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THE SCIENCE OF PHOTOGRAPHY AND THE  
AMERICAN NEWSPAPER

By:

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*Very well written paper, Joe -  
A complicated subject told  
in words that a layman  
can understand.*

*You undertake a great  
deal. (Too much, per-  
haps.) Chapter three  
could have been a  
term paper in it-  
self.*

*Glossary is es-  
pecially commend-  
able -*

A Term Paper for Journalism

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## Preface

The science of photography is a new branch of science that has begun increasing in popularity since the turn of the century. Especially from the 20's and 30's on, it has increased in popularity at an amazing rate.

Not only has this fascinating science increased in popularity with the people, but also with industry. That is why the newspaper industry has been using it. New methods of engraving were developed just so the science of photography could become an important part of your daily newspaper!

Since the beginnings of photography with the newspaper a new individual and a new occupation has been created, that of the press photographer.

This term paper deals with the three above mentioned subjects: The Newspaper; The Science of Photography; and The Press Photographer, and their relationship to one another.

Some of the terms that most people not familiar with photography or chemistry would not understand are underlined and listed in alphabetical order in Chapter Five, the Glossary, with their meanings. If the underlined words are connected with an underlining mark, they are closely related and are located in the glossary together.

*Very good idea*

## Chapter Two

The Picture and the Newspaper

"Tell it with pictures" has become a universal slogan of all newspaper editors. (17)

A picture speaks a language understood by all. The foreigner in our great country may not be able to understand the language, but watch his face light up when he sees a good picture!

A picture lasts; it isn't forgotten as quickly as a written story; you always keep the picture--somewhere in the back of your mind.

In our modern world most newspaper readers look first for pictures, then for headlines; and why not? A picture is much more interesting than a bunch of type.

Today the press photographer is just as important, if not more so, as the reporter. A newspaper's very existence depends a great deal on pictures. A newspaper that runs a great deal of photos usually has a much larger circulation than one with few pictures.

Press photographers are trained experts, usually with many years of experience behind them. They must be able to get a

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(17) American School of Photography Correspondence Course, Newspaper and Magazine Photography, Unit 67 (Chicago, 1951), p. 3.

*Yes - N.Y. Daily Mirror, for example.*

picture under adverse conditions in which pictures are almost impossible to be taken. But with their knowledge and experience behind them, they get that picture! And you see it, usually the next day, in your daily newspaper.

All in all, newspapers consume a great deal of pictures. They believe in telling their stories with pictures and, after you have read some pictureless news stories and others adequately illustrated, you will probably agree that "a picture is worth a thousand words". (18)

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(18) Old photographic saying.

THIS IS IT

~~Chapter Three~~  
 ASSIGNMENT      PRINTING  
The Picture: From the Assignment to the Finished Product

How would you like to watch the progress in the life of a picture; that is, watch it from the moment the photographer puts the film in the camera to the finished product on the page of a newspaper? I think it would be interesting, don't you? You do? Fine; then what are we waiting for? Let's go!

Our photographer, whom we shall call "Tom", arrives at the newspaper office and reports to the desk. The picture editor gives him his assignment and together they talk about the wanted picture.

Tom goes to his locker and takes out his bag. In it is his "x5" press camera; a tripod; filters; accessory telephoto and wide angle lenses; portable electronic flash unit; and, last but not least, his miniature 35 millimeter camera for emergencies.

Now that Tom has all of his equipment checked and ready to go, he starts for his car. We'll pile into the back seat; Tom won't mind. Tom starts the automobile and then checks his wallet to see if he has his "Press Photographers' Card". He does, so we're on our way.

Tom stops in front of the city Boy Scout headquarters to take his assigned pictures. The purpose of the pictures is to publicize their annual Camp-o-ree. Tom lines the subjects in a symmetrical

order about three feet in front of the wall. He has them point to a map on the table. On the wall behind them is a huge photomural of a Boy Scout camp. Tom decides this is a fine background and, after placing a film holder in the camera, he makes the exposure.

Previous to this, Tom had set his lens opening and equivalent shutter speed.

Tom now dismisses the subjects and goes to the corner pay phone to call the newspaper office. He then jumps in his car and, there being no further assignments, we all go back to the newspaper office.

*Is it Tom's task to get names of his subjects who write outlines?*

Tom puts the equipment in his locker, except the film holders containing the exposed film. He then proceeds to the darkroom.

After memorizing the positions of the different parts of the cut-film tank, he turns the lights off. It is pitch dark.

Tom explains to us as he goes along: "First I take the film out of the holders and I put them in the structure of the tank built to hold them. I put the structure, now containing the film, into the tank and I put the lid on. I turn on the lights now because the tank is lightproof after the lid is on."

