

CHAPTER 28

PHOTOGRAPHIC ILLUSTRATION

PHOTOGRAPHIC illustration—pictures or “pics”—have become increasingly important in journalism, as they have in most other fields.

One has only to examine any daily newspaper, large or small, or magazines in any field to see how large a place photographs have in reporting news and in the presentation of feature and information material. Every larger daily newspaper has its own staff of news photographers and dark room technicians and usually its own engraving plant. Smaller dailies maintain smaller departments, while weekly newspapers are not far behind. Some member of a county weekly staff operates a news camera along with his other work, and he may also run the one-man engraving plant.

The farm, trade, or engineering magazine which does not use photographs freely is the exception. Some of the stories in these publications could not be told very satisfactorily without illustration. Women's magazines, garden and home journals, and similar publications long ago joined the procession, and picture magazines like *Life* have become notable successes.

One of the authors of this text, with the aid of a class in technical journalism at Ohio State University, made a study of the use of photographs for illustrations in a single issue of each of a wide variety of magazines found on news stands. The results were originally presented at a meeting of the American Association of Teachers of Journalism.

Every one of the thirty-five magazines examined carried photographic illustration, both in editorial matter and in advertising.

The number of such illustrations used in connection with editorial matter in the one issue ranged from 14 in *Collier's Weekly* to 313 in *Popular Science*. The issue of *Life* contained 250; *Ladies Home Journal*, 48; *Better Homes and Gardens*, 133; *Womans' Home Companion*,

33; *Farm Journal*, 55; *Country Gentleman*, 34. The average number for the thirty-five publications was 98.

In the advertisements the number of photographic illustrations averaged 117 per magazine. The number ranged from 21 in *Liberty Magazine* to 269 in *House Beautiful*. Advertisements in *Vogue* carried 225; *Good Housekeeping*, 210; *Saturday Evening Post*, 107; *Esquire*, 132; *Woman's Home Companion*, 164; *Cosmopolitan*, 138; *Life*, 55; *Time*, 167.

About a third of the publications studied use author-made photographs if they have quality, but most of them seem to prefer photographs taken by staff photographers. The photographs used in advertisements are almost wholly made by commercial photographers.

A similar study was made of forty periodicals in December, 1941, nearly all technical and trade journals. Mainly November numbers were chosen. A check was also made of the total number of pages in each issue examined. The trade or technical publications studied are sold by subscription and can be found only in public libraries or on the desks of people directly interested in them. They were selected from a rather wide field that includes different branches of agriculture, home and garden, professional home economics, engineering, and industry.

The results of this second study are as follows:

USE OF PHOTOGRAPHIC ILLUSTRATIONS IN TECHNICAL AND TRADE JOURNALS

Magazine	Photos in Editorial	Photos in Ads	No. Pages in Issue
American Builder	83	97	116
American Chemical Society, News Edition	79	123	154
American Dyestuff Reporter	51	11	52
American Exporter	44	91	92
American Lumberman	53	64	90
American Miller	31	54	100
Architectural Record	99	138	144
Automotive Industries	48	57	96
Better Fruits	10	6	16
Better Homes and Gardens	157	110	140
Brick and Clay Record	63	52	58
Chester White Journal	24	6	28
Coast Artillery Journal	30	...	110
Compressed Air Magazine	46	46	72

Magazine	Photos in Editorial	Photos in Ads	No. Pages in Issue
Coal Age.....	71	89	128
Concrete Highways (Portland Cement Association)	39	...	16
Country Gentleman.....	65	56	84
Electrical Merchandising.....	114	34	84
Engineering News-Record.....	40	150	168
Farm Implement News.....	31	43	64
Field and Stream.....	78	47	96
Florists' Review.....	10	46	96
Flower Grower.....	52	39	48
Forecast for Home Economics.....	32	30	72
Hoard's Dairyman.....	16	15	24
Holstein-Friesian World.....	133	100	74
Hygiea.....	24	28	80
Ice Cream Journal.....	182	38	68
Industrial & Engineering Chemistry (Industrial Edition).....	68	92	210
Iron Age.....	42	124	190
Men's Wear.....	88	33	120
National Provisioner.....	13	25	42
Practical Home Economics.....	29	47	48
Progressive Farmer (Texas Edition).....	61	53	66
Railway Age.....	9	43	84
Seed World.....	28	47	48
Successful Farming.....	57	78	88
Sugar.....	9	23	48
The Timberman.....	86	64	112
What's New in Home Economics.....	27	82	158
Total.....	2,195	2,303	
Average.....	55	58	

The importance of the fact that these periodicals use an average of 55 pictures in an issue to illustrate their news, information, and article material and that advertisers make use of an average of 58 pictures an issue, is plain. A number of them are the types of magazines to which technical journalism students may make application for jobs after they are graduated. Many of them are the magazines to which they may contribute as students and particularly later when they are in some work in which they have an opportunity to write.

The second study, made four years later than the first at about the same time of year, indicates that there has been no essential change in the period, except that perhaps still more pictures were being used.

It would be valuable if students in each succeeding class in journalism were to make similar studies of current issues of both newspapers and magazines. It would enable them to determine whether pictures are to be more widely used or less, as time goes on.

