

Journal of the Amateur Photographic Society of Madras.

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EDITORIAL NOTES.

AT the monthly meeting held in January last, it was resolved to have a paid Editor and Demonstrator on Rs. 50 per month; but, as our advertisements were not responded to, it was decided to leave the demonstratorship open, and to engage the services of some one to edit the journal.

MR. K. Ramunni Menon, B. A. (Cantab), Assistant Professor of Zoology, Presidency College, has accepted the post of Editor

on a salary of Rs. 30 per mensem. The Hon. Secretary hopes that members will help the Editor by sending contributions to the journal, for no journal can thrive, if it depends entirely on the energies of the Editor, however good he may be. *The Amateur Photographer* has a printed list of contributors in each Edition. The Hon. Secretary aspires to the hope that a similar list will, ere long, appear on the first page of our journal. Members are again requested to send in plates for reproduction in the Journal.

EXPERIENCE has shown that, during the hot weather, the number of resident members is too small for successful meetings to be held. At the meeting held on the 2nd instant, it was decided to discontinue the monthly meetings from April till October, and not to engage a demonstrator till October next.

THERE will be a demonstration on Plate development at the next and last meeting of this season. Major VanGeyzel, I. M. S., has again very kindly offered to undertake it, and it is hoped that all resident members will be present.

WE wish to remind our members that the Society receives, in exchange, several most interesting journals on Photography, from Home and abroad. A new one, *The Photominiature*, edited by Mr. John A. Tennant, (published in New York and London), is now added to our list which we give below:—

- The Photogram, 6, Farringdon Avenue, London, E.C.
 Optical Lantern Journal, 9, Carthusian St., London, E.C.
 Photographic Times, 423, Broome Street, New York, U. S. A.
 Australian Photographic Journal, 332, Kent Street, Sydney, N. S. W., Australia.
 Photography, 3, St. Bride St., Ludgate Circus, London, E.C.
 Amateur Photographer, 1, Creed Lane, Ludgate Hill, Lon., E.C.
 British Journal of Photography, 24, Wellington Street, Strand, London, W. C.
 Wilson's Photographic Magazine, 853, Broadway, New York, U. S. A.
 American Amateur Photographer, Tioga Centre, do.
 Anthony's Photographic Bulletin, 591, Broadway, do.
 Camera Club Journal, 28, Charing Cross Road, Lon., W.C.
 Practical Photographer, The Country Press, Bradford, England.
 'Il Progressio Fotografico' Via S. Maria-Sogretra-Milan-Italy.
 Liesegang's Verlag, 13, Cavalierstrasse-Dusseldorf, Germany.
 Journal of the Photographic Society of India's Journal—Calcutta, India.
 The Photo Miniature, Tennant and Ward, New York, U. S. A.

Members who wish to see any of the above journals can get them, by post, from the Hon. Secretary, on the understanding that they shall be returned to the Hon. Secretary within ten days from the date of issue.

WE have not been able to get, for our Journal, any criticism of the exhibits at the Fine Arts Exhibition held in Madras last month. In the Photographic section, we are glad to see that two pictures, "Southampton Water," and "A Summer Afternoon," by Mrs. Palk, our Hon. Secretary, were "highly commended."

EVERYBODY will sympathise with the young photographer—especially in these days when he is bewildered by the multiplicity of cameras, films, and developers. The *Amateur Photographer* contains the following poem which, we hope, will be appreciated:—

Tell me not in cheerful numbers,
 Photography's a pleasant dream;
 That one's lucky when one slumbers,
 And that things are what they seem.

It's too serious, it's too solemn,
 Having fun is not its goal;
 Making negatives is no joke,
 Language fails in hyperbole. (*Poetic Licence!*)

First exposing, o'er and under,
 Watkins, Wynne, and by the stop;
 A hundred bottles in the cupboard,
 A thousand bottles in the shop.

Solutions slow, solutions fleeting,
 Few are right, and most are wrong;
 One degree of coolth or heating,
 Just one flash and *allez-vous on!*

Formula of, perhaps, another,
 Light of heart and without guile,
 Thought he'd act the tender brother,
 Never dreaming action vile.

Trust no method, how'er pleasant,
 Nightmare Nemesis is dread;
 Try them each, or altogether,
 You'll repent it when in bed.

Each solution but reminds us
 We've to try another line;
 Beaten once, we still hope ever,
 For the perfect neg. sublime.

If you're lucky when you d'velop,
 (That's rather halting rhyme!)
 The printing process stares before you—
 There's another sultry time!

Bromo, ozo, mezzo, platino,
 All the types are tried in turn;
 One too hard, another flat is,
 And you feel a hopeless worm.

All the wasted plates remind us
 That the game to us is spoof;
 We shall die, and leave behind us
 Platemakers with all the oof.

TOUCHSTONE.

KODAK, Limited, announce that they are issuing short spools of kodak films of two and six exposures capacity. We hope that amateur photographers in this country will find this a useful innovation.

THE following note appears in the *Amateur Photographer*, with reference to blackening diaphragms, lens tubes, &c., which become bright through continued use, and thus give rise to trouble:—

"Make a solution of nitrate of mercury: brush it over the brass, and allow it to dry. When it is thoroughly dry, apply a solution of potassium sulphide. A splendid dead black will result."

WE know that defaulters' lists are hung up in Libraries and Clubs for non-payment of subscriptions and fines. Professional photographers in Russia have apparently gone a step farther. Those among their customers who do

not propitiate them with prompt payment of their bills, have their *photographs* hung *upside down* in their windows! We wonder what appearance Mount Road would present, if the system were introduced here.

PLATINUM workers must have found it very difficult to remove the iron completely from their prints. Often the iron salt seems to be thoroughly fixed upon the paper fibre. In such cases, a preliminary application of strong ammonia to the print, followed by the usual hydrochloric acid bath will give satisfactory results.

OUR ILLUSTRATION

is by Mr. C. E. Phipps, who has kindly sent us the following:—

THE Nilgiri Railway is essentially the "happy hunting ground" of all others, for which the soul of the most apathetic of amateur photographers must ever pine. Light and shade, Hill and Dale, Foliage, Water scenery, and "bits" of all kind, abound on all sides, from the lofty overhanging crags of Lamb's Rock, of which a magnificent view is obtainable from the Railway carriage windows, to the utilitarian nineteenth century girder bridges, which the skill of the engineers has thrown over the numberless streams, rivers and ravines traversed in its winding course by the Railway—not the least picturesque amongst the latter, is the bridge over the Kullar River, about 1½ miles from Kullar Station, which is shown in our illustration. How the huge masonry piers manage to stick on to their boulder foundations, and how they and the girders which span the "rough and tumble" down below were got there, seems to be a marvel, but they do it and they did it, and to the eye of the camera, they make a very pretty picture. The negative from which our illustration is printed, was taken on a Wratten and Wainwright's ordinary plate in a Shew Eclipse hand camera stop f. 32, exposure 2 seconds, Development Pyro and Soda.

