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BEGINNER'S HANDBOOK

II

ABRIDGED EDITION

INTRODUCTION.

From no other hobby is so much lasting pleasure obtained as from photography. Quite apart from the interest of photography itself, there are so many ways in which it can be used. Whatever one's aims may be, they are realised to a wonderful degree. If the object in view is the making of souvenirs of one's holidays or travels, a camera as one's constant companion provides pictures affording infinitely more pleasure than any which can be bought. Records — of personal experiences among places and people — which awake endless enjoyable memories. And if one has more serious aims, photography affords scope for artistic expression or contributes to the pursuit of other occupations. Everyone realises the truth of all this, and the question thus arises why it is that many people have not yet taken up photography. The answer is no doubt to be found in the idea that photography is something difficult, calling for much time and patience, before one can be proficient

in it. Yet nothing could be further from the fact. In the following pages it will be seen how easy it really is to take good pictures. Provided that the methods and means recommended in this booklet are adhered to, anyone may take up photography without fear of failure.



THE CAMERA.

It goes without saying that the starting point of photography is the possession of a camera, which is of stand or hand pattern, according to the construction. Yours will be a hand camera, which is the only right choice for you. Stand cameras are inconvenient and heavy; they are used almost only by professional photographers. Whether you choose to use a roll-film or plate camera, it makes no difference, as the different nature of the sensitive material does not affect the quality of the pictures. In any case you will find among the Agfa cameras just the one which is suited to you.

The Speedex Camera

is designed for roll-film. Owing to its simple construction and practical convenience it is the ideal camera for the beginner. On opening the camera, the lens comes of itself into the position of focus, so that the camera is ready for use in an instant. Also other arrangements, such as focussing on near objects and the three fixed lens

stops, are exactly of the utmost simplicity required by a beginner. At the same time the camera comprises all that is required for use in innumerable ways.

If you require a camera of a more elaborate kind, we recommend the

Agfa Standard Cameras.

Among these models you may choose cameras for roll-film or for plates, yet all of them have the same entirely new features.

The Agfa Standard Cameras are distinguished from all other similar models by the greater ease of focussing near objects.

The shutter which carries the lens is arranged in a so-called helical mount, in which the lens is moved to and fro for focussing simply by moving up or down a small lever arranged on the shutter. And then the focussing scale is not placed in the usual awkward position on the camera baseboard, but on the upper edge of the shutter where the scales for distance of the object, lens aperture, and shutter speed can all be seen at a single glance when holding the camera in the ordinary way.

There are four chief parts of every camera :

1. **The lens**, which, so to speak, is the eye of the camera and forms a miniature picture of the subject on the focussing screen or on the sensitive plate or film.

2. **The Shutter**, which serves to open the lens for a certain correctly measured time and then to close it again. Such a so-called instantaneous shutter is also adjustable for various (longer) times. The shutters most suitable for general use are those working between the glasses of a lens and thus known as between-lens or diaphragm shutters. The Agfa Cameras are fitted with shutters of this kind.

3. **The camera**, which really is nothing more than a light-tight closed box, the size of which is chosen according to the focus of the lens and the size of the picture. For practical purposes the box takes the form of the bellows of an "accordion", allowing of being closed compactly or extended to a given distance. It serves the purpose of admitting the rays of light which

come through the lens but no other light of any description.

4. **The Plate-holder**, serving to hold a sensitive dry-plate. In the case of a roll-film camera this part of the outfit does not exist as a separate fitment, since the film is accommodated in the light-tight camera body.

These essential elements of a camera are given very practical shape in the Agfa cameras. Those for use with plates and film-packs are provided with a focussing screen by which the appearance of the picture may be judged. In the case of a roll-film camera the amount of subject included in the picture is judged by means of a finder, conveniently fixed to the camera.