It must be clear that good photographs for the illustration of a feature article are quite essential if it is to be sold readily and to best advantage. No matter how important a story may be, nor how excellently it may be written, it is seriously lacking in sales value at least if pictures that are put do not accompany it. An editor or an art director may sometimes take time and trouble to secure the desired photographs himself if an author does not submit them, but usually he will not do so. Too much difficulty and delay are involved in getting suitable photographs made in distant places by photographers who are likely to be mediocre or worse. Therefore the manuscript without photographs is quite likely to be rejected and some other article with photographs accepted.

Of course, there are articles both short and of feature length, whose subject matter is more satisfactorily illustrated with drawings. That is true of articles that deal with plans of buildings and of construction work, designs of mechanical equipment, illustrations on how to do this or that, and the like; or articles which call for the work of an artist, who with pencil, pen or brush will provide the kind of imaginative illustration that is demanded. The author may be in the best situation to provide either rough sketches or finished drawings for the first-named class of manuscripts; the editor will rely upon artists of his own selection for the latter.

Sources of photographs: Newspapers depend mainly upon their own resources in getting pictures of news events and news features in their immediate territory. Staff news photographers, with the help at times of reporters who use a camera, cover sports events, fires, accidents, crime, more important conventions and meetings, noted visitors, and other spot news events. These staff photographers constantly make other pictures wanted for illustration of features.

On some dailies, reporters who handle specialized departments or who travel on distant assignments carry a camera and take their own pictures. Thus often the farm editor on a field trip will do his own photography to illustrate his stories.

Both smaller and larger dailies are likely to subscribe to one or more of the news picture syndicate services, which secure pictures from all over the world. Pictures are also supplied to newspapers by mat and engraving services.

Newspapers get a constant flow of pictures from publicity services of many kinds. These include governmental agencies, colleges and universities, industrial and commercial establishments, and advertising agencies. Out-of-town correspondents, free-lance photographers, and private individuals offer many pictures to newspapers.

Some magazines have practically all their photographs made for them by commercial photographers. This is especially true of fashion magazines. Illustrations for articles in other publications which deal with clothes, household equipment, table settings and decorations, architectural subjects, furniture, and interior decoration are also supplied mainly by commercial photographers. Engineering and technical journals may arrange to have commercial photographers make pictures of construction, plant interiors, and equipment.

There are commercial photographers, mainly in larger cities such as New York, Philadelphia, Chicago, and Los Angeles who maintain large studios, with expensive equipment of all kinds and who have models who can pose for almost any kind of picture under the sun. Some of these specialize in certain types of work, as fashions, advertising, color work, and the like.

Art editors sometimes arrange for their pictures a year in advance, where timely outdoor settings or certain flowers in bloom, are necessary. Indoor pictures are often taken from four to six months in advance.

In some editorial offices the members of the departmental staff and the art editor prepare the "set-up" they want photographed. This may be a Thanksgiving dinner table, a decorated Christmas tree, a furnished room, or a June bride's breakfast. The set-up is criticized and changed until everybody is satisfied. A photog-

rapher may be called in to make the picture, or the set-up may be taken down and moved to a photographer's studio. Pictures for national advertising layouts are often planned and posed in about the same way.

At times a magazine may send a commercial photographer on a long trip to get special pictures at some location. In other instances, where pictures must be taken some distance away, a local commercial photographer may be employed, but there is always the chance that he may not have the important "news sense" in photography. Some commercial photographers specialize in certain types of work, such as farm photography, and they are much more likely to supply what an editor needs.

Members of editorial staffs often carry cameras on their assignments and take their own pictures. This is true of the staffs of most farm papers and of a good many trade and class magazines which feature spot news and news features. A good many editors now require that a new man added to the staff be able to take pictures. Not so many women on editorial staffs take pictures.

Aside from these sources, magazines sometimes get pictures from contributors, offered with articles.

How the free-lance writer gets pictures: If the free-lance or occasional writer has a camera and knows how to use it, his problem of furnishing photographs to illustrate his articles is pretty well taken care of. However, he is not always that fortunate, and then he must turn to other sources.

First, he may often secure good photographs from the men and women from whom he gets the story. More and more those who, through research and experimentation and as active participants in important projects, help to make the news, also make photographs of what they have done. College scientists, men and women in extension work, county agents, vocational teachers, women in field work of all kinds, engineering fieldmen and foremen, construction engineers—to mention a few—find that photography is important to them, and they equip themselves to make photographs. The writer may usually get their cooperation and draw upon their file of prints or negatives.

Many commercial and industrial firms have files of photographs

which are available. Manufacturers of all sorts of machinery and equipment, wholesale seed growers, nurseries, purebred livestock men, railroad agricultural and development departments, chambers of commerce, branch implement houses, large farm organizations, and fairs and expositions are typical sources of pictures. Many business and industrial firms, organizations, and associations have publicity departments which furnish photographs as well as information. For instance, the Portland Cement Association can supply pictures illustrating uses of cement on the farm, and in home and engineering construction.

Another fertile source of photographs is the United States Government. Its various branches have many thousands of pictures of all kinds of subjects. For many writers, the best source is the United States Department of Agriculture, which must have hundreds of thousands of negatives on file, dealing with every important activity of this organization. Most of these photographs are in Washington, but others can be secured from regional and field offices, though often permission to use them must be secured from a bureau chief in Washington. The Soil Conservation Service has had photographers attached to regional offices, with equipment and laboratories, and they have thousands of pictures on file for use of the press. Some of the best photography in America in recent years has been done by the Farm Security Administration.

