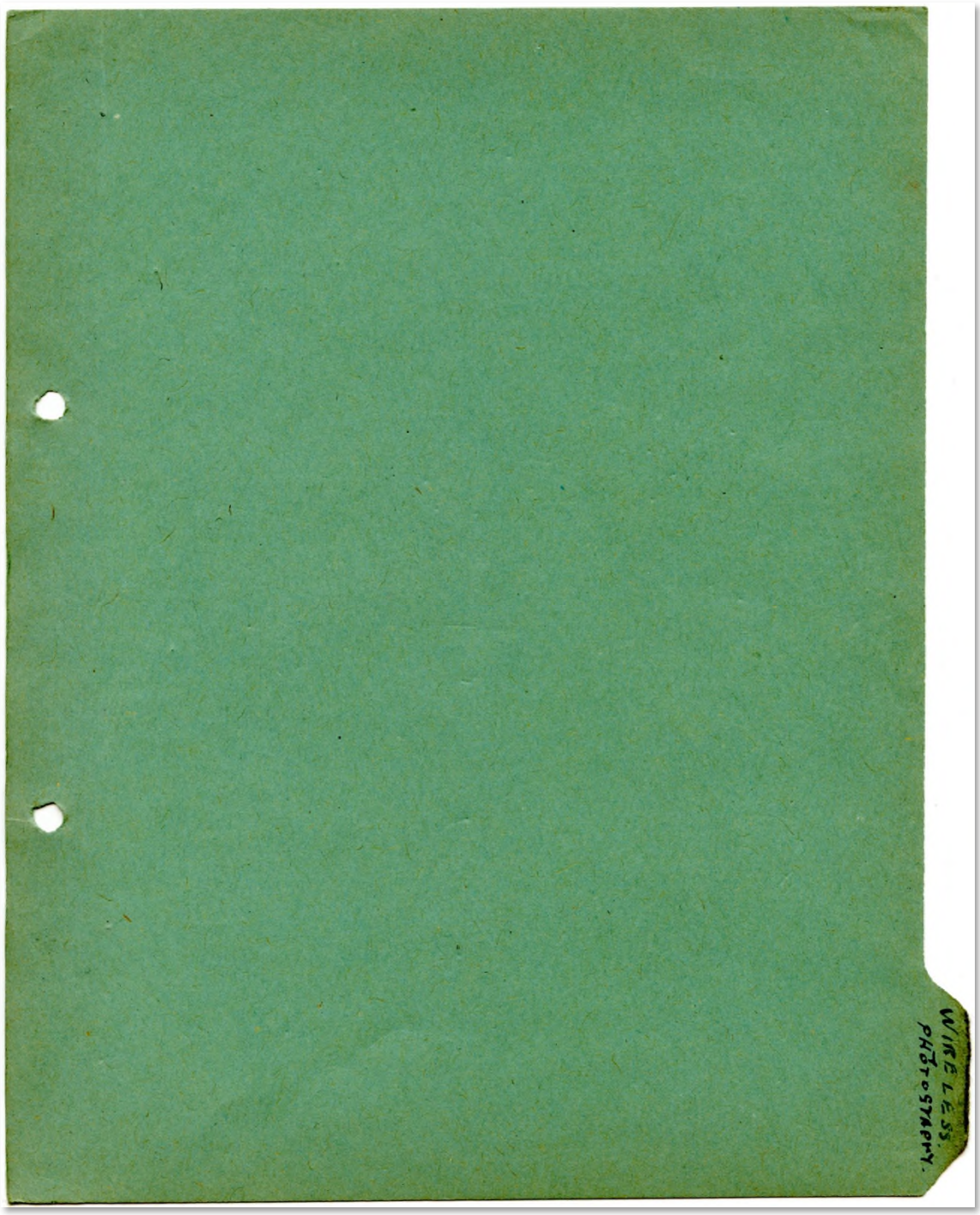
AERIAL PHOTOGRAPHY



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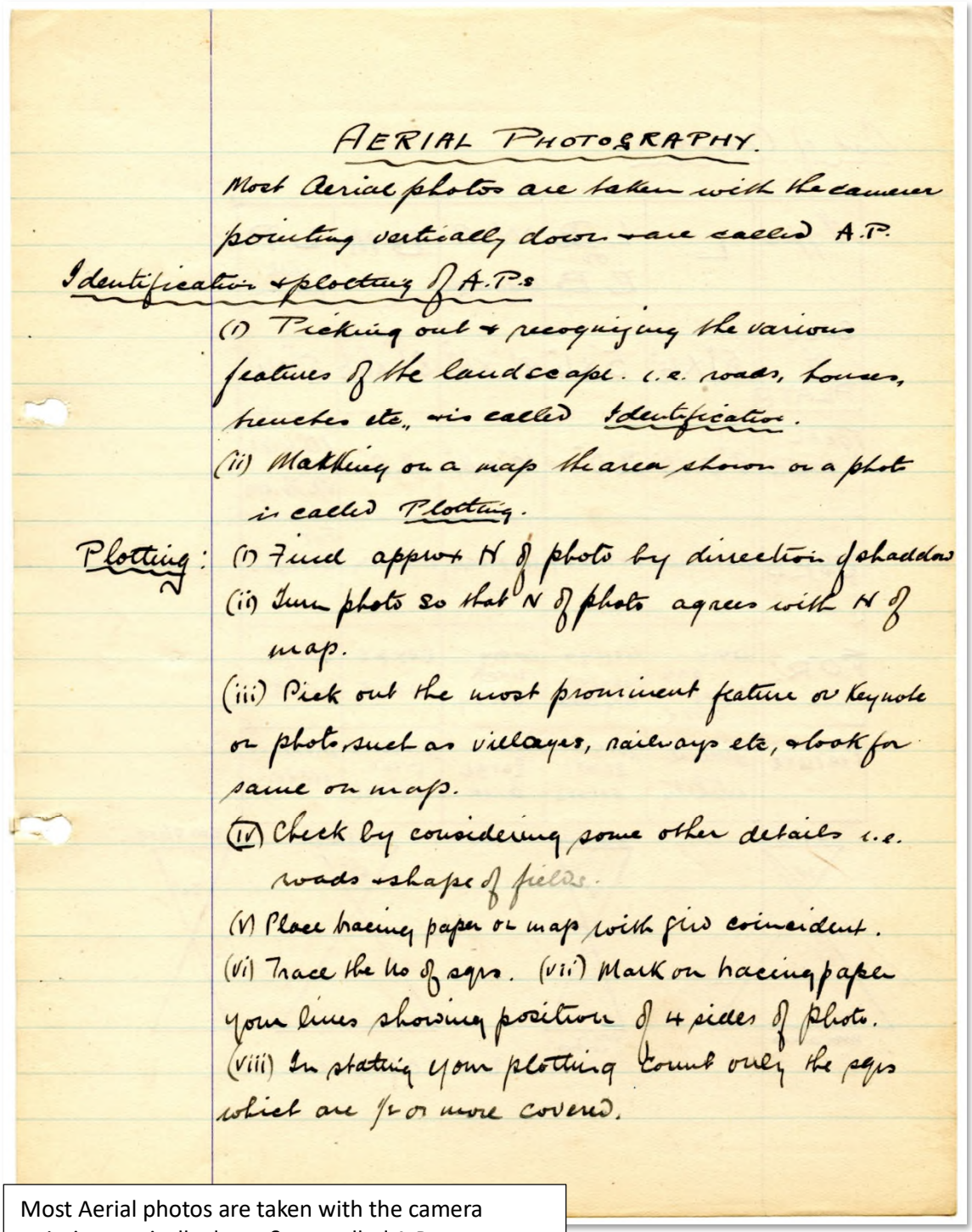

AERIAL PHOTOGRAPHY.

Most Aerial photos are taken with the camera pointing vertically down are called A.P.

Identification & plotting of A.P.s

(i) Picking out & recognising the various features of the landscape. i.e. roads, houses, trenches etc., is called Identification.

(ii) Marking on a map the area shown on a phot is called Plotting.

Plotting: (i) Find approx N of photo by direction of shaddows

(ii) Turn photo so that N of photo agrees with N of map.

(iii) Pick out the most prominent feature or keynote on photo such as villages, railways etc, & look for same on maps.

(iv) Check by considering some other details i.e. roads & shape of fields.

(v) Place tracing paper on map with grid coincident.

(vi) Trace the no of sqrs. (vii) Mark on tracing paper your lines showing position of 4 sides of photo.

(viii) In stating your plotting count only the sqrs which are ½ or more covered.