The high speed of the lenses fitted to Agfa cameras enables you as a rule to dispense with the use of a tripod. At the same time subjects which require a longer exposure than $\frac{1}{20}$ of a second must be taken with the camera held perfectly still, otherwise the pictures will be defective from double outlines. In such cases it is of advantage to use a tripod, to which the camera is screwed. The Agfa

tripod is very conveniently carried, as it folds most compactly and is of the utmost rigidity when erected.



THE LENS.

Lenses are simply arrangements of glasses the action of which will be understood from the following experiment.

In full daylight, station yourself somewhere about the middle of a room with an ordinary reading glass (a magnifying or burning glass) in your hand. Take up a position between the window and a sheet of white card, held in the other hand. If, now, you move this card towards or away from the glass, you will notice that at a certain distance a sharp picture of the window appears on the card. The distance depends on the so-called focus of the glass which varies with different glasses. The picture will be upside down, and not very bright, on account of the light falling on the card from all sides. Next, hold the glass nearer to the window; you will then find that

the card requires to be moved further away and that the picture of the window is larger. But if you come further from the window, the picture of it on the card will be formed nearer to the lens and will be smaller. A photographic lens acts in just the same way as the reading glass.

The best lenses are the anastigmats which are made in various forms and supplied under many different names. They are constructed so that all so-called aberrations are removed as a result of which they give pictures sharp to the margins without the use of stops. These lenses thus may be used at their full apertures, and rapid instantaneous exposures made even in dull weather; also portraits in rooms with short exposures.

This is the great advantage of anastigmats over aplanats, with which it is always necessary to stop down more or less in order to get pictures which are sharp all over. With anastigmats, on the other hand, it is only necessary to use stops for the reasons set forth p 13.

So-called landscape lenses, consisting of several cemented glasses,

with a stop in front or behind, are altogether unsuitable for amateur use. They must always be greatly stopped down, and so the user can only take snaps in really bright light.

The lens of the Agfa Standard cameras is the

Agfa Anastigmat.

It belongs to the so-called unsymmetrical uncemented types and consists of three separate glasses of the highest surface. At its full aperture it is of speed ranging from $f/6.3$ to $f/7.7$, according to the size of the picture, and at full aperture gives critical sharpness up to the corners.

Even the Speedex camera is fitted with an anastigmat, viz. the Igetar.



PLATES AND FILMS.

Photographic plates, otherwise dry-plates, are glass plates coated on one side with a thin film of silver bromide embedded in gelatine. When a plate of this kind is put into the camera in place of the focussing screen and the rays of the light from the lens allowed

to act on it for a short time, the silver bromide is strongly affected where the picture is bright (e. g. the sky); less strongly so, in the other parts of the picture, and very slightly or not at all in the shadows. Whilst the support of the sensitive coating in the case of dry plates is glass, with film it is a thin sheet of celluloid.

When you purchase plates or films, see that they bear the trade-mark

Agfa

You will then be sure of getting the best which can be obtained. This great continental photographic firm, however, manufactures many different kinds of plates, which are not all of them suitable for the beginner. The kind which you must get are marked *Agfa Extra-Rapid Plates*. We have particular reasons for recommending these plates to you at the start of your photography.

The contents of the packet are sensitive to light, so that the packet must on no account be opened in

daylight or lamp light. The slightest trace of white light falling on the plates will ruin them. The packet should be opened only in the dark-room in red light.

A plate is put into the dark-slide in the following manner: In the red light, remove the outer wrapping of the box of plates. Then take off the cover of the box; you will then see the wrappings of black paper which contain the plates. Remove one plate and put the rest on one side away from the dark-room light. The plate should be held only by the edges. Fingering of the surface may give rise to spots. Now take a look at the plate, but not too near to the dark-room lamp. One side is plain glass, and the other of matt surface. The matt side is the coated or emulsion side. The plate is now put into the dark-slide (ready to hand) with the matt side towards the shutter, so that the surface faces the light which will come from the lens. Now close the dark-slide, and carefully re-pack the other plates in the box, taking care that the outer plates are arranged with glass, not emulsion, in contact with the

wrapping paper. The box is now again wrapped in paper or tied with string to prevent accidental opening.