Somewhere, somebody in the Government has pictures of almost everything under the sun.

Colleges and universities usually have photographers who keep files of pictures that are available to writers. This is especially true in agriculture, home economics, and engineering. One of the best collections of available farm and home photographs in America can be found at Purdue University. There is also a large and valuable file at Iowa State College. Some striking pictures in the modern manner can be obtained from Montana State College and Oregon State College.

Many commercial photographers maintain extensive files of pictures, dealing with every conceivable subject and taken in every land under the sun. One such concern advertises that it has on hand more than 100,000 negatives. Their prices are reasonable

if you do not ask for exclusive rights to the use of pictures which you choose. Exclusive rights, however, are not unreasonable.

If you take your own pictures: It is impossible here to discuss in great detail how to take pictures to illustrate news, informational, and feature articles. To the student of photography many manuals are available. A number of colleges and universities now offer instruction in photography, and a student in technical journalism should register for such a course if at all possible.

If you are planning to take your own pictures, keep in mind that photography requires knowledge of three kinds:

You need a working knowledge of some of the laws of physics, for lenses, exposure, shutters, focusing, and so on are based on those laws.

You need a practical understanding of chemistry, for papers, films, emulsion, developing, and printing have to do with chemistry.

Finally, photography is in itself an art. Knowing what to take, what to include, composition, distances, angles, points of view and the like involve principles of art. Putting in the film and pressing the button are only minor details.

Cameras*: Whether the student or writer buys a new camera or a used camera, the best place to buy is from a reliable photo equipment and supply dealer who is prepared to give expert advice and repair service. If you buy through your local dealer you can come to a better understanding with him, and responsibility for the item purchased is more satisfactorily fixed. You will feel more free to call for help from the man who sold you your equipment, and he will be more willing to give it.

The one best camera for all-round press use is the "Speed Graphic." It is used in making probably 90 per cent of all present-day newspaper pictures and a large share of pictures in farm and trade magazines of news and news-feature type. This camera is equipped with two shutters, one of the between-the-lens type and the other a focal plane shutter. It has a long bellows extension which will enable the taking of close-up pictures. It is especially

*When priorities rule in industry and trade, equipment is not readily purchased, and that is the condition at the time this is *written*.

suited for action and motion shots, with a focal plane shutter which will work as fast as one-thousandth of a second.

When a Speed Graphic is equipped with flashlight attachment, it will take many kinds of indoor and dim light shots. Most photographers now have their Graphics also equipped with a coupled range finder, which makes focusing more rapid and more accurate.

For farm, garden, trade, and engineering photography outdoors, a Graflex camera is preferred by some photographers. This differs from the Graphic in that it has reflex focusing. Mirrors reflect the image you want to photograph onto a ground glass which you see as you look down into a hood on top of the camera, as you hold it in your hands. Thus whatever you see on the ground glass as you make the exposure as to composition and focusing is exactly what you will have on the film when developed. It has the same focal plane shutter as the Graphic.

A Graflex lends itself to making pictures with good composition. Because the object to be photographed can be followed on the ground glass and focusing changed as needed, it is ideal for informal pictures of livestock, pets, children and people generally. When equipped with a lens of sufficient focal length and bellows extension, it is a good camera with which to make closeup pictures which will show details. For example it lends itself to making a good negative of insect damage to a plant, a new vegetable, a part of a machine, a construction detail, a bird on a nest, a method of doing something such as sowing flower seeds, on any closeup needed. A Graflex can be equipped with a flashlight synchronizer.

The Graflex is made in a number of types and sizes. For general press illustration work, the Series D is best. For photographs of small objects and close-up pictures of such details as may be wanted in technical and scientific work, the Auto Graflex is ideal. Both of these have revolving backs. Lenses of various focal lengths and types can be used.

Some experienced magazine reporters carry both a Speed Graphic and a Graflex, especially if they are to make a long trip on which a wide variety of pictures must be taken. The most widely used size at present for both Graphic and Graflex is the $3\frac{1}{4} \times 4\frac{1}{4}$, though with the Graphic the smaller $2\frac{1}{4} \times 3\frac{1}{4}$ size has

become popular in recent years. If both of these types of cameras are used, they should be the same size so that the same films and film carriers can be used for either one. Different focal length lenses should be selected for each, with the shorter length for the Graphic and the longer length for the Graflex.

Newspaper photographers usually have their films in film holders, each of which carries two films. For a writer who goes on an extended trip, a cut film magazine, preferably one which holds a dozen films, is much better. Several magazines can be carried along, to provide plenty of films for each day's work.

For photography in various technical fields and where views, architectural pictures, interiors, and elaborate machinery or equipment are to be photographed, a view camera is usually preferred and at times is necessary. A good view camera has a rising, falling, and side movement front, and a back which can be racked back and forth. These features make it possible to take pictures under many difficult situations and conditions. A tripod is necessary and focusing is done on a ground glass under a black cloth. Several lenses are needed for various uses, such as a wide angle lens for certain architectural and interior work. The most commonly used sizes are 5 x 7 and 8 x 10, though some experienced photographers work with a $3\frac{1}{4} \times 4\frac{1}{4}$ or 4 x 5.

