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Photography's Notable Part in the War

The Camera Is a Most Important Aid to the Intelligence Staff

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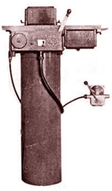
Method of attaching a camera to an airplane. The pilot is sitting in the front seat, and can operate the camera at the same time as the machine

The tools.

A series of overlapping photographs joined together. In this way a whole country can be mapped by means of photography. It will be appreciated that to obtain photographs such as these, the pilot must fly in a straight line and at exactly the same altitude the whole time

IT seems hard to think of the camera as playing a very important part in the present war, or to imagine it as a potent weapon. Yet the staff of a modern army would feel very ill equipped without the information supplied so thoroughly and efficiently by the photographic sections of the air service.



Two cameras

Photography in war is a genuinely new departure,—far more than the tank or the steel helmet, which but revive old practices. Our first airplanes in France were not supplied with photographic equipment. It was not until the beginning of 1915 that the importance of photography became apparent, and was made possible by improvements in type and general stability of the airplane.

After the deadlock arising from the inauguration of trench warfare, it was obvious that the old methods of obtaining information for the Intelligence staff were out of date and that some modern and scientific methods would have to be devised. The airplane replaced the cavalry and ground scout of former days, and greater and greater demands were made on photography. Advances in this new science kept pace with the demand; to-day most of the information obtained is from photography.

THE camera used at the front is of a special type, designed for aerial work. It is possible to take up, and expose, many plates in one flight. Sometimes as many as two thousand photographs are taken in one day over the enemy's lines.

The camera is fitted with a device for changing the plates that have been exposed, replacing them with fresh ones. It is thus possible to take photographs which overlap one another, and therefore, in one flight, to cover a large tract of country. These photographs may be taken at heights varying from five thousand to fifteen thousand feet; but at the lower heights the work is rendered uncomfortable by anti-aircraft guns. It is no joy ride to fly for a few hours over the Hun lines, with "Archie" firing at you constantly.

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Aerial Photography

At last, however, your work is over. You have covered the suspected ground, and carried home with you plates on which faithful pictures are depicted, pictures which only require the skill of the photographer on the ground to develop. As the machine lands at its aerodrome, specially trained assistants in the photographic section meet it and take away the camera and the so-called magazines containing the exposed plates.

From this point the aviator is relieved of all further responsibility, so far as photography goes. His duty is to press the lever on the camera when over the spots which require photographing; and, as such, his work requires very little skill.

The technical photographer lives on the ground, and, in his darkroom, produces the results which are so necessary for intelligence purposes. It is not a part of his duty to fly in the air or to risk his life in battle. Safely ensconced in what may be a disused cellar of a French farmhouse, the plates exposed on the aviator's flight are developed, and the necessary prints obtained. The prints are then handed to an officer of the Intelligence Department, who, with the aid of a magnifying glass, carefully examines all positions.

There, at last, hidden beneath sheltering trees, he finds four battery positions, and knows that he has finally located the guns which have been annoying the infantry so much. This information is quickly telephoned over to one of our batteries, which commence counter-battery work that will soon end in the destruction of the enemy artillery.

THIS is but one single instance of the way in which photography is used at the front. The camera produces all the information which is necessary for making the maps of trenches, so essential to infantry when they go "over the top." The camera is also used to locate strong points, the concentration of forces, the dumping ground of materials, trench railways and even for the location of our wounded after an attack. Gas attacks have been forestalled by the taking of photographs which revealed the fact that gas cylinders were in position in the enemy's front line (*Continued on page 78*)

trenches. In many cases bodies of our troops, isolated after an attack, have been discovered and rescued.

Long before the present offensive commenced, the staffs of the various armies had been equipped with photographs of the Hindenburg line, and of all the defences which would be met with in the course of our armies' advance.

The great essential in aerial photography is speed, and to this end everything is sacrificed. In one case, photographs of a battery position, required very urgently, were delivered at Army Headquarters twenty-two minutes after the order for their taking had been received by the squadron.

The photographer, as a rule, comes in for few eulogies. Accounts of work done by the air service seem to confine themselves to spirited fights in the air. To fight, however, is not the duty of a photographer.

The camera is generally fitted to a two-seater machine, which is not necessarily the speediest type of plane. In it the photographer makes his daily round of the trenches, chased from point to point by the harassing fire of the anti-aircraft guns, always on the lookout for new works of which early photographs must be taken, and at the same time keeping his weather eye open for a Hun machine which will attack him unawares, if given the opportunity.

On his return to the aerodrome there is generally no glorious combat reports to fill in, but possibly a damaged plane to be hastily repaired before the next flight.

THE camera only reports what it actually sees. It records automatically,

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and soullessly,—but with a minuteness of detail which is unattainable by any observer, however astute. The pilot must fly his machine over the actual spot to be photographed. He can take no side view of it and render his report. He *must* take a vertical photograph of the trench or battery position in question. The Huns' dislike to have these objects photographed is proportionate to the desire of our Intelligence Corps for a photograph of them. Therefore he arranges his anti-aircraft guns accordingly, and gives the photographic intruder a warm reception.

THIS work of photographing the lines goes on daily, so that we do not rely on a map a week old; but, from day to day, correct our maps from prints from the photographic laboratory.

For the purpose of map making, we endeavor to obtain photographs of the enemy country which overlap one another, and so can be joined together to make what is technically known as a mosaic of the enemy's country. This mosaic is composed of numerous photographs, taken at the same altitude—and, therefore, at the same scale—pieced together very carefully, to form a complete map. To obtain these overlapping photographs, it is necessary to fly perfectly straight, and to maintain the same altitude while making the exposures at stated intervals of time,—intervals which have been computed by the observer before the machine goes into the air.

It is on such flights that the photographic machine suffers most from Archie's fire. The observer must fly on continually; he is unable to dodge the continual stream of shells.

Yet there is one way to deal with Archie when he becomes too troublesome. This consists in diving down on him from above, and firing at him with your machine gun. The enemy quickly leave their gun and rush to the dugouts; before they can find your range again you may be able to finish your photographic task, and start home.

Even now, to the uninitiated, the glossy and finished prints taken from the aerial negatives would appear thoroughly unintelligible. But frequent study and application enable one to wring out from the minutest details in the prints the truth which the Hun would conceal. He tries to do this by camouflaging all his emplacements, or by building dummy emplacements; but he must be very skillful indeed, to deceive the camera.

A TRAGEDY OF THE AIR

The picture shows a French plane falling to the ground in flames. To the right of the smoke may be seen a German plane which has dived on the French avion and, seeing that its object was completed, has continued its dive until it has flattened out close to the ground

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