When using Agfa roll-films or Agfa film-packs no dark-room is required for loading the camera or the film-pack adapter — a very great advantage in comparison with plates. Your dealer will show you how very simple it is to put the spool of film into the camera or to load the adapter of the film-pack.



TAKING A PHOTOGRAPH.

Before proceeding to take any particular subject you should make yourself entirely conversant with your camera. Practise at leisure the various movements, especially the operation of the shutter. It is a good plan to rehearse the various items of manipulation in their due order, as set forth in brief at the end of this chapter.

When using a plate camera the procedure is as follows:

Set up the camera for this preliminary practice in a room, pointing it

out of the window. You will then be able to see the picture plainly on the ground glass without aid of a focussing cloth. The ground glass must be at a particular distance from the lens, that is to say the camera must be focussed according to the focus of the lens and the distance of the subject. Focussing must always be carefully done on the object or part of the subject which is of chief interest. You will find that, according to the quality of your lens, the picture falls off in sharpness at the edges. You can improve matters by using smaller stops. With good anastigmats, such as the Agfa Anastigmats, and the Igetar, the picture is sharp to the edges without stopping down (see p. 8). But you cannot always dispense with the stops, otherwise you would never get near and distant objects both sharp on the ground glass. All lenses, however made, behave in this way, so that stops are necessary even with the best lenses, since the stop is the only means of overcoming this difficulty. Now arrange the camera so that you obtain the desired picture on the ground glass. In doing this you must take care that the

ground glass is always vertical. If you are photographing houses opposite to you and cannot get the roofs in the picture, you should not attempt to do this by tilting the camera, as this would cause a distortion of the vertical lines, making the houses look as if they were falling together. In such a case you can improve matters by taking up a standpoint further from the houses.

Roll-film cameras are usually not provided with a focussing screen and therefore cannot be handled as just described. In order to obtain sharp pictures these cameras are fitted with special means, among which is the so-called finder. This is a small fitment which shows the picture in miniature, so that you can judge what is included on the film. Moreover the Agfa Standard Cameras are fitted with a so-called direct-vision or frame finder, the use of which is best ascertained from your dealer when buying the camera. But the finder is of no assistance in making sharp pictures. For this purpose a focussing scale is used, which, in the case of the Agfa Standard models, is placed above the

lens mount and is provided with a pointer.

The distance of the subject to be photographed is judged or measured (roughly, one full pace equals one yard), and the pointer is set to the respective number.

Focussing having been completed, the focussing screen (in the case of a plate camera) is removed and the dark-slide put in its place. The shutter of the camera is closed and set to the correct speed and stop, respecting which instruction follows. The shutter of the dark-slide is drawn, and the camera held (for a snap) in the hand as high as possible, at least on a level with the chest, and pressed firmly against the body. The shutter is then operated by a light pressure of the finger on the release. The dark-slide is then closed, and the process repeated for each exposure. With a film camera, after photographing a subject, the film is simply wound on to the next number, when the camera is ready for a fresh exposure. When using film-packs, the next paper tab is pulled out and torn off.

Here we will set out again the series of operations.

A. When using a plate camera with focussing screen:

- (1) Set up the camera.
- (2) Uncover the lens. (Shutter or cap).
- (3) Insert the largest stop.
- (4) Focus on the chief part of the subject.
- (5) Stop down for required sharpness.
- (6) Ascertain the time of exposure from the Agfa Exposure Calculator.
- (7) Close the lens.
- (8) Insert the dark-slide.
- (9) Draw the dark-slide shutter.
- (10) Expose.
- (11) Close and take out the dark-slide.

B. Hand cameras without Focussing Screen:

- (1) Pull down the baseboard and set the focussing scale
- (2) See that the lens is closed and that stop and shutter speed are correctly adjusted. Then set the shutter.
- (3) Ascertain time of exposure from the Agfa Exposure Calculator.