From the standpoint of the student or the beginning writer who does not wish to make too large an investment, there is a small view or folding box camera that can be recommended. Various makes of these numbers have been on the market, practically identical in essential features. The Recomar of the Eastman Kodak Company is illustrative of this type. It is usually fitted with a fairly fast, good lens, generally an f. 4.5, with double extension bellows to permit close-up work and a ground glass for tripod use. They can be fitted with a flashlight synchronizer and a coupled range finder. These were manufactured abroad and at present may be hard to obtain.

The folding pocket camera, widely used by amateurs, if of the "super type," with sufficiently fast lens and fast shutter, has its uses. One that can be carried in a brief case or coat pocket or

which a woman reporter might carry in her pocketbook, comes handy for field work or emergencies.

In recent years, the so-called miniature camera, using 35 millimeter film, has been quite popular. While it has its uses for the writer, it is not the best type to buy for regular work. A miniature camera can be bought in models ranging in cost anywhere from around \$10 up to several hundred dollars. Any of these can be used for black and white pictures and do equally well for natural color Kodachrome film.

Either the small folding camera or a 35 mm. one would be valuable as extra equipment for taking pictures in the field or on a job where it would be hard or impossible to get pictures with a larger sized camera. The small negatives can be enlarged—"blown up" is the photographer's term—to make a larger sized print. Such enlargements can often be used to illustrate news and trade articles though they are for the most part not so good as prints made from a larger film. You will find, too, that some magazines will not accept such enlargements from small films for any purpose. Larger black and white prints can also be made from Kodachromes.

To sum up, get the best camera you can afford for the work you have to do. Many times excellent work can be done with an inexpensive camera—even with an amateur box or folding one costing only a few dollars—if you understand it, know its limitations, and do not try to do something with it beyond its limitations.

Equipment to help avoid errors: Good photography demands the use of various kinds of supplementary equipment in addition to the camera itself. The beginner sometimes finds it hard to understand what all of these so-called gadgets are for. What this equipment consists of can best be explained in terms of some of the common errors and faults of picture making and of some of the handicaps. This supplementary equipment has been designed to help the photographer overcome both faults and handicaps and also to increase the range of usefulness of any given camera.

1. One common fault in photography is that *pictures are not in focus* and consequently not sharp and clear, when they have not

been made with a camera which permits focusing upon a ground glass. Most cameras are provided with a scale which tells you where to set the lens to give correct focus for different distances. This may not be accurate with cheaper cameras. If you want to be sure, you must measure the distance from the object to the camera. This is especially true when working at short distances, or with the lens aperture wide open when even a slight error means a blurred focus.

This error, or the extra trouble taken to avoid it, can be eliminated by buying a camera equipped with a coupled range finder which enables you to do your focusing automatically. Most of the better cameras can be equipped with such a coupled range finder, of which there are various types. One type, which illustrates the idea, shows two images as you look through the finder. You adjust until the two images have merged to coincide as one. When you have done this, the lens has been set automatically to the right focus. Such a focus is even more accurate than with a ground glass.

2. A second common fault is *wrong exposure*—either too much or too little. If the negative is over-exposed, too much light was admitted; and if under-exposed, too little light was admitted. Exposure depends upon three factors—the speed of the film, the aperture opening which admits light, and the speed at which the shutter operates.

The speed of the film is expressed by an arbitrary figure which is used to state the rate at which a given amount of light will act upon the film to form the latent image. So this particular angle can be governed by the film being used. If you are to make pictures outdoors in good sunlight, a slower film may be more suitable. But if pictures are to be made under dim light or to be indoor flashlights of action, you will want the fastest film you can obtain. In recent years, much faster films have been developed for use of press photography. For most news and magazine news feature work, the two most valuable films are Super Ortho Press and Super Panchro Press. These are Eastman trade names. Other firms have equivalent films under other names.

Apart from use of wrong film, wrong exposure is due either to

improper setting of the shutter or wrong aperture opening and often to wrong setting for both. If you do not understand the principles governing these two matters, information may be found in the sources which will be listed later in this chapter.

The two settings which must be made in order to admit the amount of light needed to make a correct exposure depend upon a number of conditions. These are the brightness of the sun, the kind of clouds, state of atmosphere, time of day, season of year, location or altitude—as mountain top or seashore—glare from nearby mass and the background. It varies, too, as between a close-up and a distant panorama.

If pictures are to be taken of moving objects such as machinery in motion or of flowers or shrubbery when a stiff wind is blowing, the shutter must be set to operate at a fast speed to avoid blur. Sometimes it is necessary to stop down the aperture to a small opening in order that depth of focus is increased—that is, that parts of the picture near the camera and other parts farther away are both sharply in focus. This in turn requires that the shutter which controls admission of light be operated more slowly in order to admit sufficient light through the small aperture.

To put it in a way that anyone can understand, correct exposure for any one photograph is a complicated matter. Most black and white films have a wide latitude or range, so even if the exposure is not correct a satisfactory picture will still be obtained.

The modern way to overcome these various difficulties is to take the guess-work out of it by careful use of a light meter. This measures the amount of light available for making the exposure and enables you to make a quick determination of setting for shutter and lens aperture.