OUR HOME LETTER.

January 1900.

WHETHER P. O. P. is a permanent process or no is a constantly recurring dissonance in photographic circles. I think it has been pretty well demonstrated that the combined bath is absolutely unsafe, and I am inclined myself to believe that whatever bath may be employed, the risks of impermanence are great. From time to time I have received prints from correspon-

dents in India, and I do not remember a single case where these prints were on P. O. P. that a considerable degree of yellowness was not observable in the whites, whilst often things were even worse, and the discolouration was so marked as to render the prints very unsightly. A few days ago I turned out some old prints that had perhaps been made about five years, and found more than half of them decomposed. Whether they had been toned and fixed separately or treated with the combined bath I am unable to say, but I do know for certain that they were made by men who are regarded as experts in photography. Is this possibility, which seems even strong enough to be a probability, worth risking when a more certain process, albumen, gives a very similar appearance? For my own part I employ platinum or carbon whenever circumstances admit, and if for some reason neither of these are available or convenient, then I work on albumen paper.

Talking of platinum reminds me that Messrs. Stieglitz and Keiley of the New York Camera Club, whose experiments in developing platinotype prints with a brush and glycerine, have been recounted in most of the journals, announce that they will shortly bring before public notice an additional advantage of this process in the application of differently constituted developing solutions to the different parts of a picture, so as to produce a variety of tints. Practical photographers will no doubt look forward to the publication of these gentlemen's investigations, for such apparently simple methods for obtaining different tints in the one print, will be a useful and pleasing development of platinotype.

Photography as an illustrator is steadily making headway. New journals in which all the illustrations are from photographs keep making their appearance. Photography has even penetrated successfully into the realms of standard literature where illustrations of a topographical character are required. The biographies of recent men of note are considered more interesting and reliable if photographic pictures in the form of portraits and views are a feature of the work. Some novels too have been very advantageously illustrated by photographs of the places where the author laid the principal scenes of the story. For example, a recent edition of the Brontë novels by Messrs. Smith, Elder & Co., has views of that characteristic country which forms the background of those strange stories. It is fortunate that the scenery has escaped the hands of that despoiler commerce, and remains practically in its former condition, so that the main features at all events are still accessible. Mr. W. B. Bland is responsible for the photographs, and he has very sympathetically given us views of houses and landscapes around which the authors gathered their incidents. Among minor occurrences of the month one may chronicle the patenting of a process of obtaining positives direct in the camera, which it is believed will become popular among tourists. To see the result of our work almost immediately is very seductive, especially to the impatient, but I imagine that there are not very many

who would sacrifice the possibility of making repeated positives to the rapid production of one only.

Lord Crawford has retired from the Presidential Chair of the Royal Photographic Society, but it is not possible to say who is likely to be his successor at present. It is also rumoured that Major-General Waterhouse finds himself unable to continue as Secretary. It is to be hoped, however, that he may be induced to occupy that office for at all events another year.

The Royal Photographic Society Exhibition of 1900 will, as I have previously announced, take place in the enlarged rooms at the new gallery in Regent Street. Here an exhibition on largely extended lines will be possible, though how the increased accommodation will be used has not I believe been decided up to the present, though a committee has been appointed for the purpose. Whatever may be the exact nature of the exhibition, I feel sure that it will be of exceptional interest, and draw visitors from all parts of the country.

I noticed in a contemporary recently a professional photographer observing that he could dry any negative within five or ten minutes after taking it from the water. He simply wipes both sides as dry as possible with a clean, soft duster, then holds the negative within a foot or so of a moderate fire, film away from the fire. He has dried hundreds in this way without injuring one, and in the summer has frequently placed them in the sun for the same purpose. The procedure seems to be a little risky, but it certainly expedites matters considerably.

PERCY LUND.

OUR HOME LETTER.

February 1900.

THE advent of the centenary of Fox Talbot which occurred on February 11th, brought the experiments and discoveries of this "father of photography" once more prominently before the public, and aroused again an old controversy as to who should hold the credit for having discovered photography. It will be remembered that the Frenchman Daguerre was the first to bring his invention before the world, and on January 7th of 1839 he communicated the results of many years' arduous investigations to the Academic des Sciences at Paris, while it was not until several days after, on the last day in the same month, that the Englishman Fox Talbot, read a paper giving a full description of his process before the Royal Society of Great Britain. Now although Daguerre gave his announcement to the public before Fox Talbot, he was led to do so hurriedly on hearing that another was in the field, so in that way he gained a few days' start of his rival. Neither must it be forgotten that Daguerre only made the bare announcement of his discovery, and showed examples without describing the *modus operandi* in detail, whilst on the other hand, Fox Talbot gave a full and explicit account of his experiments, and the practical manipulations of Calotype, as it was afterwards called, when he appeared

at the Royal Society meeting. We are told moreover that for some two years previously he had been in possession of all the essential procedure, and had only delayed putting his investigations before the world in order to arrive at further perfection. The fact also must not be overlooked that the two processes are in many respects very different, though both depend upon the fundamental principle of the action of light upon silver salts. Daguerre employed a silvered plate rendered sensitive by treatment with the vapour of iodine, the Daguerrotype involved a very long exposure, and then the image was made visible by holding the plate over the vapour of mercury. The method of Fox Talbot on the other hand consisted in the employment of sheets of paper sensitized by treatment with silver nitrate. One may fairly say then that in view of this simultaneous and individual discovery, the two inventors, English and French, are reasonably entitled to claim an equal share of the credit. It would be unjust to give the palm to either. I understand that a committee has recently been formed to bring forward the claims of Fox Talbot, and as a memorial to his name, to restore the chancel of Lacock Church in Wiltshire, Lacock being his birthplace and home.

