficiently soluble for 10 per cent. solutions, which nothing but ignorance of their convenience and simplicity prevents being universally employed; its keeping qualities are practically unlimited, as is proved by the fact that there is in my dark room now a 10 per cent. solution, with half as much potassium metabisulphite, that was made up fourteen months ago, and it is as colorless and as active as when first made. Nor has it been kept in a full and well corked bottle, as is generally advised, but at first it was 10 ounces in a 16 ounce bottle, and the cork has been removed and replaced dozens of times from then till now.

This low tendency to oxidate gives it its non-staining quality, as however long the plate may be left in the solution, or however much the fingers may dabble in it, neither are in any degree stained, and consequently it is pre-eminently *the* developer for all kinds of paper, transparencies and lantern slides. For the latter it is indeed the ideal developer, as by modifications in the sulphite, the carbonate, and the bromide, colors from a purple black to a warm brown are easily obtained.

More than with any other developer, too, does its oxidation seem to be confined to the actual development, so that plate, after plate, or print after print, may be developed in the same solution without any appearance of weakening; one well known operator having developed in succession twenty-two half-plate bromide prints in two

ounces of solution, and only stopped then because there were no more prints, and the last were as good as the first. Then, the persistent or continuing action of Ortol is much greater than that of any of the other developers; so much so that if a sufficiently developed plate be left in water, even after washing in sevaral changes, for any length of time, between developing and fixing, the developing action will continue, so that the negative will become much too dense.

In some circumstances this is a real advantage. Where, for instance, there is a tendency to hardness or too great contrast, if, as soon as the detail is fairly out the plate be removed and slightly rinsed, and then placed in a dish of plain water, development will go on slowly to completion, and in perhaps half an hour be such as will give a print full of delicate detail, instead of, as it would have been without such treatment, simply white and black.

The formula given by the makers answers the purpose very well, but those who believe in having contral of of development, and I am one of those who do, will find 10 per cent. solutions very much more convenient, as it is only necessary to decide how many grains of each ingredient is wanted, add a cypher to that and pour out that quantity. The following will be found the basis for a strong normal developer for a correct but full exposure, giving a vigorous negative, and for softer rusults may be diluted with a half or even an equal quantity of water.

Ortol	3	grains.
Sodium sulphite	25	„
Sodium carbonate	20	„
Potassium bromide	¼	„
Water	1	Ounce.

It will be observed that the metabisulphite is not included in the formula, the reason being that it is already in the Ortol solution, half as much of it as of Ortol having been added at the time of making up the 10 per cent. solution. Sodium hyposulphite has also been omitted, becanse I have not been able to ascertain that any real benefit is derived from its addition. For paper and transparencies the solution may be considerably weaker, and for varying the colours or shades of colour, alterations in the quantity of bromide, and the reduction, or altogether leaving out the sulphite, will bring about the desired result.

It may be asked, why, if Ortol possesses all these good qualities, it has not long ago displaced the still most generally used pyro, but the answer is not far to seek. Had Ortol preceded instead of followed eikonogen, hydroquinone, amidol, metol, etc., all of which, although possessing many excellent qualities, each has some serious drawback, pyro would have lost its grip, and, unless with the older and most conservative of the professionals, been sent to keep company with gallic acid and ferrous oxalate. —*The American Amateur Photographer.*

On Light and Shade.

By Andrew Robertson, A. M.

The beauty of all visible objects is best displayed in the light of nature, the sun, with reference to which every created being seems originally to have been constituted.

The characteristic features of this light are that it is single, bright, elevated, and small; as regards the angle it subtends with the eye, generally a diagonal, and always a descending light.

Objects in an interior, especially the human form and countenance, require a similar light, artificially produced, to display their beauty.

In proportion as the dimensions of the light are enlarged, or the number of lights increased; according as its direction ceases to be diagonal, or becomes either vertical or horizontal, but more especially an ascending light, will the beauty of objects generally be diminished. To demonstrate the truth of these propositions, the following experiments are suggested, presenting first that effect which is consistent with nature, therefore true and beautiful, contrasted with other effects which are unnatural, false, and destructive of beauty, in one word, *heretical*. For this purpose duplicate busts are preferable to the human face, being unchangeable in their form and expression, a comparision can be made of their different effects of light and shade with more accuracy than in the case of two individuals however much alike.

EXPERIMENT—FIRST.

In a room with a North aspect, having three or more windows not exposed to the direct light of the sun, let every ray of light be excluded by blinds, or shutters, except from the upper part of the middle window, say one or two rows of panes (from one-fourth to one-half of the window, as a much smaller light is needed on a bright day).

Let the light have free access to it, not intercepted by blinds, verandahs, or other obstructions, so that a person looking from the opposite side of the room may see nothing through the window, except the sky. The light must be carefully and effectually excluded from all the other windows, so that the room would be in total darkness, but for the light admitted through the upper part of the middle window.