There are various kinds of exposure meters. The best of these is one which utilizes a photoelectric cell to measure the light conditions. The Weston, available in several types, is the most widely used, although the General Electric is also standard and of excellent efficiency. There are other makes selling for less which are serviceable. If you possess a photoelectric exposure meter, and learn to understand it and then use it correctly, much of your exposure difficulties will be overcome. There are other kinds of meters and exposure guides, any of which will be of help.

3. Sometimes your *pictures are blurred*. This may be due to taking an object in motion that is moving faster than your lens shutter can "stop" it; that is, make the exposure in sufficiently short a time that the object seems to be still. This can often be corrected by using a faster shutter speed or by taking the picture from an angle. A moving object coming toward or away from the camera can often be photographed sharply, when if taken as it moves directly across the front of the camera, the image will be blurred.

Just as likely though, the picture is blurred because the photographer did not hold the camera steady as the exposure was made. One safe way to avoid this is to use the camera on a tripod. So an experienced photographer carries a tripod suitable to his camera as part of the equipment. If, however, the picture must be taken while the camera is held in the hand, it should be held just as steadily as possible.

To take a picture, stand firmly with one foot ahead of the other. If using a camera at body level, as a Graflex, hold it firmly with both hands and with your elbows against your body. If using a camera at eye level, use your arms and elbows as braces against the body. If you are using a small folding camera or miniature camera, the straps of the carrying case may help to hold it firm. Whatever the camera, do not breathe at the instant the exposure is made.

4. A fourth error is *under-exposure* which is due to taking a picture where there is insufficient light, even when the camera is used at its maximum limits. This handicap can be overcome by use of a flashlight or photoflash bulb to provide the necessary illumination. Practically all present-day press photographers utilize flashlights and in most cases with equipment which permits the flash to synchronize with the exposure; making the exposure also sets off the flashlight.

Flashlights are used for night photography, for indoor photography at any time, and for outdoors when light is dim. Sometimes, too, in bright sunlight outdoors, where part of the object to be photographed is in shadow, an even lighting over the whole can be obtained by a flashlight. With flashlights, you can get pictures at a meeting indoors or at night; you can take pictures inside

a barn, a mine, or a tunnel. One technical journalism student specializing in wildlife conservation, recently took a flashlight picture of a vulture on its nest in a cave, which he used to illustrate an article that was printed in an outdoor magazine.

5. A fifth reason for failing to get the kind of picture you want is that your *lens is not sufficiently versatile* to meet all conditions. There are three types of supplementary equipment for the lens which will widen its versatility and make possible better negatives. First is a lens hood or shade which cuts off extra, unnecessary light. Second is a color filter which aids in cutting through haze and, by filtering the light rays to admit the light elements you need, permits better recording of objects with color in them. The third is a portrait lens which fits over your camera lens. This makes possible the photographing of objects closer than otherwise possible.

6. A sixth cause of poor pictures is due to *dirt or dust on the lens or film*. This often causes little spots on your finished print. Lens paper of the type which is sold by photo supply stores should be used for cleaning the lens; it will not scratch.

Again, your negative may be streaked or clouded because light is getting in through a hole. This demands repair at once. It is advisable to have a good carrying case to protect the camera from dust and hard knocks. If anything goes wrong with your camera, take it to your dealer for repair or for returning to the factory for repair and adjustment.

7. A seventh kind of trouble is double-barreled—*negatives often become scratched or damaged*, and you cannot always find them readily when you want them. Both these matters can be avoided by having a proper system for filing negatives.

Negatives should be put in regular envelopes made for the purpose. They can be bought from a camera store or paper supply house. Work out a system of classifying negatives. Some system similar to a library book classification will be excellent. Data required should be put on the outside of the envelope. It is a good idea to have a serial number for each negative. Negatives should be filed away in filing cabinets of correct size. Such a file of negatives becomes increasingly valuable as it grows.

Helpful hints to beginners: Except for small cameras, cut film is cheaper and preferable to rolls or filmpacks. Do not allow your loaded camera or your film supply to lie in direct sunlight or where there is excessive heat. The shelf just inside the rear window of your car, where the sun can shine through, is absolutely the wrong place. Never leave a camera alone for a minute in any spot where it can be picked up by a thief. If you leave it in your locked car, the back trunk is best. If it is left inside the locked car, throw something, such as a raincoat or blanket, over it casually so that a thief will not know anything of value is there.

In taking pictures, always make a record of the exposure at the time it is made. A little end-opening notebook of $2\frac{1}{4} \times 4\frac{1}{4}$ size is handy for this, for it will go into a vest pocket, outside coat pocket or summer shirt pocket. Be sure to get the correct names of persons in a picture who will have to be identified later.

You will find that it is both economical and advantageous to do your own developing and printing, if possible. Most newspaper photographers, and many others as well, do their own work. This, of course, requires suitable equipment and a darkroom. It also takes knowledge and skill that come only from study and long experience.

Information and literature: Before you can make much headway with your photography, thorough study is necessary. If you are a beginner, the first thing to read and master is the manual which comes with your camera. The hand book which comes with a Graflex or Speed Graphic is valuable, and so is the booklet which accompanies your Weston exposure meter. A handy textbook for the beginner is "How to Make Good Pictures," published by the Eastman Kodak Company and sold at photo supply stores for around 50 cents. New editions are issued frequently. This is sold especially for the amateur.