The death of Mr. Ruskin, coming as it does after many years of retirement from public life, has not created quite such an impression upon the man in the street as it might have done had his end come twenty years ago, when in the zenith of his fame. But all educated people, not only in Great Britain, but throughout the world, will lament the loss of a man, perhaps the greatest of the century, who accomplished during his lifetime an extraordinary amount of work, and exercised a remarkable influence on human life and thought. Nor is this influence diminished at all by his decease, rather is it likely to be augmented. How much we all owe of our capacity for the appreciation and comprehension of beautiful scenery wherever it may be found, to the sage of Brantwood, whose books can teach those who wish to learn to "look on nature, not as in the hour of thoughtless youth," but with a deeper sight that penetrates the surface of things, and feels beneath that throbbing pulse of being, whose source is still a strange and wonderful mystery. To the would-be student of Ruskin, who finds "Modern Painters" or "Stones of Venice" a little beyond his scope, I can heartily recommend "Præterita," which is essentially an autobiographical *resumé* of important events in the earlier life of the author with later reflections upon them. The book is of course written in that marvellous rhetorical style in which Ruskin achieved such perfection, and since it serves moreover as an introduction to his other works, the student will be well advised to turn first to its pages.

The annual meeting of the Royal Photographic Society has been held recently, and new officers and committee elected. The President is Mr. T. R. Dallmeyer, F.R. A. S., whose name is well known throughout the world as a maker of fine lenses. The Vice-Presidents are the Earl of Crawford, Chapman Jones, Major-General Waterhouse, and Sir S. Truemanwood.

From the recently issued report of the council, I learn that the total number of Fellows elected during the year is 21, of members 114, allowing for deaths, resignations, etc., there has been a nett increase of 62 members during the year. Professor E. Abbe of Jena has been elected Honorary Fellow in consideration of the value of his teachings and investigations in the field of optics.

The Photographic Convention of 1900 has been fixed for Newcastle-on-Tyne, beginning on Monday, July 9th, and terminating on the Saturday of that week. Excursions have been arranged to Hexham for the Roman Wall, to Durham Castle and Cathedral, to Alnwick and Warkworth, whilst there will also be a reception by the Mayor and a garden party at Jesmond Dene.

The British Association Sub-Committee, formed for the purpose of collecting and arranging photographs of geological interest in the United Kingdom, has issued its annual report, recording the reception of 324 new photographs during the year, making the total number in the collection at present 2,325. Perhaps the most interesting of the new contributions is a series of 27 large photographs illustrating that remarkable pitchstone formation in the West of Scotland, the Scur of Eigg. An excellent series illustrating the physical history of Yorkshire rivers has also been received from Mr. Godfrey Bingley.

PERCY LUND.

PROCEEDINGS OF THE SOCIETY.
(MARCH.)

Monthly Meeting held on Friday, 2nd March 1900,
at 5-45 p. m., at the Govt. Museum, Egmore.

PRESENT:—

THE HON. MR. G. STOKES, *Vice-President*, in the chair.

MAJOR VAN GEYZEL, I. M. S., MRS. PALK, MR. S. JACKSON,

MR. E. W. STONEY AND REV. A. MOFAT.

Mrs. Inglis, proposed by Mr. T. Michell, Trichinopoly, and seconded by Major VanGeyzel, I. M. S., was unanimously elected a member of the Society. It was decided to have one more monthly meeting on the first Friday in April, at which there will be a demonstration on plate development. After that date, meetings shall be discontinued till October next. Committee-meeting shall be called when necessary during the hot weather.

It was decided that illustrations for the monthly journal should be printed locally; also that a paid demonstrator should not be engaged till October next. Major VanGeyzel then proceeded to give a demonstration on "The Camera."

EDITOR'S TABLE.

We have received a copy of Messrs. Thornton and Pickard's New Illustrated Catalogue for 1900. The Catalogue contains descriptions of the various patterns of their well-known shutters, and of their "Amber" and "Ruby" Cameras, &c. We notice that

the prices are the same as last year's, although the raw material used in making the different articles seems to have gone up in value. The list also contains particulars of a new Photographic Competition instituted by the firm. Prizes amounting to £105 are to be awarded for the best sets of instantaneous photographs taken with the cameras and shutters made by the firm.

EXTRACTS.

A few words about "Gum-Bichromate."

WHEN it is better understood it is probable that this, one of the oldest of processes, will be used more than a little. At present its manipulation has been largely in the hands of amateur workers of the latest school, and enough work of an eccentric or *outré* character has been turned out to make the professional who depends on sound lines chuckle. By sound lines I here mean a good negative and a good print which is a good likeness—good in pose, lighting, and technique. But quite a few processes or fashions have been pioneered by the amateur or the progressive man who is inclined to go to the extremes, and the process has afterwards become general. Gum-bichromate is a first cousin to carbon, the difference being in the use of gum-arabic instead of gelatine.

One fortunate thing about gum-bichromate is the wide choice of paper. We are so used to hearing of the necessity of pure stock that we are inclined to smile when we are told that almost any paper will do, without regard to purity. This is, perhaps, too sweeping a statement, but the strength of the paper to hold together when wet seems to be the most important. For some effects rough drawing papers may be used, and any preferred tint or fine detail may be obtained on a fine linen paper. If the paper is too absorbent it should be sized with 100 grains of arrowroot in 10 ounces of water, or we may overdo the "art" of it and get too much degradation of high-lights. A happy medium should be struck, for with too much size we might reach the other extreme and get hard prints. In sensitizing the paper in a solution of potassium bichromate the chief things are to guard against air-bells and to get the paper thoroughly saturated. This sensitizing should be done in the dark-room or in a very weak light, and the paper should dry in the dark.

Dissolve 1 ounce of gum in 8 ounces of cold water. Don't use heat; let the gum dissolve as slowly as it likes. It will keep a long time, and as long as it does not acidify it can be used.

There is a hint about measuring the quantity of color required. The finest colors for the purpose are the "moist" water-colors, put up in collapsible tubes, though for some work the crudest powdered colors may be used. But with tube-colors the amount can be gauged by the length of the jet squeezed from the tube. Thus, if it was once found that a three-inch jet was sufficient for some size and color of coating, the three-inch jet may be remembered as a standard. Or if two or more colors are used, the right quantities can be accurately measured. The way to mix the colors was demonstrated some little time ago before one of our societies by taking 70 grains of pigment to 2 ounces of the gum solution. The pigment was spread on a palette and a few drops of the gum poured on it. This was then worked and kneaded with a palette-knife until fully mixed into a paste. Don't be afraid of too much mixing. When thoroughly mixed add the paste to the 2 ounces of gum, in a cup, and stir it all well together.