- (4) Insert dark-slide and draw shutter.
- (5) View subject in finder, holding camera straight.
- (6) Operate the shutter.
- (7) Close the dark-slide.

With Film Packs the next operation is:

- (8) Pull the tab, and tear off.

With Film Cameras, the corresponding movement is to turn on the film to the next number.



EXPOSURE.

The great question is now: What exposure shall I give? The success of the picture depends largely on the exposure for the many difficulties in which there is fortunately an excellent solution in the form of the **AGFA EXPOSURE CALCULATOR**.

It goes without saying that the time of exposure must be longer when the lighting is poor. It is necessary to expose longer on a dull day than in sunshine; longer in winter than in summer; and longer early or late in

the day than about noon. The times of day and year and the state of the weather are factors of the greatest importance. Full account is taken of them in the Agfa Exposure Calculator, as also of the character of the subject, speed of the plate or film and aperture of the lens. As regards plate speed, this differs greatly among various makes and grades, and there are various systems of denoting the speed of a plate. That of Scheiner is the one now most commonly used on the Continent whilst in England plates are rated for speed according to the systems of Hurter and Driffield, Watkins and others. The Agfa Extra-Rapid plates which you are using are of extreme speed, and the Agfa roll-film and film-packs are just as fast.

In the Calculator the stop of the lens (relative aperture) is marked as $f/8$, $f/12$, and so on. The weather conditions are provided for by the "light-value". Thus you know all the factors concerned, and are in a position to use the calculator. In order to provide against any chance of error, we will work out an example, so that

you will be able to see whether you are using the calculator correctly.

For exposures by daylight, take the calculator in the hand so that the title "Agfa Exposure Calculator" is uppermost. You will see that on this side there are two cut-out portions in each of which a slide moves up and down. The first thing to do is to find the "relative light-value". In column 4 (down the middle fixed part of the calculator) are the numbers 1-39, marked "relative light-value". If you are working in bright sunlight, but with white clouds in the sky, these numbers are used as they stand. Under other conditions of weather you depart somewhat from them. The degree of difference is found by pushing the left hand slide up a little until the small oblong table "relative light-value" comes into view. You will there see that in bright sunlight, but without clouds in the sky, the light value is less, as shown by column 4; still less, in diffused light, and so on. We will now suppose that you are photographing a landscape with foreground under cloudless sky at 10 a.m. in July. You set the left hand slide with the

lower series of numbers so that "10 a. m." comes opposite "July". Then in the column giving the various plates, read upwards until you come to Extra-Rapid, to the right of which you will see the figure 27 for the relative light-value. But as you are working in sunlight, but with cloudless sky, you must take a figure 2 units less, so that you get the relative light-value 25. Now pull the right hand slide down so that the line "landscape with foreground" comes opposite 25. Next in column 7 (relative aperture) you find the stop, viz. $f/12$, and opposite to it on the left, in column 6, the time of exposure, viz. $\frac{1}{25}$ of a second. That is to say at $f/12$ you will give $\frac{1}{25}$ of a second. But if you think that on account of movement in the subject, a somewhat shorter exposure is necessary, say $\frac{1}{50}$ of a second, you see at once what stop to use, viz. $f/9$. In other words the calculator tells you the time of exposure for any stop and also the stop for any given time of exposure.

Further examples will be found on the envelope of the exposure calculator.

You must not think that this calculator is an aid only to the very beginner. We know many experienced amateurs, who have been doing photography for years, and still always use the calculator. There are other instruments, so-called "photometers", for ascertaining the time of exposure. These are good in their way, but are much too complicated for the beginner, who only adds to his difficulties by using them. The reverse side of the Agfa Exposure Calculator deals with flashlight exposures, but when using flashlight capsules you will not need this calculator.



CHOICE OF STOP.