Let a white or stone-coloured bust be placed on a table opposite, about as far from the window as the top of it is from the floor.

The effect of light and shade thus produced, being in accordance with that of nature, will probably be found that which is most favourable to the development of beauty in the human form or countenance, and consequently, in all representations of them by sculpture painting or photography, and if there be no intrinsic beauty in the person or object, still various accidental effects of light, shade and expression, may be reproduced which are often equivalent to beauty. This therefore is the light in which portrait painters invariably place their sitters, modified of course, according to circumstances.

Contrasted with the above, the following experiment may tend to show the injurious effect produced by the manner in which sculpture is generally lighted, and in which people often place themselves in a room, not aware how much their beauty might be heightened, or their want of beauty more than compensated in expression, without any trouble to themselves and with much satisfaction to their friends, merely by attending to the effect of light and shade.

EXPERIMENT—SECOND.

Let a duplicate of the same bust be placed on a table in the middle window, and facing the room or between two windows.

Let the spectator sit in the middle, between these two busts, so that his eye may be on a level with their chin, and compare the effect of light and shade upon the one, with the absence of both on the other.

The duplicate bust in the window will seem to be little better than an unmeaning, shapeless mass of plaster, clay, or marble, destitute of form, feature, or expression. On the contrary, the countenance of the other will beam with intelligence, it will seem almost alive.

The form of the features will be distinctly seen, and whatever beauty or expression it may possess will be fully developed.

But language cannot describe the visible, nor words convey to the mind any adequate idea of the difference produced by light and shade on the two busts thus placed.

Nothing but actual vision can avail to produce conviction. A single glance will convey more than volumes of words could express. Let the same experiment be applied to nature. Let two persons resembling each other take the place of the busts. The same effect will be produced, the one will be full of animation and expression, a fit subject for a picture; the other altogether unfit for such a purpose. To a judicious choice of position, of light and shade, are our best portrait painters chiefly indebted for their success. That is, if permitted to exercise their own judgment, or if they have firmness to resist the peculiar fancies of their clients.

It may perhaps be asked, who would ever think of placing themselves, or of disposing a bust, or sculpture, in such a manner as here described in the dark?

Let anyone, however, only take the trouble to visit a gallery of sculpture; he will find many of the productions of genius thus displayed, or rather buried, in darkness. Let him step into his own drawing-room, or call upon his friends, and he will find the ladies seated with their backs to the light, probably for convenience either of reading or work.

EXPERIMENT—THIRD.

Let the shutters of the middle window now be opened, the two busts remaining as before. The duplicate bust in the middle window, being now against the light from the opposite side of the room, will seem a mass of shadow, showing no kind of form whatever, except the contour or outline all around. Not that it is really darker than before, but the contrary.

It only seems darker, being now contrasted with skylight, instead of the dark window shutters.

Upon the other bust in the middle of the room the effect of light and shade will be much impaired. All the delicacies of form in the features will subside and the countenance will lose much of its expression.

From the increased light on the floor, and generally throughout the room, and from the greater expanse of the window itself, the shadows will be diluted into middle tint, their sharpness dissipated with gradations. All that before was shadow will now become mere darkness, which is only the absence of light and takes no shape. Shadow on the contrary, always possesses form; the form of the object producing it, continued with that of the object upon which it falls. It will be found essential in this inquiry to bear in mind this distinction between shadow and darkness. If this experiment be applied to nature, as in the preceding instance, a further confirmation will be obtained of the effect described. It will be seen that a bust of figure ought invariably to be displayed under the influence of a single light, a contracted light, and always a high or descending light, for it may safely be asserted that a person having no pretensions either to beauty or expression, if judiciously placed, will be more interesting than the most beautiful object improperly lighted.

The number of aspects as to form, as well as light and shade on a bust or face, might be multiplied by viewing it all around from a higher or lower position, the spectator either looking down upon it, or up to it, more or less. The whole number thus obtained might again be multiplied by raising or depressing, that is, by throwing backward or bending forward the face or bust itself, and going through the whole process again, thus producing a number of views all different from each other; each a study. A single bust, therefore, well and fully studied, would go far to render one an artist. Experience, observation, and common sense would do the rest. His eyes being thus opened he would in due time learn to see everything with an artist's sense of vision.—*From the "American Journal of Photography."*

Development and Developers.

By Chapman Jones.

[In response to the article on "Tinkering with the Developer," reprinted on another page from *Photography*, the editor of that journal has received many letters from prominent workers. Among these is an interesting communication from Mr. Chapman Jones, which we make room for, as offering practical information.—Ed. W. P. M.]

As I understand the word "tinker," I do not remember to have "tinkered" with anything since I was a boy at school. As to developers, I continue to vary their constituents to suit my needs. Doubtless many persons think that they can do more than they really can do in producing variations in developed plates by varying the process. In some cases, on finding the limitations narrower than they believed at first, they have rushed to the other extreme, and assert vigorously that no variation, or practically no variation is possible. As usual, the truth lies between the extreme views. At least that is my opinion.