The printing is to be gauged by experience and the actinometer; and after that comes the developing, the stage where all the fancy of the operator may be given play. The simplest way of developing is to leave the print, face down, in cold water—being careful to prevent any air-bells—until the soluble parts are sufficiently dissolved out; but such a course neglects all the possibilities which have caused the adoption of the paper. If the paper does not begin to develop in ten or fifteen minutes it shows over-exposure, and it may be rocked in the dish, or, if that does not suffice, lay it on a board and squeeze water gently over it. If still obstinate, try warm water to start development, though probably it is too over-exposed to yield a satisfactory result. The use of pouring water or of a brush must be very guarded or the delicate pigment may be washed off in the wrong place, and one unlucky touch ruin the whole picture. It is here, in this local development, that the picture is made or marred. It is here, too, that so much experimenting is done—to judge from finished results—without any clear idea of why it is done.

When development is complete hang the print up to dry. Remember that until it is dry the surface is very tender and the least touch will spoil it. When dry—but not until it has dried—immerse the print in a clearing bath of 1 ounce saturated solution of sodium bisulphite in 16 ounces of water. The object of this is to eliminate the whole of the bichromate, some of which is almost always left in the frequent after-development. If the print is put in the clearing solution after development without being first dried, the picture will dissolve away from the paper. Remember that you must not coat the paper with too much pigment. Expose correctly. Keep the sensitive paper away from the light. Look out for air-bells and handle the wet paper gingerly. After the paper is all dry and the print finished you may use as much hand work as you like on it, or crayon, or water color, or tone it with india-rubber. I fancy I hear some reader growl; but when we go in for selection and control, why not give us a free hand?—*Wilson's Photographic Magazine*.

Ammonium Persulphate.*

By H. SCOTT LAUDER.

AMMONIUM persulphate, a white crystalline salt, somewhat deliquescent, and represented by the chemical symbols NH_4SO_4 , was introduced to the photographic world a little more than a year ago by Messrs. Lumière, to whom photographers are indebted for so many good things in applied chemistry, and the advantages of its peculiar action were soon recognized—that of dissolving away the denser masses of metallic silver in apparently much greater proportion than it removes the thinner and more superficial layers which form the half-tones and faint detail in the shadows, and it is now considered a very necessary addition to the laboratory. More especially, perhaps, it is useful to the inexperienced amateur, whose negatives so frequently partake of the soot and whitewash giving variety. It is in this class of negative, under-exposed and over-developed, that the characteristic action of the persulphate is found most beneficial, as by it the over-dense highlights can be thinned down to any extent required, while the half-tones and shadow details are acted on to a comparatively slight extent, so that harsh contrasts are greatly modified, just the reverse of what would take place when using the ordinary potassium fer-

rocyanide and hypo reducer (Howard Farmer's), with which the half-tones and faint superficial details would be cleared off before the highlights were much altered.

The chemical reactions which bring about this apparently paradoxical result do not appear to be as yet thoroughly understood, and considerable discussion is still taking place between the upholders of the various theories in the endeavour to account for what seems to be, at first sight, a selective action of the persulphate on the denser parts of the negative.

The hypothesis put forward by Messrs. Lumière is that the chemical action takes place chiefly in the deeper parts of the film, and the silver dissolved out as a double sulphate of ammonia and silver is again partly reduced to metallic silver on coming in contact with the excess of persulphate in the surrounding solution, which metallic silver is re-deposited on the surface of the film, thus keeping up the average density there at the expense of the silver removed from the deeper parts of the film.

The amount re-deposited is, however, less than that removed, so that by prolonging the action of the reducer, the whole of the negative image would be in time obliterated.

This explanation of the action of the persulphate is not considered entirely satisfactory by later observers, and the general opinion among them appears to be that a uniform reduction takes place throughout the film, in direct proportion to the density or mass of the silver molecules in each part of the film—that is to say, that if reduction were continued until, say, a third of the silver were removed from the densest highlights, exactly a third of the image would be removed in all other parts of the film.

It occurred to me that, if Messrs. Lumière's theory were correct, a negative made by exposing the plate in the camera with the glass slide to the lens ought, on being treated with the persulphate, to have the same appearance as an ordinary negative treated with Farmer's reducer—that is to say, the half tones and shadow details, now lying in the deeper parts of the gelatine film and in contact with the glass, would be the first to disappear, leaving a negative with stronger contrasts than before treatment.

To test this I exposed two plates on the same subject, one in the usual way, film to lens, the other reversed, glass to lens; they were exposed for the same time, and developed together, development being adapted to give extreme density in the highlights. They were then reduced together with ammonium persulphate, and the result was that both negatives were of much the same character with no special loss of thin detail in either. This proves, at least, that the persulphate has the same action on the silver image, irrespective of its position in the gelatine film, and bears out the opinion of recent observers that the action is more of the nature of a reduction of the amount of development, and is uniform throughout the film in proportion to the deposit of silver. This opinion is also supported by the result of photometric measurements.

Now, as to the practical application of the reducer. If the negative has been dried it should be soaked in water for at least half an hour to soften the film.

I find that the most workable strength for the solution in which the negative is to be immersed is about three per cent, say fifteen grains to each ounce of water. It

* Extract from a paper read before the Edinburgh Photographic Society.

dissolves easily, and as it appears to be unstable in solution, it should be freshly dissolved shortly before use.

When the desired effect is produced, the action can be stopped at once by immersing the negative for a minute or two, after a slight wash under the tap, in a 10 per cent. solution of sulphite of soda. The plate should then be well washed and dried. The silver image acquires a slight pinkish hue, which becomes deeper if left too long in the sulphite of soda solution.

Ammonium persulphate, although a powerful solvent of metallic silver, has no chemical effect on silver bromide. Advantage can be taken of this property to make reversed negatives by contact direct from the original negative, and also to make positives instead of negatives direct from the camera exposure.

To make a reversed negative by contact from the original negative, the process is roughly as follows: The exposure having been made in a printing frame, as for a lantern slide, the plate is developed in the usual way, but instead of being put into the fixing bath it is placed in a strong solution of persulphate from 6 per cent. to 10 per cent., by which the positive silver image is dissolved out of the film. The bromide of silver remaining can now, after a short exposure to light, be developed and fixed, and forms, of course, a negative image. To make a positive direct from an exposure in the camera the procedure is the same, the *negative* image in this case being first removed, and the *positive* which is left being developed and fixed. The whole process has been very fully described by Mr. McIntosh in *Photography* numbers of last July.

I made several attempts to produce a reversed negative by this process, but without much success; it all turned out very flat and foggy affairs. It seems very difficult to get rid of a residuum of reduced silver, but bad as they are I pass round the best of them to show that the process is practicable if not very practical.

I hope I have made it clear that ammonium persulphate has put a new power into the hands of photographers. The golden rule, to expose for the shadows and let the highlights take care of themselves, can now be carried out to the utmost limit without misgiving.