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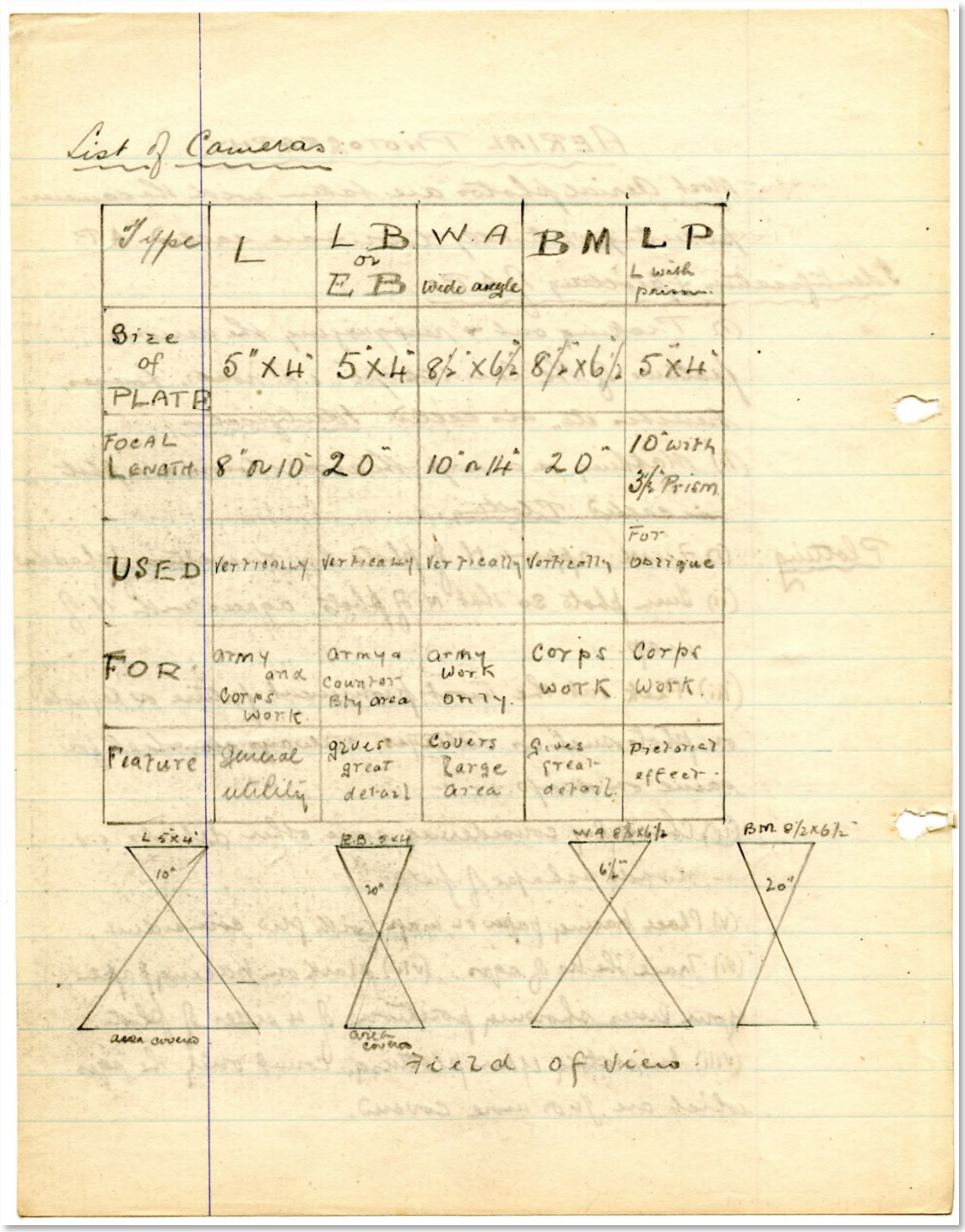
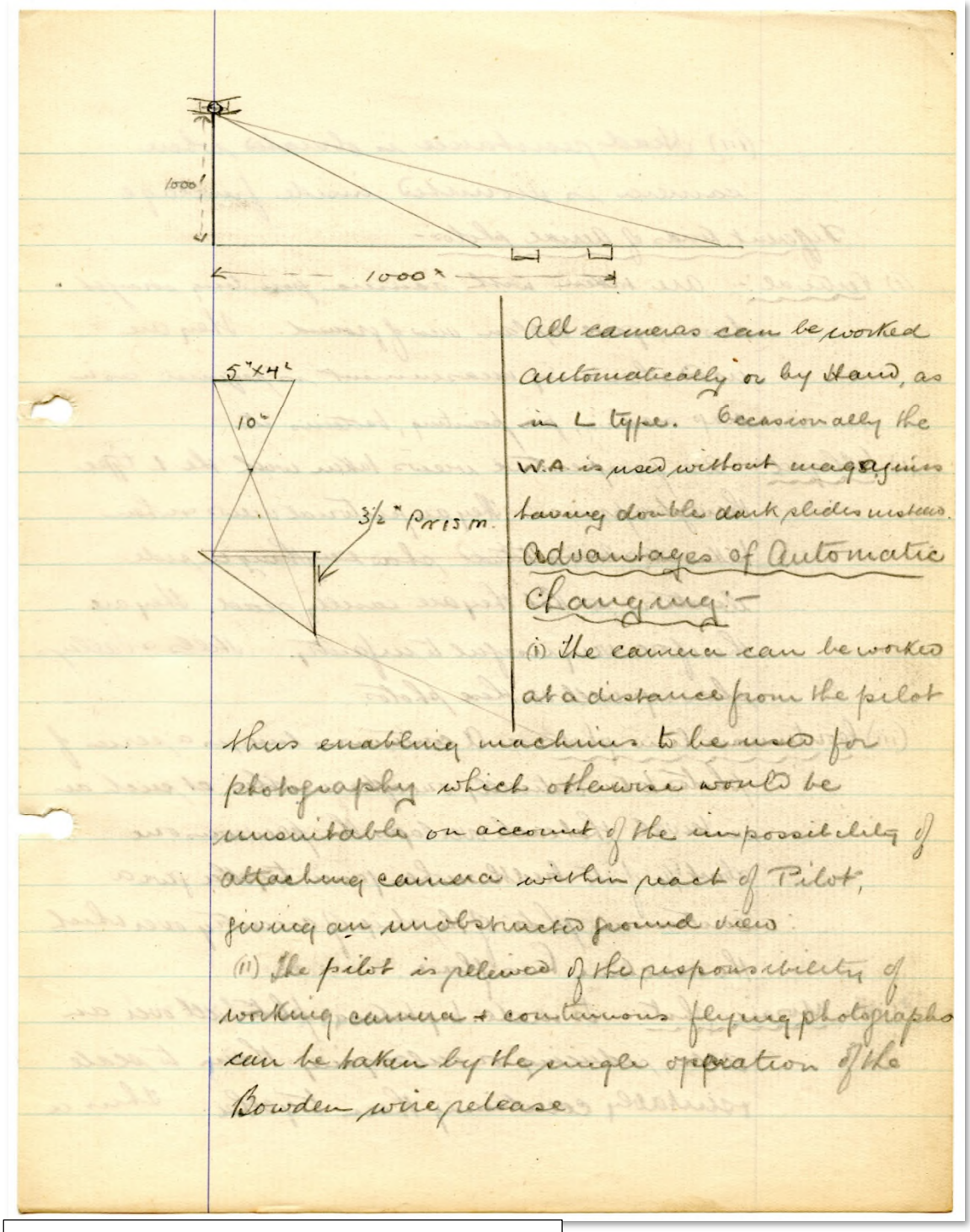
List of cameras