The only variation that I can understand as advantageously possible is in the *extent* of development. This may be varied in two ways: 1. The gradation may be made more or less steep, that is the negative may incline towards flatness or vigor. In this case the detail is all brought out, and the extent of the development refers to the density. 2. The exposure effect may be developed entirely or partially with reference to detail. In this case the "speed" of the plate is practically altered. These possibilities give one great power, too much to my mind to neglect, though not so much as it used to be fashionable years ago to claim. I never believed in the possibility of more control than this, but none of the modern work not the unsupported assertions that one hears too often as to development being "purely mechanical," the character of the negative being settled when the exposure has been given, and so on, have effected either my views or my practice. Many appear to have been misled through not realizing the difficulty, if not the impossibility, of proving a negative statement.

In my own work I now use two developers, pyrogallol and metol. Metol has replaced eikonogen with me since a few years ago, though I cannot say exactly why, for whether for lantern plates, negatives, or bromide paper, I have not recognized any difference between the results that they yield when used according to good formulæ. I have experimentally determined my own formulæ, and with metol it is a single solution that I vary only by adding more or less water. Except, however, that lately I have found advantage in omitting the bromide and adding it only when wanted. When bromide is needed to keep the plates "clean," I sometimes take care to use a portion of developer that has been used before, instead of adding bromide. I always bottle up used metol developer, and often have three grades, much used, little

used, and not used at all, and select the one that will best serve my purpose. The most used developer gives the greatest contrast when development is not pushed to completeness, and very often complete development would give me useless results.

My formula for metol is:

Metol	8 grs.	or	16	grms.
Sodium Sulphite (cryst.) ...	48 „	or	96	„
Sodium Carbonate (cryst.) ...	48 „	or	96	„
Potassium Bromide ...	1 gr.	or	2	„
Water to	1 oz.	or	1000	c.c.

I make it up once a year; it will keep in good condition much longer than that requires. For use, it is diluted with at least an equal bulk of water, more often two or three times its bulk. For lantern sides I add eight to sixteen times its bulk of water, and for bromide paper three times its bulk. For hand camera plates (quarter-plates) and general experimental work I nearly always use this developer, because of its simplicity.

For larger plates I almost always use pyrogallol with sodium carbonate and sulphite, and potassium bromide or not, as desirable. I keep the constituents all separate. Pyrogallol dry, sodium sulphite (crystallized), in 50 per cent. solution (I know it is impossible, according to the books, but I have done it for years), sodium carbonate (crystallized) and potassium bromide in 10 per cent. solutions. To each ounce I take pyrogallol from about five to four or more grains, sodium sulphite twenty grains, sodium carbonate from three to twelve, generally six or nine, and bromide from nothing up to few grains. This developer works more slowly than the metol, so that one can stop more easily at the right time, and it is adjustable to a certain extent for producing the differences I have mentioned. One cannot make much difference during development by adding more of a constituent, except, perhaps, in the time required for development. If this developer gives too much contrast before all the detail is out, the metol formula given above (fresh, and with little or no bromide) will be advantageous, as that gives detail much more rapidly in proportion to density, and the development can be stopped when the density is sufficient.

Occasionally I use ammonia with six or eight grains of sulphite to the ounce, as ammonia gives a dense image more readily with some plates than sodium carbonate.

I never work without sulphite, as the presence of developer "mud," as the oxidized developer stuff has been called, is highly objectionable to me, because it is uncertain in every way. Uncertain in its production, uncertain in its effects, liable to change if let alone, certain to change if treated in any way, and probably never correctly proportioned to the density of the image. I never use potassium metabisulphite, because by taking the quantity that furnishes the required acid I do not get enough sulphite, and by taking enough sulphite I get too much acid. A 10 per cent. pyrogallol solution is always at hand in my dark-room, made up with sodium sulphite and a little acid (generally citric), and such a solution is in good condition after a year if not two. This solution is not often used, but it is sometimes convenient. Rodinal is also convenient. It keeps well, and a few drops added to a pyrogallol developer, even during development, is useful as an accelerator. Of course, also, it may be used alone.

Finally, my experience leads me to believe that if one wants to develop the whole exposure effect, that is to reduce to the metallic condition all the silver bromide affected by exposure, it matters very little, if at all, how you do it, so long as you do not make a mess of the plate. But if there is more exposure effect than is desired, whether over the whole or only on a part of the plate, then control is possible and necessary. A subject with strong contrasts may, with full development, give disastrous density in the high lights, although the shadow detail is all there. Within certain limits the same exposure may be under-exposure, or over-exposure, according to the development. The "speed" of a plate depends partly on its treatment apart from its chemical constitution.—*From Wilson's Photographic Magazine.*

"The Photography of Clouds."