A whitewashed cottage in full sunlight, framed in dense foliage, need not be passed by, development may be pushed to any extent to secure detail in an under-exposed foreground, and printable clouds can be recovered from the densest sky.

In portraiture, likewise, the modelling of features lost in density can be reclaimed, and the folds of a white dress will reappear. Old negatives, put aside as hopelessly hard, will now again see the light, and will be transformed by this wonder-looking reducer into satisfactory printers.—*Edinburgh Photographic Society.*

Practical Notes on Instantaneous Photography.*

By ERNESTO BAUM.

I HAVE seen, and not rarely, good snapshots with pleasing and artistic effect produced by a cheap camera, but I do not on that account advise earnest amateurs, who do not regard photography as merely a plaything, to go in for one of these economical apparatus, for these cameras, made principally for the eye, do not offer any real guar-

antee either of durability or of precision of mechanism under all circumstances; the lens with which they are provided will only lend itself, even under the most favourable conditions, to a very limited choice among the great number of subjects worthy of reproduction. As for the great question as to whether the material for the negative should be plates or films, I must, for the present, give the preference to the former; although it cannot be denied that the manufacture of films has made notable progress lately, the Secco-film, Agafilm, Cardinalfilm, and all the other supports for sensitive preparations made as substitutes for glass as a ground work are productions on which popular opinion is yet far from unanimous, therefore, it would be wise to wait on the improvements which, no doubt, experience will suggest. Keeping therefore to glass, the size of 9 x 12 c. m. will be almost always large enough, and the weight of 12 of these plates which form the general equipment of the amateur, will be, together with that of the apparatus, portable enough for the amateur who is anxious to obtain the best results, and if the pictures, in some cases, appear rather small it will be very easy to enlarge them to dimensions which, for snapshot photography direct on plates, would require a very cumbersome equipment.

To those who attach special importance to lightness and compactness, I would recommend the acquisition of one of those hand cameras such as the Photo-jumelle Carportier, the Jumelle Bellioni, the Verascopio, and beyond all the latest creation of the firm of Goerz, the splendid "Photo Stereo Binocular," of the dimensions of $4\frac{1}{2} \times 4\frac{1}{2}$ c. m. to 8×9 c. m. which gives pictures of marvellous distinctness and adopted to make good enlargements.

Among the best material in the way of hand cameras it seems to me that the camera of Goerz of Berlin furnished with the Anschütz shutter (variable speed) deserves a special preference. The workmanship all through is first-class, and the exposure of the plates by means of the varying aperture of the drop shutter gives great clearness to the pictures, I certainly do not take credit to myself, when on returning from a photographic excursion where animated scenes have been reproduced, my negatives often surpass in detail and clearness those of my colleagues whose cameras are fitted with other systems of shutters.

The Anschütz shutter, of which the patent has now elapsed, was imitated, with modifications by other makers, but whether through habit or on account of the actual superiority of the real Anschütz I must admit that after many trials, I give the preference to the last named. These cameras are generally furnished with a Goerz double anastigmatic lens. To those persons who are not inclined to go in for so dear a lens, I would recommend the substituting of a "Linkeoscopic" by the same maker, which is very luminous, and gives extremely clear pictures with a medium diaphragm.

Although in instantaneous photography good light is the first requisite, the over-exposure of plates happens less often than is generally believed. In summer, and in our country (Italy) especially, it will always be prudent to use a diaphragm up to $f/24$, when working in the hours of greatest light. But to obtain the best results neither sun nor cloudless day is absolutely essential; in days with thinly covered sky, negatives are easily obtained which for fineness of detail are superior to those taken in full sunshine, and this applies specially to figure scenes with architectural backgrounds. Under such conditions it becomes possible to reproduce an animated scene even in

* [Translated from *Bollettino della Società Fotografica Italiana* specially for the Journal of the Photographic Society of India—Ed.]

shadow, because the equally diffused light lightens up sufficiently those parts which, on a sunny day, from the sharp contrasts (reproduced in exaggerated form by glass as it is well known) would be lost in shadow. Such days (generally with sirocco wind) are therefore most precious to the amateur who will not fail to benefit by them.

It must be considered, besides, that on sunny days the air is often laden with vapour which veils the distance, so that in the negative it appears either without detail or indistinguishable from the sky; on days with cloudy sky such vapour seldom is present, and the distance comes out much more clearly on the plate. Clouds are powerful reflectors of white light and brighten the shadows without accenting the lights unduly. In reproducing figure subjects near the camera, the operator will often be surprised to note what faint impressions the plate receives even in very clear light, and with equal surprise he will see appear on the plate every detail of a distant tower, of a mountain, or of a balloon in mid air taken on a quite cloudy day, which gave very faint hope of any success.

For snapshots on the sea shore on the banks of rivers the exposure may be shortened by one-third, taking into account that the reflections of objects in the water make a stronger impression on the plate than do the objects themselves. On the shore of the Mediterranean on a clear winter day the potentiality of light is very strong in the afternoon hours. The writer has taken capital snapshots on the Ligurian Riviera in the month of December one hour before sunset. In summer and in good weather the best snapshots are got in the morning. When obliged to photograph at that season with the sun high it must not be forgotten that that strong crude light exaggerates contrasts, so that negatives may easily have the light and shade greatly intensified. To avoid these contrasts I have often placed my camera in the full sunlight keeping the sun, of course, from the lens. The luminous current which then surrounds the camera will greatly diminish the contrasts between light and shade.

For groups of persons in shadow endeavour to use the reflection from a half-exposure. In instantaneous photography the view-finder is naturally of great importance. The writer has often had occasion to praise that of Anschütz which permits of seeing the picture itself at the moment it is taken, approximately in the same limits, but in this habit is very important and I will not say that with the reflecting view finder one cannot seize the desired moment with equal precision. The Anschütz view-finder has, however, the undoubted advantage of putting easily the subject of most interest almost in the middle of the plate. An artistic eye is indispensable to obtain well-harmonised pictures, and in this experience and practical instruction, are better than any books. To cite an instance, the beginner must guard against giving too much space to the foreground when it is occupied by objects of secondary importance, and should let the sky be a harmonious proportion of the picture, neither too great nor too small. In street photography every one is more or less dependant on seizing the favourable moment when the camera is not obstructed by passers-by or by horses or other moving objects.

In the developing of my negatives I make use of two developers, which in case of need can even be mixed, that is, a developer composed of "metol" and "Hydrokinone," and the well-known "Glycine" developer of Baron Hübl of Vienna.