As regards the stop to be used in taking a picture, the Exposure Calculator does not give any general rule. It only tells what exposure to give with such and such a stop, or what stop to use in order that such and such a exposure shall be correct. But the stop serves other purposes than that of altering the speed of the lens. For one thing, it serves to adjust matters

so that an exposure may be fast enough for the camera to be used in the hand without yielding a blurred picture through shake. For this, the exposure should not be longer than $\frac{1}{20}$ of a second. If more, a beginner cannot be certain of holding the camera sufficiently steady during the time the shutter is open. If, for example, the Calculator tells you that with $f/12$ an exposure of $\frac{1}{10}$ sec. is required, it is necessary to use a stop so much larger than an exposure of $\frac{1}{20}$ sec. will be correct, that is to say a stop of about $f/8$.

With aplanat lenses a small stop is used for getting good definition at the edges and also for depth of focus; with anastigmats, only for the latter purpose (see p. 13).

But it is much more important to get pictures which are properly exposed that to render the subject in biting sharpness up to the extreme corners. In fact, artistically, it is just as well not to get all parts of the subject critically sharp. It is preferable that the sharpness should be chiefly over those parts of the picture of chief interest, e.g. the face in a portrait, and especially the eyes. Therefore at the

start don't worry overmuch about using the different stops, but make it a rule to use $f/12.5$ for landscapes, groups and snaps of street scenes in good light; $f/9$, for flashlight exposures; and the full aperture, whatever it is, for portraits. Later on you can choose the stop more exactly according to special requirements.

A few short hints may now be given on dealing with the chief different kinds of subject.

Among amateurs perhaps the most popular branch of work is Landscape Photography.

Here are six rules:

1. Never take landscapes, if you can help it, on a dull day, but always in direct sunshine.
2. In your first attempts, point the camera so that the sun is behind you and to the right or left in order to get good shadows in the picture. If the sun is straight behind you, the picture will come out flat, owing to the absence of shadows.
3. Never let the sunshine directly into the lens.

4. Never take a landscape simply because of the beauty of the colouring of the foliage. Remember that the photograph renders the shapes of things but not their colours.
5. The distance in a landscape always comes out lighter than the foreground. For this reason avoid taking landscapes in sunshine if the foreground is in shadow.
6. While figures add to the effect of the picture, they must "go" with the subject, otherwise they are better left out. They should never suggest having been put there to be photographed, but should appear to be passing, resting or looking at something — not at the camera.



PORTRAITS AND GROUPS.

Of course you will wish to take photos of your friends; and if you also wish to keep their good will, you must bear in mind the following rules

applying to both portraits and groups:

1. Never take portraits or groups in bright sunshine, but in the shade or by diffused light. And never arrange the subject in a confined situation, e.g. between tall buildings, where the light comes entirely from above. This causes heavy shadows under the eyes, giving the faces a sullen appearance. The lighting should come from the front and side. This is a rule from which only the experienced amateur, for the sake of special effects, should depart. When taking portraits in a room, hang up a sheet or large piece of white paper to act as a reflector of the light and to relieve the shadow side sufficiently.
2. Be sure that the background is not distracting. It should be plain and unobtrusive, e.g. an evenly plastered wall or side of a room. Always arrange the persons some distance in front of the background, which should be out of focus in the photograph.
3. Posing or grouping should be natural and unforced. The effect will be good if representing some

- occupation or action. Sitters should not be looking at the camera.
4. In case of a group, focus on the persons; in that of a portrait, on the eyes; in neither case, on the background.
 5. When using a hand camera fitted with a short focus lens the head (of a single portrait) should not be too large, otherwise it appears unpleasantly distorted. With a quarter-plate camera, the head should measure rather less than $1\frac{1}{2}$ inches.



ARCHITECTURAL SUBJECTS.

1. Take these subjects only by a good light.
2. The sun should be to one side, to obtain proper relief in the picture.
3. Hold the camera perfectly level, otherwise upright lines in the subject will appear to be falling towards each other.

INSTANTANEOUS EXPOSURES.