By Osborne I. Yellott in Photo Era.

The author points out that it is a mistaken idea to think that clouds can be caught as well with the ordinary plate as with an ortho or isochromatic plate, without a color-screen as with the specially prepared plate with a properly adapted color-screen. Another fallacy is the idea which a great many people seem to have that a ray-filter, or color-screen, is an automatic arrangement, and in itself corrects all differences in actinic value of the light from the sky and that from the foreground of a view. This is only true where the foreground is so lighted as to admit of a much shorter exposure than the normal one for ordinary landscape. The proper exposure for clouds is one-twelfth that of ordinary landscape. The Bausch & Lomb ray-filter, with normal solution, is said to require about four times the exposure for both; although, in actual practice, it would seem that the same ratio between the actinic value of sky and landscape does not exist with the ray-filter as without, since the ray-filter with normal solution seems to cut down the blue rays in a greater proportion than the green, yellow, orange, and red. Be that as it may, the difference even with the ray-filter is considerable, as is attested by the large number of ray-filtergraphs we see, in which the plate is developed for the clouds, to the manifest detriment of the foreground and middle distance. The conclusion is evident, therefore, that, if we are to have a properly exposed and developed foreground in our negative, we must have some way of holding back the sky, or else go to infinite trouble when we come to print from the negative.

In consequence of experiments the writer always feels safe in giving clouds more than one-twelfth the normal exposure multiplied by four, except in cases where the values are so exceedingly delicate that the slightest over-exposure would destroy them.

In the dark room, some Carbutt's metol-hydro developer in tubes being nearest at hand, a tube is dissolved in twelve ounces of water instead of four, and another tube in three ounces of warm water. In the second graduate is placed a wad of absorbent cotton, with a small brush. The light from the ruby lamp is cut off considerably by a screen containing a sheet of ruby glass three or four inches in front of the lamp—a necessary precaution whenever isochromatic plates are to be handled.

The plate is first immersed in the dilute solution, and the tray covered with a sheet of cardboard. In about two minutes the sky portion is well up, with the foreground and trees still in white. Lifting the plate from the tray, the wad of cotton, soaked with the concentrated developer, is next brought into requisition, and the foreground carefully gone over, the plate being put back in

the dilute developer every few seconds, to prevent uneven development. Meanwhile the brush is used alternately with the wad of cotton, to get close to the sky-line with the strong developer, and to follow along the tree-trunks and other parts of the foreground projecting against the sky. As soon as the foreground is of the proper density, and much stronger than the sky, which is in three or four minutes, the dilute developer is poured off, and the plate flooded with the concentrated developer. In from five to ten seconds it is found that the sky portion is of the same density as the foreground; and the strong developer is then poured off, and the plate quickly flooded with water. In each case the comparative tones of sky and earth in the scene at which the camera was pointed are kept in mind, the endeavour being to preserve their relative tones so far as possible.—*The Photographic Times.*

Natural Colour Photography.

By Mr. E. Sanger Shepherd.

Major-General Waterhouse, I.S.C., in the Chair.

At various times and in various places I have talked about theoretical considerations in three-colour photography, but I have not shown many results, and I think the time has now arrived when the materials for that method should be as readily obtainable as are those for any other process. The first thing I want to do to-night is to call to your mind the basis of what is known as the three-colour system of colour photography. The three-colour process is based upon the fact that all the colours of the spectrum, and, therefore, all the colours of nature, may be counterfeited *sufficiently nearly* to deceive the human eye by mixtures of three colours of the spectrum itself, namely, a particular red, a particular green, and a particular blue-violet. If we take three such colours and put them into three lanterns, and then superpose the projected images upon a screen, by altering the amount of light coming through each screen we can get the effect to the human eye of any possible colour that we see in nature. It therefore appears that, if we could photograph separately all the reds of an object, all the greens, and all the blues, and then print them in colour and superpose them, we should be able to get a representation of the object in its natural colours. I will here show you the three colours—red, green and blue-violet—by various mixtures of which we can counterfeit any possible colour of the spectrum or of nature.

You know that the sensitiveness of the dry plate does not accord with the sensitiveness of the human eye to colour, and therefore we have to use a colour-screen, which will correct the plate so as to bring it into harmony with the luminosities as seen by the human eye. In the three-colour process we are obliged to use, for taking the negatives, not the three pure colours that I have shown you, but three colours which will bring our plate back to see the colours of the object in the same way that the eye sees them, and each screen must pass light in proportion directly relative to the requisite amounts of each colour required to counterfeit the spectrum. Some time ago I spoke here about the reproduction of paintings, and described a method, devised by Captain Abney, of adjusting the colour filters for orthochromatic work to the particular plate employed, and I have now adjusted the colour screens for three-colour work, by means of a very similar instrument, based upon the same principle, so as to bring the sensitivenes of the plate into harmony with the sensitiveness of the human eye, and secure action on the particular plate used in accordance with conditions before stated. The slide now on the screen illustrates the selective action of the filters. There are, as you see, patches of white, red, green, blue and yellow; and then side by side with them, there are strips of negatives taken from those patches through the red, green, and blue filters. You will notice that the white patch is represented by equal density in all three negatives; the red patch is represented by a deposit in the red negative, none in the green, and none in the blue, because the red is a fairly pure red; the green patch is a yellowish-green, and, as a mixture of red and green will form yellow, there is a little deposit in the red and a considerable amount in the green; the blue is a greenish blue, and there is a faint deposit in the green and a heavy deposit in the blue; the yellow is the most luminous of the colour patches, and is represented by about equal parts of red and green action.