I endeavour to use the first named one as seldom as possible, for it often produces negatives of too great density, but in some cases where the impression received by the plate is not very strong, it serves me admirably. All plates taken in good light (notes in a pocket-book on the condition of light, hour of photographing, diaphragm and opening of the shutter are always very useful) are placed first in the *Glycine* developer, and the slow appearance of the picture and its growth in intensity are observed. For the greater part of sensitised plates, it is advisable to leave them in this bath even a few minutes after the details of the negative are clearly defined, as one thus avoids weak negatives. In this manner may be obtained negatives with much detail, balanced between light and shade, which by their transparency are specially suited for enlargements. When, on account of insufficient light this developer is not strong enough, then put the plate, without washing it, from that bath into one of "*metol-hydrokinone*," which will finish it in a few minutes. The fixing is done with an acid bath according to the formula of Lainer or of Lumière Bros. The strengthening of snapshots should only be resorted to in cases when their complete development turn out to be impracticable. If strengthening is required to bring out certain parts of a plate, and when very thin negatives have to be treated, recourse may be had to bleaching the negative in a bath of bromide of copper darkening it afterwards in a solution of nitrate of silver. This is the best of all strengthening processes. Treatment with bichloride of mercury should always be followed by that with sulphite of sodium and not by liquor ammonia. An excellent strengthener is nitrate of uranium, but as in all photochemical operations scrupulous cleanliness is essential, and the handling of uranium requiring great care, this method demands the utmost precaution as every alkaline trace on the hands or in the bath leaves a white spot on the plate.

I have obtained capital effects of light by simple bleaching of the plate in a bath of bichloride mercury of 2 per cent. without darkening afterwards in any other bath.

Good results may be had from weak snapshots by printing them on Rembrandt paper, which often does away with the need for strengthening. In the absence of this paper "*celluloidina*" paper may be prepared by immersing it five to ten seconds in a bath of 0.250 grams of bichromate of potash in a litre of water, printing the dry paper within 24 hours.—*Journal of the Photographic Society of India.*

Coloring Bromide Prints.

For oil colors, a hot solution of 3 per cent. of good white gelatine is spread upon the surface. After drying, the layer thus formed will take oil colors readily. For water colors, use a solution of 120 grammes of shellac in 240 c.c. of alcohol. When completely dissolved, the solution is allowed to stand for 24 hours and is diluted by taking 120 c.c. of the former and 120 c.c. of alcohol. Filter before using. The solution is applied to the surface of the bromide print, by means of an atomiser until it appears to be slightly wet. When dry, water colors may be applied as desired. Pastel is especially in favor for retouching or coloring bromide prints, but it is necessary that the paper should have sufficient grain, in order that the pastel may be readily applied. M. Henry

advises the use of powdered pumice-stone in the following manner. A tuft of cotton is thoroughly impregnated with the powder, and, after having applied to the surface of the print a layer of shellac solution above mentioned, the powder is applied by tapping lightly with the wad of the cotton. The print should thus be covered with the powder before the solution is dry; in this way the powder attaches itself and is fixed during the drying of the solution, leaving below a clear image.—*British Journal of Photography.*

Lantern-slide making for beginners.*

By PRIMROSE HILL.

WHEN TO STOP DEVELOPMENT.

(17). *Two chief points for the beginner.* Given a suitable negative, and a present day quality of commercially prepared plate, the slide maker may, at first, profitably concentrate his attention upon two points. These are correct exposure and correct development. On previous pages we have explained how the reader may discover for himself the best time of exposure by means of one or two trial plates. We next wish to say a few words about correct development.

(18). *When to stop development.* Now the phrase "correct development" may mean two different things. It may mean a developing mixture of certain proportions, so many grains of this and so many drops of that. Or it may ignore this side of the question, and refer only to how long one should allow the developer to act. In other words, "when to stop development." It is in this second sense then that we are just now touching upon "correct development." And for the moment we shall assume that the reader takes some one formula, either that on the plate box as recommended by the manufacturers, or some well-known standard mixture such as that suggested in Chap. I. and sticks to this formula without any variation of its relative parts or proportions for the present.

(19). *A simple but instructive experiment.* Let us make the following experiment: Place a plate in contact with a negative and give it an exposure as near "correct" as can be estimated. Then turn down the lights, remove the plate, lay it face (*i. e.*, film) downwards, and cut it into three more or less equal strips. Then place the three strips in a developing dish and pour on the developer. Watch matters closely. As soon as strip A is developed out enough to show what we may regard as a fairly good picture by reflected light as we look at it as it lies in the dish, quickly remove it, and drop it into the fixing bath. Now carry on development until strip B shows a satisfactory picture by transmitted light, *i. e.*, as we look through it. At this stage remove B and pass it at once into the fixing bath. Then let us carry on development with the third and last strip C until we see the details in the highest lights showing through the plate, and appearing at the back of the plate, *i. e.*, as we look at the back by reflected light. Then fix this strip. When all three strips have been thoroughly fixed and washed, mount them on a piece of clear glass side by side.

(20). *The accompanying illustration.* This will give us an approximate idea of the result of such an experiment. Strip A: This looked about right as a picture by reflected light before fixing, yet when fixed and looked through, it is far too thin. The contrasts are not sufficient for projection on the screen, and no sky whatever is seen

—only bare glass. Strip B: Remembering the appearance of this strip before fixing as we looked through it, and seeing it after fixing, we observed that it does not now have quite the contrast it appeared to have. Moreover the clouds which were then distinctly, if somewhat faintly, visible, seem to have lost some strength in the fixing bath. Strip C: On looking at this strip before fixing, we saw little or nothing but a dark surface. On looking through it before fixing, only the sky and lighter parts seemed to have any practical transparency. On looking at the back of the plate the sky and cloud details were all visible through the film. After fixing, the front surface is still very dark. On looking through the plate the dark parts of the foreground are too dense for any ordinary lantern light to get through. They therefore must appear on the screen as patches of black. The sky, too, is gloomy and dark indeed.

On comparing the reproduction here shown with the actual slide made as described, we find that the two outside strips, A and C, agree fairly well with the originals, but the middle strip has in reproduction gained in contrast. The result is that we miss the suggestion of cloud in the sky, and the pools of water are too light, while the distant land is too dark. We must therefore ask the reader to imagine that the contrasts are rather less than what they here appear to be.