The Eastman Kodak Company has many bulletins and manuals dealing with special subjects in connection with photography. These are usually found on sale at camera supply stores. Some of the most important of these are now published together in a loose-leaf book entitled "Kodak Reference Handbook." It deals with lenses, films, filters, Kodachrome, print papers, darkrooms, develop-

ment, formulas, copying, slides, and transparencies. It sells for \$2.75. This is the most valuable single volume that a serious photographer could buy.

An Eastman leaflet on farm photography issued for use of 4-H clubs and vocational agriculture students may still be available. There are other Eastman booklets available for special types of scientific and other photography. One entitled "Photography and Law Enforcement" contains information on photographing bullet marks, fingerprints and traffic accidents that has helpful hints for similar detail work in other fields.

A textbook of long standing which is one of the best available is the U.S. Army Air Corps manual of basic photography. This was issued in a new and revised edition in 1941, and is a book of 342 pages. It covers almost the entire range of subjects dealing with photography, including chemistry, physics, negative developing, print making, enlarging, copying, color photography, slide making, and other angles. This is recommended by the visual education specialists of the U.S. Department of Agriculture for extension workers who take pictures. The correct title is "Basic Photography": War Department, Technical Manual TM 1-219. It can be purchased from the Superintendent of Documents, Washington, D. C., for 35 cents a copy.

If you have a Graflex or Graphic, then "Graphic-Graflex photography" by Morgan and Lester offers the best information for you. There are a number of general comprehensive texts.

Of the magazines, *American Photography* and *Camera* are best. *News Pictures* is published by the News Photographers' Association.

What pictures to get: It is a waste of effort for the average writer of articles to attempt to make pictures of the type made by a commercial photographer in a large studio. These involve the use of special and expensive equipment, background, costumes, accessories, models, lighting effects, and other items far beyond the reach of the author. This also applies to interior pictures of furniture, decoration, table setting, and architectural details which, while photographed on the spot, must be done with perfect artistry and technical skill.

It is not good policy to employ a local commercial photographer

and have him make special pictures for your article at considerable expense unless you have already queried the editor and know that he wants them. In such a case, it is good judgment to submit the article first, along with any available pictures, and tell him that you can arrange to have more suitable pictures made. If the editor wants the article and the pictures, he can give you instructions.

Some writers, however, will often take their own pictures as a matter of record and submit these with an article to help make clear to the editor what can be obtained by a commercial or staff photographer in case they should be wanted. A writer might thus submit pictures of a house, a garden, an interior decoration scheme, a table setting, or a construction job. Such pictures would guide the editor.

The household editor of a national farm magazine sometimes asks writers to send her objects described in an article. This would apply to a child's garment, a hooked rug with a unique pattern, a handicraft article, a pillow cover or party costume, and similar objects. She has the object photographed, then returns it to the writer.

If, however, the picture to take is one of a spot news event, which is happening while you are on the ground and cannot be obtained later, take it regardless of what it is. Or it may be that you come across the picture situation on a trip and it would not be possible for anyone to obtain it later: then take it. Do the best you can. It may be that the editor will have to depend upon what you secure, or do without.

Of the pictures you can get, one of the most useful is of people who are in the news or who are a part of the informational material of which you are to write. Most magazines, as well as newspapers, want pictures of people. You can get pictures of new officers elected at a convention or meeting, of livestock men on a tour, of women attending an extension school, of the engineer in charge of building a super-highway, of a scientist who has just completed some important research work, or of the 4-H club youngster who has just won some honor. Never forget that there are people who

are connected with practically every story you have to write, in one way or another.

There are times and situations when the editor can use only a formal, posed portrait. Often this type of picture is already available from a studio. But in other instances, editors frown on such a picture. So frequently when you take pictures of people, you will want to avoid getting what is known as a "mug" shot. For example, if you are to photograph a farmer, you do not want him in his Sunday clothes, standing stiffly in front of the house. Nor is a picture of the whole family, all dressed up, and lined up in a row, usually the best picture to get.

The picture that is generally the most usable is informal, seemingly unposed, and with action or human interest appeal. Photograph a farmer on his tractor, with a tool in his hand, or in any typical setting. Get his picture as he feeds the stock, as he stands in the barnyard or corral, as he feeds the silage cutter, or as he is mounting his saddle horse.

If your story is about some farm crop, the picture might well show action as well as the crop. The farmer may be shocking his certified oats, digging sweet potatoes, or setting out cabbage plants. He might be cultivating, dusting, or spraying. A picture of any of these types which includes a farmer in his work clothes and in action is worth a dozen stilted, formal portrayals.

If the picture of a farm woman or girl is to be made, follow the same idea. Photograph the housewife as she works at her kitchen table or gathers vegetables in the garden. A picture of a 4-H club girl who is feeding her calf or currying it is better than a stilted one of her standing by its head and doing nothing but looking pretty. If the picture is of a girl picking strawberries, she should be down on her knees with a basket of berries but looking up and smiling. To get a good picture of the wife of a migrant farm laborer who lives in a tent, have her peeling potatoes in the tent doorway or hanging up the washing outside.