Now that the lights are on we can see what Tom is doing; First he fills the tank with water and then pours the water out (the tank can be filled and emptied in light because of special structures). The water was put in because it leaves the film wet and, when the first solution is poured in, it will make uniform contact on the film because of the water. The first solution is the developer. This brings out the latent or invisible image on the film. This solution is in the tank for approximately six minutes, depending on

the temperature and the chemical contents. Then, after the required time has elapsed, this solution is poured out and a stop bath is poured in. The stop bath counteracts any developer that is left on the film. This solution is in for about thirty seconds. The next solution is the fixer. The film stays in this solution from one to ten minutes, depending on the type it is. The fixer "Fixes" the film; that is, it dissolves away the unused light sensitive chemicals so the film can be safely exposed to light. After this solution the film is put washing in running water for about fifteen minutes. It is then rinsed in a solution called a wetting agent, for about thirty seconds. The film is then hung up to dry. It is left wet with the liquid of the wetting agent on it, for the wetting agent's function is to be on the film's surface and prevent the forming of water droplets while drying so it will dry evenly.

When great speed is required, such as when to make a short deadline, the film is developed in super speed chemicals, the total time being about two and one half minutes. After being washed a very short time (five minutes or less) it is placed in the enlarger negative CARRIER wet or it is dipped in alcohol and placed in the negative carrier partially dry. But these steps are only used when the pictures have to be done in a very short time.

After the film is dry, it is placed in the enlarger. It is then placed in the negative carrier and, after determining the

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correct exposure time, Tom makes the exposure. This is accomplished by putting a piece of enlarging paper on the easel. The enlarger light is then turned on, with any other lights ~~are~~ turned off, and the exposure is made. After exposure, the paper is put in a tray full of developer for one to three minutes. It is then rinsed in the stop bath for five seconds, and in the fixer for two to ten minutes. It is then washed for about thirty minutes and placed on a ferrotypes tin. The ferrotype is a very glossy, metal surface, being fairly thin. The print is placed glossy side down on the tin. A blotter is then placed over them and they are rolled with a rubber roller to remove any excess water. Then the tin is placed in a print dryer. This machine is then turned on and, in less than five minutes, the prints are completely dry, ready to go to the engravers<sup>1</sup>.

Tom's task is now finished. The finished print now goes to the engraver.

The pictures in most newspapers are made by a process called photoengraving. There are two types of photoengravings: line cuts, used to reproduce artwork that consists only of lines, such as cartoons; and halftones, which are used to reproduce actual photographs. (19) The latter is the method we shall discuss for it is the method we are interested in.

The finished print is photographed by a special camera. This camera has a screen in front of the negative. The screen is composed of criss-crossed lines that break up all the black and grey tones into minute dots; dark areas have large dots, lighter areas,

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(19) The Illustrated Encyclopedia of Knowledge, Volume 16, (1955), p. 3889.

smaller ones. Then a sheet of copper or zinc is covered with a light sensitive substance. The negative is placed on this and together they are exposed to light. The plate is then bathed in a chemical acid that eats away all parts of the metal except those forming the original picture. This leaves the dots from which the plate will print standing higher than the dots which are not part of the picture. When the plate is printed, these higher areas will receive the ink and will be printed as an exact copy of the print that was turned in. (20)

The plate is then placed in its proper place with the type, and the newspaper is printed.

And there you are! The complete story in the life of a newspaper picture. Interesting, wasn't it? I hope so. I thought it was.

## Chapter Four

### Miscellaneous Information

#### Wages of a Press Photographer

Most press photographers are paid about sixty dollars per week. After the first six years this wage is increased to double or more of the first sum. When this stage is reached, the press photographer is called a "journeyman" press photographer. (21)

#### Education of a Press Photographer

Many press photographers have a college degree. Perhaps a college degree or a similar document from a correspondence school. This education is not imperative, however, as long as the photographer has a wide and varied knowledge of photography with plenty of actual experience, but a college degree does help.

#### Duties of a Press Photographer

A press photographer's duties are wide and varied. His greatest duty is to secure the picture, whether it is an exciting assignment or a dull social assignment. He must use a great deal of

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(21) Letter from Oakland Tribune, Public Relations Dept., March 15, 1957.

ingenuity, in many cases, to get the picture. If he is waiting for something to happen, such as a sports photographer, <sup>does</sup> he must be ready for the wanted action. It is very difficult to "pin down" the duties, but they are extremely varied.

Pulitzer Prizes for News Photography (22)

<u>Year</u>	<u>Name</u>	<u>Newspaper</u>	<u>City, State</u>
1942	Milton Brooks	"The Detroit News"	Detroit, Mich.
1943	Frank Noel	"The Associated Press"	
1944	Frank Filan Earle L. Bunker	"The Associated Press", "The World-Herald"	Omaha, Neb.
1945	<u>Joe Rosenthal</u>	"The Associated Press"	
1946	No award	<i>for the pic of the marines putting up the American flag on Iwo Jima.</i>	
1947	Arnold Hardy		
1948	Frank Cushing	"Boston Traveler"	Boston, Mass.
1949	Nathaniel Fein	"New York Herald Tribune"	New York, N. Y.
1950	Bill Crouch	"Oakland Tribune"	Oakland, Calif.
1951	May Desfor	"The Associated Press"	
1952	John Robinson Don Ultank	"Des Moines Register and Tribune"	Des Moines, Iowa
1953	William M. Gallagher	"The Flint Journal"	Flint, Mich.
1954	Mrs. Walter M. Schau		

(22) George H. Gallup, Editor, The 1955 Pocket Alamanac, (N.Y., 1954).