(21). *Details of exposure and development.* It will probably be of assistance to the isolated worker if we mention some of the details of the original strip slide. The negative was one of rather strong contrasts. If anything, under rather than over exposed, and of the kind all too familiar to the hand-camera man. The plate was an Imperial slow. The exposure was by gaslight—No. 5 Bray's burner. Time, fifteen seconds; distance between flame and printing frame, four feet. Developer, that quoted in par. 7: 1 dram A, plus 1 dram B, plus water to make 1 oz. Time of development; Strip A, one and a half minutes; Strip B, three minutes; Strip C, six minutes.

(22). *No hard and fast rule possible.* A little thought will show the worker that the yoanont work by any hard and fast rule. In the first place the nature of the subject may require variations of development. Again, we must take into account the strength of light of the lantern to be used. Thus a slide about right for an oil-lamp would be "eaten up," as the phrase goes, *i. e.*, flooded by the light of an electric arc lamp. Also we have to bear in mind the colour of the slide.

VARIATION OF DEVELOPER.

(23). *Modification of the last experiment.* It is just possible that the reader may not possess a cutting diamond, and thus may think that he cannot make this experiment. In that case, however, we suggest that for once he is extravagant and uses three separate plates. Giving each the same exposure, of course, but as above described, varying the time each plate is in the developing solution. This experiment will indeed well repay its needed outlay of material and trouble.

(24). *Varying the constitution of the developer.* So far we have confined our attention to two variations only. First we gave different lengths of time of exposure, and developed these all together (chapter ii., *i. e.*, varied

[* We regret we cannot reproduce the illustrations.—Ed.]

the exposure for a constant time of development. Then (chapter iv.) we varied the length of time the plate was in the developer with a constant exposure. Our next step is to see what effect comes from varying the constitution of the developer with the same length of exposure. We now proceed as follows. Selecting a negative showing a fair range of gradations from black to white, we place in contact with it an ordinary lantern plate and give such an exposure that previous experience has taught us would give fair results with a normal developer. After exposure, the plate is cut in half. Each half is then separately developed in solutions of different proportions of bromide, alkali, etc., until some corresponding part is of approximately the same visible greyness. The portions are then fixed, washed, and again put side by side. We can then judge the effect of the differently constituted developers.

It will help the reader if we here give him some actual details. The negative chosen was one of moderate strength and contrast. Its general character may be gathered from the accompanying illustration. As in the last experiment, an Imperial slow plate was used. The exposure was 20 seconds, at 4 ft. from a No. 5 Bray's gas-burner. The plate was then cut in half, and the parts marked A and B. So save repetition, the reader is invited to turn back to the standard hydrokinone developer as given in par. 7.

STRIP A. Developer as follows:—

1 dram hydrokinone solution A (par. 7).

1 grain potassium bromide.

$\frac{1}{4}$ dram alkali, solution B (par. 7).

Water to make one ounce.

Note that the bromide is considerably increased. Normally it is half a grain per ounce, and in this case increased to one and a half grains. The alkali is cut down to one-half normal. The image takes longer time than usual to appear, and gains density somewhat slowly. In this case development was carried on until the sky part was a *very* pale grey by reflected light. After fixing, this slight reduction deposit is barely visible. The developer was as follows, the object, of course, being in this case to accentuate contrasts.

STRIP B.

$\frac{1}{2}$ dram hydrokinone solution A (par. 7).

$\frac{2}{3}$ drams alkali solution B (par. 7).

Water to make one ounce.

Note that we here double the normal quantity of alkali and halve the normal proportion of reducing agent and bromide along with it in the same proportion. Development quickly began, and proceeded also quicker than with the other strip. It was carried on until the sky part also just showed a slight greyness. Before fixing, the greyness of the sky part in both strips was very nearly equal; but after fixing, the difference, slight though it now is, is rather more than it was before fixing. This is a small point, but is worth bearing in mind for future reference; and it is just as well here to note that with slow development we apparently get less loss in the fixing bath than with quicker development. If now we turn to the two portions of the illustration we shall hardly fail to see that while the sky and very light parts of each half are equally white or light, yet the darkest parts of each half show a well-marked difference, *e. g.*, the shadow sides of the upper parts of the houses; or, again, we may see the increase of contrast between light and dark in the reflections in the water. Now, the teaching of this experiment is that by

modifying the constituents of the developer we can, to some extent, alter the degree of contrast in the resulting slide.

(25.) *The practical importance of this experiment is obvious.* As, for example, given a negative thin, delicate, and weak. Required to make from it a slide of stronger contrast. The course is indicated by the treatment given to strip A, where our aim was to accentuate or increase contrasts. On the other hand, given a negative of the kind so often made by the hand-camera man, *viz.*, one of marked contrasts; dense high-lights and shadows thin, with but a modicum of detail. In that case the course to follow is suggested by the treatment given to strip B, where our aim was to reduce contrasts, and aim at a soft rather than a sparkling result.

Finally, the beginner must here be told that the modifications of the developer as above given (par. 24) are by no means final. Our aim was to produce from the same exposure two half slides, one slightly, but not absurdly, erring towards thinness, the other, slightly too strong in contrast. When we come to speak of development with other agents, such, for instance, as pyro, ortol, etc., we shall show how, by somewhat similar procedure, we can control the degree of contrast. The beginner also may be tempted to conclude somewhat too hastily that the similar results may be attained by lengthening or shortening the time of exposure or time in the developer. The effects are certainly similar, but are not the same, as we shall strive to show by examples in a subsequent chapter.

VARYING EXPOSURE AND DEVELOPMENT.

(26.) *Exposure and development.* We have now seen the effect of varying the length of exposure, the time in the developer, and the constituents of the developer, one at a time. We now naturally seek to know what happens when we vary two or more of these factors together.

It is a matter of common knowledge that by increasing the exposure we can reduce contrast; or, to put it in another way, over-exposed negatives are full of detail, but flat and weak in contrasts, while under-exposed negatives are hard and chalky, with strong, dense high-lights, and very thin shadows, often lacking in detail.

In our last chapter we showed by an example that by varying the constituents of the developer we could do something in accentuating or suppressing contrast. Our next step is to see how each of these factors can be made to help or counteract each other. For this end we need to have several different exposures on one plate, so that we can see how at the same time exposure and development work together.

(27.) *An instructive experiment.* We now place a plate in contact with a negative, and at 4 ft. from the gas give an exposure of ten seconds. Turn down the gas, and cover up one-third of the negative. Then give to the remaining two-thirds another exposure of ten seconds. Again turn down the gas, cover up two-thirds of the negative, and give the remaining third twenty more seconds exposure. Calling these thirds of the negative A, B, and C, we have given exposures as follows:—

A, B, and C, ten seconds (first exposure).