All kinds of subjects may of course be said to come in this class, but what we have chiefly in mind are street scenes, children at play, figure studies, sports and animal subjects — in short innumerable subjects which make most attractive pictures and require a fairly short shutter exposure.

What has been said in previous chapters applies here also but the following hints are of importance:

- (1) In taking street scenes, never tilt the camera upwards or downwards.
- (2) Never take a position right in the middle of the street: the effect is better if the view shows more of one side than the other.
- (3) Objects (e.g. cyclists) moving across the field of view call for very rapid exposures, especially if fairly near the camera.

The following short table shows you the slower speeds which can be used if sharp pictures are to be obtained.

Sec.

Street scenes, no parts near $\frac{1}{25}$

Street scenes, near at hand	$\frac{1}{50} - \frac{1}{75}$
Street scenes with busy traffic	$\frac{1}{100}$
Children at play or animals at rest	$\frac{1}{25}$
Children or animals in active movement	$\frac{1}{25}$
Cyclist, medium speed	$\frac{1}{100}$
Sports events, fairly distant	$\frac{1}{200} - \frac{1}{500}$
Sports events, at close quarters	$\frac{1}{500} - \frac{1}{1000}$

It is useless to attempt such subjects if the exposure calculator shows that considerably longer exposures than those in the above table are required. Snapshots at $\frac{1}{50}$ sec. or less will not be successful unless taken with a very rapid lens, i. e. with large aperture.



AFTER EXPOSURE.

The making of an exposure closes the first chapter in the production of a photograph. But the change which has been brought about in the sensitive material is not visible. If you look in

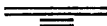
the dark-room in red light at a plate which has been exposed, you cannot see the slightest difference from one not exposed. But there is a latent picture. The exposed silver bromide possesses the property of darkening in a developer, and in this process, naturally enough, a negative picture is produced, since the silver bromide is most strongly darkened in those parts where the action of the light has been strongest.

After development, the silver bromide not affected by light is dissolved away by a fixing bath, so that only a part of the silver bromide in the coating goes to form the negative picture. The negative is then washed and dried, and positive pictures may then be made from it.

There are no difficulties in carrying out all these operations yourself, if you make use of the well-known Agfa preparations for the purpose. Agfa Rodinal is the most suitable developer for the amateur; for the beginner as well as for those of experience. The fixing bath is prepared with Agfa Acid Fixing Salt or Agfa Rapid Fixing

Salt without any trouble at all, and the various kinds of Lupex paper enable good prints to be made even from unsuccessful negatives.

A dark-room is of course necessary for this work. Full particulars of simply fitting it up and of the best equipment are given in the Agfa Photo Handbook.



THE AGFA HANDBOOK

by Dr. M. Andresen

428 pages of text on art paper with numerous striking photographs and tables. Two parts in one volume in attractive binding.

The handbook, on account of its mass of practical information, expert hints and valuable formulas, is an indispensable manual of instruction for the less experienced worker; and the complete novice in photography is able to benefit from the clear and concise way in which the subject is presented.

Some of the Contents:—

Part I: To the Beginner / Historical Development of Photography / Material for Negative making / The sensitive Emulsion / Films / Darkroom / Cameras and Lenses / Tests of Dry plates / Taking a Photograph / Exposure / Development / Fixing and After-Treatment of Negatives / Failures in Negatives / Pictures on Development and Printout Papers / Lantern Slides.

Part. II: Comprehensive technical particular of Agfa plates, films, light-filters, developers, accessories and flashlight requisites.

AGFA BEGINNER'S MANUAL

by Dr. H. Beck

3rd enlarged edition.

This manual is of 99 pages of text on art paper with many illustrations. The book is a condensed and simple guide by which a thorough knowledge of photography may quickly be acquired.

Some of the Contents: —

Photographic apparatus / Lenses / Sensitive Material / Plates and Films / Subjects / Exposure / Choice of stop / Groups / Portraits / Architecture / Instantaneous Exposures / Development / Flashlight photography / Preparation of Prints.



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