You are all familiar with Mr. Ives' method of Kromskop projection with the lantern, and you know that for that purpose he used red light, green light, and blue light to illuminate his black-and white positives. If, however, we want to make a picture which can be seen as an ordinary lantern slide, we cannot print in red, green and blue, and superpose, because wherever two of those colours overlapped we should get practically black. So instead of printing the impression from the red filter negative and staining it in red, we print it in green and blue. That is to say, we print not in the pure colours, but in colours passing two of the three colours that we use to form white light; for instance, the negative taken through the red film would be printed in greenish-blue, the negative taken through the green filter would be printed in pink, and the one through the blue filter would be printed in yellow. I will show you the three actual colours, the tints of colour that are complementary to the red, green, and blue colour patches; we may call them *minus* red, *minus* green, and *minus* blue, because they are the colours of Maxwell's reconstituted white light, minus one of its constituents. By the superposition of the blue and yellow tints we get green; the yellow and magenta will give red; and the blue and magenta will give blue-violet. Now I will show three prints taken from three negatives, and printed in these three colours, and one slide formed from the three negatives superposed, and reproducing the colours of the original.

Having given this rough outline of the process, I want now to enter a little more into particulars of how these prints are made. The first thing we have to do in taking these photographs is to get our light-filters. Mr. Cadett has given us the plate to use—the Cadett Rapid Spectrum plate; and Captain Abney has given us the means of making screens to actual measurement. I have some screens here which have been made in accordance with Captain Abney's system, and I will pass them round for examination; but the screen question is a large one, and I could hardly go into it to-night. Having got the screens we have to get our negative. Of course, the ideal method of taking the negative would be to have a camera which would divide the light into three parts, and take the triple negative at one exposure. A simpler method is to place the colour screens in front of the lens one at a time, and make three separate exposures on plates in dark slides; but you will soon find that it is a bother to change the slides, and that the camera is liable to shift. The next best thing is to have some arrangement by which one long plate can be shifted a third of its length after each exposure, so

that the three impressions are taken on the same plate; again, it is easier to put the colour screen against the dark slide, and to move it at the same time as the plate is moved working to stops, as in the model which I exhibit. After using that apparatus for a time, however, one feels the necessity of simplifying the means of changing. The problem was to arrange to uncover the lens, make an exposure, cover the lens, change the plate and colour screen open the lens for the second impression, close the shutter, shift the plate and screen, open the shutter again, and make the final exposure. Two years ago I made the instrument which I now put before you, and by means of which the whole of these operations are performed by successive squeezes of an India-rubber ball. There are no prisms, no reflection or refraction, and the whole of the light is utilised during the whole time of each exposure. It answers very well indeed for all indoor work, but it will not do so well for landscape with clouds, as they would move between the exposures, and the ideal camera for outdoor work must therefore be one in which the three exposures are made at the same time and from the same point of view. A great many schemes have been devised to achieve that end. Ducos du Hauron devised a camera for the accomplishment of this object. It contained two transparent reflectors, and part of the rays went right through and formed an image at the back of the instrument part were reflected by a transparent mirror and formed an image at the bottom, and part formed an image at the top of the camera. From the rough sketch which I have drawn on the blackboard, that arrangement appears to be perfect, but the difficulty was that the three negatives required different exposures; the relative sensitiveness of the plate differs with different batches of emulsion, and when you get a fresh batch of plates you want to slightly alter the ratio of exposures. With this camera the proposition was to partly silver the surface of the mirrors, and in that way to get an equal distribution of light, because a white object has to be represented in all three negatives by the same density, and the problem was to silver the mirrors so as to ensure the right proportion of light acting. I have known a good many attempts to construct that camera, but most people have given it up on account of the enormous difficulty of making the silvered mirrors; they require to be about four inches square, and it is very difficult to make one, but if you have to make dozens of them—in order to arrange for different amounts of reflection—it becomes a hopeless problem. Mr. Ives made a camera with a third mirror, and by using a very long focus lens he was able to get a diaphragm in the camera and change the aperture, but the angle included was so very small that the device did not come into use; he also had another scheme, with prisms and transparent mirrors, for getting the three pictures on one plate. This was one of the most ingenious cameras for the purpose ever devised, but unfortunately the camera is so difficult to make that its expense is almost prohibitive.