There are some types of formal engineering and architectural and scientific pictures of a technical nature which should not be made with people in them. But many other pictures of news or

news feature character in the trade and engineering field can and should be made with people, just as farm pictures are. Action pictures of men at work on a job give human interest. If your picture is of the head engineer in charge, get him as he stands beside a wall or piece of equipment with a blueprint in his hand.

An informal picture is best when the person being photographed is in his or her work clothes and in usual surroundings. If the atmosphere or setting is one of cheerful circumstances, a picture with a grin or a smile will help. But if it is one of anxiety, discouragement, or despair, try to mirror that, or whatever might be the mood, in the faces of your subjects.

Next to people, the pictures that the average writer can get is one of buildings, structures, machinery, and equipment of average size. It is fairly easy to get usable shots of farm homes, barns, and other farm structures, and also of city residences. This also applies to pictures of smaller dams, bridges, highways, factories, shops, and store interiors. Farm field and crop scenes and engineering construction in progress are other types. You can easily get pictures of smaller things such as a bird house, a shelter for poultry, a farm implement, the seed frame of an amateur gardener, a bit of equipment, or in fact any simple device or appliance that would illustrate a story.

Advice to beginners: In taking informal pictures of people, it is often best to talk freely with your subject as you prepare to make the exposure. Some arrangement and posing are usually necessary. If you can explain what you are doing as this proceeds, so that the subject is at ease and forgets that a picture is to be taken, it may avoid a stilted effect. With children, let them look through your camera and explain how it works before you begin. Have them tell you what they are doing. If the picture can be snapped at an instant when the subject doesn't realize what is happening, a better effect is often secured.

Livestock photography is one that presents difficulty. The breed papers and some livestock journals have for years used a set, formal sort of picture, often taken with the animal in a stiff pose and standing with straw spread about its feet. Sales catalogs and livestock advertising often use this same type of photograph. If you

do need this sort, better get it from a commercial livestock photographer if you can. A special skill is needed for this type of picture and it is hard for an inexperienced photographer to get the right result.

Farm papers, however, have been getting away from this sort of picture. The national papers, especially, no longer make use of them. The editor of one important publication refuses to use the photograph of any farm animal which has its feet covered with straw. Editors want pictures of animals that have some life and interest in them.

A good livestock picture shows an animal in a pasture, feed lot, or corral, in a natural pose. It may be led or held with a halter, providing this is being done naturally and does not give the effect of awkward posing. Often a suitable background will add quality to the picture. This may be a corral fence, some trees, a hillside, a distant mountain or even the side of a building.

If it is a scene of animals feeding, it may take quite a while before they can be maneuvered into a suitable location or post. This must be done quietly, so as not to alarm them and is best done by their usual attendant. In photographing cattle or sheep on the range, or that recently came from the range, and not accustomed to strangers, it may be necessary to approach them on horseback or in a flivver, whichever has been used for range herding. It takes long practice and much patience to get acceptable pictures of this sort and of any livestock in fact.

In photographing buildings, landscape and garden features, dams, bridges, and highways, often the only way to get in all that you want and yet not be too far away, is to photograph your object from an angle. Avoid getting distortion in your picture, however. Also set your lens aperture to get correct depth of focus, so that portions nearest the camera as well as those farthest away will both be sufficiently sharp. A view camera on a tripod or a Graflex camera will prove best here.

At other times, it will make a better picture if the photographer can get on a different plane from the object being photographed. In some cases, this may mean getting down on one's knees and aiming the camera upward. In other instances, it means getting

higher up, standing on a gate or fence. It may mean getting on top of a barn, haystack, watertower, scaffolding, or other nearby structure or perhaps climbing a tree. Often the top of an auto, truck, or piece of equipment will suffice. Some photographers carry a stepladder along as standard equipment.

Inexperienced photographers often attempt to include too much in their pictures. The officers or main speakers, rather than the whole convention or banquet, may be much better. If the picture is of a field crop, a view of the whole field may be all right. But many times, a closeup of just one or a few shocks or stalks, with the rest of the field simply as background, will much better illustrate the point. If the story is of a farm gate, just get the gate and not all the rest of the fence. If the story is of the latch on the gate, get a close-up of the latch, not the whole gate.

The experienced photographer is always looking for close-up shots. This may be of an appliance, of the hands of a man or woman doing the work, of a plow digging into the sod, of one insect on a damaged twig, of a few bricks in a wall, of the end of a beam—or whatever the detail is, that will best illustrate the idea to be conveyed.

If there is any question as to the best picture to take, it is better to make several exposures and have too many pictures, rather than to find after it is too late that you do not have enough, or that you made the wrong one. If the picture is important, take both closeups and distant view shots. Get it from various angles and both with and without people in it, if possible. A good motto is to keep shooting as long as the parade is going by. A collection of varied pictures will give the editor a chance to select the one that he deems best suited to his needs.

A veteran magazine writer with years of experience in taking pictures says that sometimes he knows that the one picture he has taken is exactly the right one and has been taken exactly right. That is the time, if it is important, that he makes another duplicate exposure of the same thing. There is always the chance that the perfect negative may be injured in developing, so the duplicate is insurance against such.

Often a picture can be improved by a little attention to details.