B and C, ten seconds (second exposure).

C, twenty seconds (third exposure).

The totals are, therefore, A, ten seconds; B, twenty seconds; C, forty seconds. A second plate was dealt with in exactly the same manner; so that the A, B, and C in each plate strips are strictly comparable as regards exposure.

Next, as to development. Our plan was practically that given in the last chapter. No. 1 plate was developed in the following, with idea of accentuating contrasts:—

- 1 dram hydrokinone solution (par. 7, A).
- $\frac{1}{2}$ dram alkali solution (par. 7, B).
- 1 grain pot. bromide.
- Water to make one ounce.

The second plate was developed with a view to securing softness rather than contrast. The developer was:—

- $\frac{1}{2}$ dram hydrokinone solution (par. 7, A).
- 2 drams alkali solution (par. 7, B).
- Water to make one ounce.

The time taken was, of course, longer with the first than the second plate; but with a view to obtaining comparable results, in each case development was carried on until the sky in the middle strip, B, was just slightly grey by reflected light.

If, now, we compare the two illustrations strip by strip with each other we shall see a difference of character—difficult to put into words, but instantly perceived when the two slides are in the hand side by side. Perhaps one can best explain it by saying that the first shows, not only stronger contrasts at each stage, but, also, the result is brighter, clearer, more sparkling; while the second may be described rather as flat and delicate and rather dead and dull. Again, we may observe that the darks of 2-C are not so dark as the deepest darks of 1-B, although the first-named had double the exposure of the second, while the sky of 2-C is very much darker than 1-B. But on comparing strip 2-A with 1-B we find these differences, though still present, yet not so strongly marked.

One need hardly say that the reader who wants to master slide making will not be content to look at our illustrations only, but will repeat our experiments for himself, and will only take our illustrations as diagrams showing how the experiment should be attacked.

One can hardly expect prints from blocks to give with absolute truthfulness all the variations of gradation, so that we may have to ask the reader to exercise a little imagination when we invite his attention to the three sky strips of each print. As aforesaid, 1-B and 2-B are supposed to be equal in strength, but 2-C is (in the slide) markedly darker than 1-C, and 1-A is lighter than 2-A, for 1-A is clear glass while 2-A shows a slight greying. Thus, what is true of the three steps of sky exposure in each plate is, of course, true of all other parts.

ILLUMINATING THE NEGATIVE WITH ARTIFICIAL LIGHT.

28. We now come to a matter of very great importance, viz., the choice of a light for illuminating the negative from which our slide is to be made by means of lens and camera.

Daylight.—Our choice first lies between daylight and artificial light of some kind. To those who can always work by daylight under fairly uniform conditions it certainly offers very weighty advantages. The cost is nil, there is no smoke, smell, fumes, as from gas, magnesium, etc., etc. It is very actinic, and gives short exposures.

It is wonderfully uniform when a card reflector is used, and so on. But it is terribly variable from day to-day and hour to hour.

Artificial light.—We propose here to limit our attention to magnesium ribbon or wire, and gas, or paraffin lamps. And, moreover, we shall confine our remarks to two or three forms of apparatus that are quite easy for the ordinary home carpenter to make, and which we can speak of from personal experience.

Magnesium.—This has the following advantages:—It gives a highly actinic light, is portable, and fairly cheap. Its disadvantage is that it gives so much smoke-dust, which may become a nuisance. But if any fairly large and well-ventilated room can be used, this becomes trifling. In fig. 1 we show a very simple apparatus, which to a considerable extent gets over the smoke trouble. It consists of a shallow tin box. Size according to requirements; for example, if reducing from whole-plate size of negative, the box will be about 9 by 12 by 4 inches. In place of a front or lid, we have a sheet of ground or opal glass, which slides in two grooves at FF. In the ends, and near the top, two small holes are made, just large enough to permit a stout brass or iron wire to pass through and be bent over just outside each hole, as at GG. At the lower part of one side is a hole, H, just large enough to admit a hand. To use this apparatus we take two, three, or more strips of magnesium ribbon and straighten them out fairly well, and then bend up one end of each piece to form a tiny hook. This hook passes over the wire, GG. We show the box with three pieces of magnesium ribbon in position. The piece of ground glass is now put in its groove, and the box placed so that the ground glass is parallel to, and a few inches away, from the negative. We now set fire to the bottom end of the piece of magnesium, nearest to H, and when this has burnt out, to the next, and so on. A duster at H keeps the magnesium smoke dust confined in the box. And now here is a little tip about lighting magnesium wire. In fig. 2 we show a home-made spirit lamp, designed for this particular purpose. It consists of a small, wide-mouth bottle. In this is a flat, well-fitting cork. The centre of the cork is pierced by a round hole. In this hole is a short bit of hard glass tube, about an inch long, and projecting above the cork about half an inch. Through this glass tube we pass the usual spirit lamp cotton. We now take a piece of tin and cut out a semi-elliptical piece the same width as that of the cork, and about two inches long. This is inserted in the cork so as to stand nearly in a vertical position. The figure will make these points clear. Finally, a stout bit of copper wire passes round the neck of the bottle, and the two parts are brought together and twisted one round the other. By means of this wire handle we can push or pull the lamp along without putting the hand inside the box. Now the object of the bit of tin in the cork is to prevent the light from the spirit lamp flame having any local effect on the illumination of the negative. After each exposure the box is taken to an open window or door, the glass front removed, and smoke allowed to escape. If the smoke is not objected to, we can of course do away with any such apparatus, and burn two or three pieces of magnesium in front of the negative, being careful of two things, viz., (i.) to have a diffusing screen either of ground glass or thin opal between the light and the negative, and (ii.) to move the burning wire to and fro so as to equalise the illumination.—*The Amateur Photographer.*

(To be continued.)

COMPETITIONS.*(Open only to Members of the Society.)***SUBJECTS FOR MONTHLY COMPETITIONS.**

For March	"	... Follage.
" 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 competitor.

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 series.

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. MAENNING, Buckingham House, Tranquebar.

SALE AND EXCHANGE.

I (W. Ch. Raghunayakulu P. Garu, Bobbili, Vizagapatam District) can supply Dallmeyer's Cameras and Lenses; and Watson's Cameras (in about 3 months from receipt of order) at Maker's List prices at **twelve annas a shilling. Terms strictly Cash with order.** Further particulars on application.

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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.

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Entrance Fee, Rs. 5.—Annual Subscription for Resident Members, Rs. 15; for Up-country Members, Rs. 12. Members joining after 30th June pay Half-yearly 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. Lect Park, Locke'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.