I made a good many attempts myself to devise a method of equalising the exposures in Du Hauron's old camera, and only quite recently dropped upon a satisfactory one. The scheme consists in placing a supplementary colour-filter in the diaphragm of the lens, and making that supplementary colour-filter adjustable. For instance, if we take a gelatine screen stained with a dye which will pass a considerable amount of green and red, and then if in the centre of that, while the gelatine is wet, we paint a patch of stronger red, then place it against the iris diaphragm of our lens by altering the size of the diaphragm, we can arrange it so as to give more action in the red than in the green, or more in the green than in the red. We have, therefore, only to put a filter of that description, of which I give a sketch on the blackboard, in the diaphragm slot, and by means of an iris diaphragm or otherwise you can reduce the aperture until you get the same deposit for a white object in all three negatives. That simple device makes the old camera of 1869, I believe, the best that we have to-day for this purpose; I think it will soon be upon the market, and it ought to get rid of the difficulty of making the negatives.

When we have got our negatives, we want to think about making the prints. We want to get three prints of the three sensations, one printed in the greenish-blue, one printed in the pink, and one in the yellow. Two or three years ago I published a number of different ways in which these triple prints could be made, but continued experiment has led to fixing on one simple method. It is easy to talk about staining a print to a particular colour, but, when it comes to practical work, you will find that plenty of little difficulties crop up. For instance it is not sufficient to find a dye with the right absorption, but you must find a dye that will work easily. Most of the dyes that give the right absorption for the pink are dirty dyes, and you will find that if you make a carefully filtered solution, and put it into a dish that you have cleaned as perfectly as possible, it soon becomes covered with a dirty scum. You have got to find some addition to the dye-stuff, or some method of making up a dye solution which will give good physical qualities as well as the right absorption. No single dye seemed to do that but, by means of mixtures, I have got three staining solutions which will give correct colours without much trouble. The blue print is most important of the three, and the yellow the least important; any defect in the blue print shows immediately, and the red print has to be fairly good, but the yellow may be considerably defective without actually ruining the result. The easiest way of making the blue print is to make it on a plate and tone it to a fine prussiate blue; or it is still easier, if you do not object to having three films, to print all three films on a celluloid base. If we take a film of celluloid and coat it with gelatine containing a little silver bromide, and soak it in bichromate of potash solution and dry it, we can clean the back of the celluloid, place the back in contact with the negative, expose to light, and then wash out in warm water. The effect of the bromide of silver in the emulsion is to prevent the light striking right through the film, and in that way we ensure easy development. It also answers another purpose, for if you print in clear gelatine you cannot see what you are doing because it is invisible, but by having a small quantity of pure silver bromide in the film the image can be clearly seen on a black ground, and you can tell when your picture is properly developed. As soon as development is complete dip the picture into a weak hypo solution, and the result is a relief in clear gelatine, containing all the gradations of your negative. If you want to use the pure film process you cut the print into three, stain the one taken through the red screen in greenish-blue solution, the one taken through the green screen in the pink staining solution, and the one taken through the blue screen in the yellow solution. Then take three prints and put them one on top of another, and you will have a very accurate fac simile of the object photographed. The film has to be made with all the care that you would take in making an autotype film, but it will soon be

placed on the market, and there will be no difficulty in that respect.

We have, then, a method by which we can easily make the three negatives representing the three colour sensations, and a method of easily making the three prints. If these three prints are superposed and bound up, we have a slide that may be shown in any ordinary lantern, and without any extra apparatus for projection; and I think that is, perhaps, the most satisfactory indirect method of obtaining a photograph in colours. The dyes used have been tested for four years, and appear to be quite permanent.

I will now pass through the lantern a number of these slides. I should state that many of the negatives from which I made these pictures are by my colleague, Mr. W. Saville Kent.

[At the close of his lecture, Mr. Sanger Shepherd passed round some film prints illustrating the separate stages of the process which he had described, and he also projected several beautiful three-colour lantern slides, including some very successful photographs of orchids by Mr. Saville Kent.]—*Journal of the Camera Club.*

Lantern-slide making for beginners.

By Primrose Hill.

ILLUMINATING THE NEGATIVE WITH ARTIFICIAL LIGHT.—*Contd.*

Gas.—The next apparatus is mentioned chiefly to advise the reader not to attempt this if he can adopt some other and better form. In fig. 3 we show the result of certain experiments. As before, NN is the negative-holder, with a diffusing screen of ground glass about an inch or so from the negative; KK is a U shaped arrangement of gas piping with three cross bars, in which are put three, two, and three nipples with bat's-wing burners. In brief, it may be said that although this was the most satisfactory of several forms of lighting of this kind, they were all abandoned in preference for that next to be mentioned. This we show in fig. 4. As before, the negative is held in a lid-shaped holder, NN. At each side of this we have an incandescent gas burner, AA, on a short stem, and let into a solid foot—a block of lead—E. In the left-hand side of the figure we show a general sketch of the arrangement. Here we see the two lamps so placed that *no direct* light from either of them can fall on the negative, which in this case requires no diffusing screen. But facing the negative we have a curved piece of white and clean cardboard. A few white threads connect the two top corners (not shown), and others at lower corners serve to keep the sheet properly curved.