A weed in the foreground can first be pulled. If there are boards lying in a barnyard, an implement standing where it hides something, or empty cement sacks or tar barrels beside the new highway, these can be removed. A mow door can be closed. If it is an indoor picture, furniture can be rearranged a bit, pictures on the wall changed, or other details shifted to make a better effect.

A feed bunk may be filled so the cattle or sheep will come up and be eating. You can wait until the truck is about loaded or until the moving bucket on the cable reaches a good spot. You can wait until the combine gets around to the other side of the field where you can take best advantage of light condition. If the picture is of a new highway, wait until the old flivver gets around the bend.

Background is one of the most important factors in getting good pictures. In most cases you have to make best use of whatever is available. This may be a hillside, woods, shrub hedge, or side of a building. One farm paper not long ago wished to take a farmyard scene in color for use as a cover page. The paper went to the expense of paying for the re-painting of the barn in a color that would lend itself to the color photography and provide the background for the central object in the picture.

The essence of good photography is composition. This is a matter which cannot be discussed here. But the little care in looking after what is included or left out may be important. In photographing a well-landscaped home, a shift of a few feet may hide a telephone pole behind a tree. In farm photography, a different angle or selecting the right spot, may hide some unsightly object as a manure pile, a poultry house, or outdoor toilet.

Best advice of all: Absolutely the best advice that can be given to any beginning news and magazine photographer is to study the pictures being used in the current issues of the publication to which you expect to submit pictures. This is the best way you can find out for yourself the pictures the editor wants and the kind you must take if you win his approval.

Copyright and publication rights: If you use photographs or other illustrations, make certain that you understand whether or not the pictures are copyrighted and that you have from the owner

full consent for their use and an understanding as to what acknowledgments are to be printed with them, if any. Your information as to copyright and as to acknowledgment should be passed on to the editor; commercial photographers usually take care of this point by stamping copyright and acknowledgment notices on the back of each print. The writer who buys and submits such photographs should not cut off or obliterate such notices.

If you take a photograph where there is any question about its use, play safe and secure a written permission to use the picture. This isn't often necessary in farm, home, and engineering pictures. But it is absolutely essential if there is any possible chance of the picture being used for advertising purposes.

What constitutes a good photograph for illustration? A photograph must meet these requirements to be suitable for illustrative purposes: it must as a picture fit the article; it must as a picture also have good composition; and it must as a photographic print have certain physical qualities that make it suitable for satisfactory reproduction as a halftone.

A close relationship between illustration and article is of course fundamental. The photograph must have bearing on the subject matter. However, there are times when the nature of the article does not permit of direct illustration of the central idea; for example, the article may be a forecast of the status of agriculture 25 years from now, and in that event the illustration may have to be rather general in character, but still relating to the subject matter insofar as possible. The illustration then gives the article atmosphere and decoration.

While atmosphere and decoration are desirable in magazine layout of an article, as well as the attention getting value that is inherent in illustration, yet after all, the chief reason for illustration is to amplify the text and make it clearer to the reader.

Good photographic illustration has what the artist calls good composition. The picture must be a harmonious whole. Its subordinate parts must not detract from interest in its central feature. It must include only what belongs in it to do the particular job of illustrating that it is expected to do. Its simplicity will add to its attractiveness.

Finally, a photographic print that is clear and sharp and made with a glossy finish is likely to reproduce best. Foggy, muddy looking prints, with an area here and there that is out of focus, will not give satisfactory results. Do not offer them to an editor; they will merely exasperate him. However, it is often good practice to send negatives along with prints because there are times when the negative may be manipulated to advantage by the engraver in making new prints or enlargements.

Do not undertake to trim up prints; better leave all manipulation to the editor's layout man. Do not write in pencil on the back of the prints because the pencil point is likely to leave embossed lines that may show in the halftone. If legends are to be attached, type them and gum them lightly to the bottom of the back side of the print, using rubber cement. Do not attach the prints to manuscripts or legends by means of clips; they also mar the surface.

ASSIGNMENTS

1. Make a count of photographs used in editorial copy in a current issue of three farm, home, trade, or engineering periodicals.
2. Clip and turn in five examples of good pictures from magazines which illustrate a technical news or information article which were probably taken by the reporter-writer of the article.
3. Clip and turn in five good newspaper pictures used to illustrate informative material rather than spot news.
4. Pictures should be secured if possible for all articles submitted to publications by students in this course.
5. Go out with a camera and take a series of pictures as practice work. Some suggestions are:
 - a. Cover a local spot news event, a football game.
 - b. Get one or more pictures of important or unusual campus personalities.
 - c. Visit a market, a fair, a flower show, a convention, a farmers' week, a construction project, or something equivalent and get a series of pictures.
 - d. Photograph some device, appliance, garment, dish, or object about which there is a good story to write.
 - e. Photograph a farm animal, a flower, a table setting, a piece of furniture, a construction detail, a laboratory apparatus, or a small quantity of mineral or chemical material.

- f. Photograph a residence, barn, tool shed, gate, fence, dam, bridge, stretch of highway, railway roadbed, or power plant.
- g. Photograph a woods, hillside, mountain peak or range, large orchard, or field crop.

(*Note:* In war time, plants engaged in defense work, large bridges, large dams, and anything else of military importance cannot be photographed.)