If, now, we turn to the right-hand side of the diagram, we see the same arrangement in ground plan.

Now in order to get the best value of our two lamps, AA, we surround each of them with a sheet of bright tin, curved more or less into the form of a semi-circle, but slightly spiral, as shown at SS. The position of the negative is indicated at N, and the lens at L. Thus the lens, L, sees the negative against a bright white background, RR, illuminated by the two lamps, AA, partly by direct light and partly by reflected light from SS.

It is important to keep the sheet tin reflectors, SS, as clean and bright as possible.

Where gas can be used, this method may confidently be recommended as worthy of a very serious trial. The apparatus is so simple that anyone can rig it up for himself in a few moments. There is some heat from the gas, of course, but no smoke or smell, and beyond the outlay for the two burners, the cost is insignificant. Of course, where gas cannot be obtained we can use a couple of good paraffin lamps, but the yellowness of their light prolongs exposure, and we get some heat, and generally a good deal too much smell.

P. S.—One need hardly say that in the left-hand side of diagram 4 one of the tin reflectors has been removed, so as to show the position of the lamp.

EXPOSING IN THE CAMERA.

[*This section ought to precede the section on Illuminating the Negative—Ed.*]

Home-made Apparatus.

Although the camera method is generally used for including on the lantern plate a larger area of view than could be obtained by contact methods, in fact, as a reduction method, yet this by no means always is the case. For we may, if we please, use it to give us a larger image on the lantern plate than could be got by contact. We shall, however, assume that we are going to use this method for including on our lantern slide all the view obtained on, say, a half or whole plate negative.

And first we shall describe three home-made contrivances which any ordinary person can knock together for himself with but very little trouble and a shilling or two for material. The first form to be described is suitable for town dwellers who want to use daylight, and who dwell among houses and chimneys. First, we select a window which faces some point of the sky where the sun is *not* at the time of our operations. Thus, for morning work, a west window, for afternoon an east window, and for any and all time a north aspect. Next we want a window whose glass panes are considerably larger than our largest negative, otherwise the sash bars will come in our way. Thirdly, we want a window from which we can get through its upper part a clear and uninterrupted view of the sky, *i. e.*, clear of chimneys, trees, etc. Suppose, now, we have found such a window. Our first step is to take a piece of wood about six inches longer than the width of the window, and about one inch thick, and two inches wide. Make a hole through each end, and about an inch from the end. Then by means of a piece of blind cord knotted and passed through the whole and having its other end looped, we can suspend this piece of wood to the curtain pole. In the diagram, P is the curtain pole, K and K the two pieces of blind cord supporting AA. Our next need is our base-board, BB. The width of this should be an inch or so more than the length of our largest negative. It may be about $\frac{3}{4}$ inch in thickness. Its length will depend upon two factors, the focal length of the lens, and the size of the largest negative. One example will suffice. If our largest negative be whole-plate (we may call this 8 by 6 for case of reckoning), and our lens be of six inch focus, then we shall require a base-board of a little more than thirty inches, say a yard, for working convenience.—*The Amateur Photographer.*

(*To be continued*).

COMPETITIONS.

(Open only to Members of the Society.)

SUBJECTS FOR MONTHLY COMPETITIONS.

For April „ ... *An Equestrian Study.*
„ May „ ... *A Village Scene.*

HALF YEARLY COMPETITIONS—JUNE "*A Water Scene.*"

RULES.

1. *Two Special Competitions shall be held, in each year, in addition to a monthly competition.*

2. *The Committee shall select the subjects for the Special Competitions, and notice of the selected subjects shall be announced in the Society's Journal in February and in July of each year. The subject for each monthly competition shall be selected two months in advance by the members present at the monthly meeting, and shall be notified in the next issue of the Society's Journal.*

3. *Pictures, &c., competing for Prizes at the Special Competitions must reach the Secretary by the last day of January and of May, and those competing at the monthly competitions must arrive in time to be shown at the monthly meeting.*

4. *Prizes will consist of Silver and of Bronze Medals, and of Certificates of Merit.*

5. *Not more than one Silver and one Bronze Medal shall be given at each Special Competition, and one Silver and one Bronze Medal may also be given at these competitions for excellence in copying, enlarging, lantern slides, or any other special branch of photography. One Silver and one Bronze Medal shall be awarded half-yearly to the exhibitors who obtain the highest and the next highest marks respectively at the monthly competitions. The number of Certificates of Merit granted at each competition is left to the discretion of the Judges.*

6. *A member may receive only one Silver and one Bronze Medal in the special, and one Silver and one Bronze Medal in the monthly, competitions, held during the same year; but should a member who has been adjudged a medal be disqualified under this rule from receiving it, he shall be given a Special Certificate instead, marked 1st or 2nd Prize.*

7. *A Special Committee of three members shall be appointed Judges by the General Committee to carry out, subject to these Rules, all arrangements connected with the competitions.*

8. *The Special Committee shall be appointed after the Annual General Meeting in January, and shall hold office for one year, and any vacancy occurring will be filled up by the General Committee.*

9. *The Special Committee shall decide upon the merits of the pictures, &c., sent in for competition, and their decision shall be final. The system of judging the monthly exhibits shall be by awarding marks, a record of which shall be kept by the Judges, the marks being totalled and the results declared half-yearly. For this purpose, only the three highest marks awarded at each competition to each competitor shall be recorded, but not the aggregate marks gained by each for a number of exhibits.*

10. *If any member of the Special Committee is a competitor, the General Committee shall appoint a non-competing member to act as Judge at that competition instead of the competing member.*

11. *No exhibit shall compete twice, but pictures, &c., already exhibited elsewhere, may be sent in for the competitions.*

12. *Lantern slides sent in for competition shall be in sets of six, and shall be judged upon the screen.*

13. *The Special Committee shall not award any Prizes or Certificates, unless they consider the exhibits to be worthy of such distinction.*

14. *Each competing exhibit shall be the entire work of the exhibitor, and when sent in shall be accompanied by a Certificate in the annexed form:—*

> *"The (1) Arranging, (2) Exposing, (3) Developing, (4) Retouching (if any), (5) Printing and (6) Trimming and Mounting were done by me without assistance."*
>
> *Member, A. P. Socy. of Madras.*

15. *All pictures for the Special Competitions shall be mounted, and may, at the competitor's option, be framed but not glazed. Those for the monthly competitions need not be mounted, but should be trimmed.*

16. *Each competing picture should have a name or title, which should indicate the nature of the subject.*

17. *No competitor shall be allowed to send in more than six pictures to compete for any particular Prize, but the same member may compete in all branches specified in Rule 5.*

18. *The pictures gaining 1st and 2nd Prizes at the half-yearly competitions, and the best pictures sent for the monthly competitions, shall, when practicable, be reproduced in the Society's Journal.*

19. *To give up-country members an opportunity of seeing the competing pictures at the special competitions, the pictures shall be circulated to all members of the Society, not residing in Madras, who apply to see them. As this arrangement can only be carried out by the cordial co-operation of the members themselves, they are expected to forward the pictures without delay to the next member, and to send one of the accompanying post-cards to the Secretary, so that by this means the progress of the pictures may be traced.*

List of Members whose Dark Rooms are available for use by Members of the Madras Amateur Photographic Society.

E. MAENNIG, Buckingham House, Tranquebar.

NOTICES.

Members of the Madras Amateur Photographic Society are permitted to use this column free of charge for two insertions of each advertisement—all subsequent insertions of the same being chargeable at 2 annas a line. When an advertisement becomes liable to this charge, it will not be inserted unless a postal order or stamps to the value of the charge are previously sent, addressed to Graves, Cookson and Co., Scottish Press, Broadway, Madras. Advertisements received up to the 5th of each month will be inserted in the next issue of the Journal; those received after this date will be held over for the subsequent issue.

Subscribers, and others who are not regular dealers may make use of this column for advertisements by paying at the rate of 3 annas a line.

Rates of Subscription, Payable in Advance.

——	India, including Postage.	Europe, including Postage.
Twelve months ...	5 Rupees ...	8s. or Rs. 6.
Six months ...	3 „ ...	5s. or Rs. 3-12-0.
Single numbers ..	8 annas ...	

N.B.—The Journal is issued on the 15th of each month, and is posted free to members of the Madras Amateur Photographic Society.

Entrance Fee, Rs. 5.—Annual Subscription *for Resident Members, Rs. 15; for Up-country Members, Rs. 12. Members joining after 30th June pay Half-year's Subscription.*

Candidates for Election—*should be proposed by one member and seconded by another; and they will be balloted for at the following meeting.*

Ordinary Meetings—*of the Society are held on the first Friday of each month at 6 p.m. and members are at liberty to introduce visitors: meetings take place at the Museum, Egmore.*

Letters to the Editor—*should be addressed care of Messrs. Graves, Cookson & Co., Scottish Press, Broadway, Madras.*

Letters to the Honorary Secretary—*should be addressed to Mrs. Leet Palk, Locock's Garden, Kilpauk, Madras.*

Letters to the Honorary Treasurer—*should be addressed to A. E. Lawson, Madras Mail Office, Madras.*

Communications regarding the issue of the Journal—*should be addressed to the Publishers, as above.*