Type	L	LB or EB	W.A. Wide angle	BM	LP L with prism
Size of PLATE	5” x 4”	5” x 4”	8 ½” x 6 ½”	8 ½” x 6 ½”	5” x 4”
Focal length	8” or 10”	20”	10” x 14”	20”	10” with 3 ½” prism
USED	Vertically	Vertically	Vertically	Vertically	For Oblique
FOR	Army and corps work	Army & counter Bty area	Army work only	Corps work	Corps work
Feature	General utility	Gives great detail	Covers large area	Gives great detail	Pictorial effect

(Illustrations of field of view)



(Illustrations of different type of photography)

All cameras can be worked automatically or by hand, as in L type. Occasionally the W.A. is used without magazines have double dak slides instead.

Advantage of Automatically Changing:

(i) The camera can be worked at a distance from the pilot thus enabling machines to be used for photography which otherwise would be unsuitable on account of the impossibility of attaching the camera within reach of Pilot giving an unobstructed

(ii) The pilot is relieved of the responsibility of working the camera & continuous flying photographs can be taken by the single operation of the Bowden wire release.

(iii) Head resistance is obviated where camera is mounted inside fusilage [sic].

Different kinds of aerial photos:-

(i) Vertical:- Are taken with camera pointing straight down & give a plan view of ground. They are used where any measurement is required as in map making, pin pointing, batteries etc.

(ii) Oblique:- Are perspective views taken with the L type through a prism. They are pictorial views & when taken at a low altitude show everything in side elevation so that they are easily read. They are therefore very useful to infantry. Hills & valleys show up well on these photos.

(iii) Continuous line photos:- A continuous line is a series of photos taken vertically one after another at such an interval that each overlaps the previous one about 1/4 of its breadth & when joined together give a continuous photo of the strip of country over which the machine has flown.

(iv) Mosaic photo:- Is made by taking photos all over an area, reducing or enlarging them to scale & suitably combining them together. Thus a

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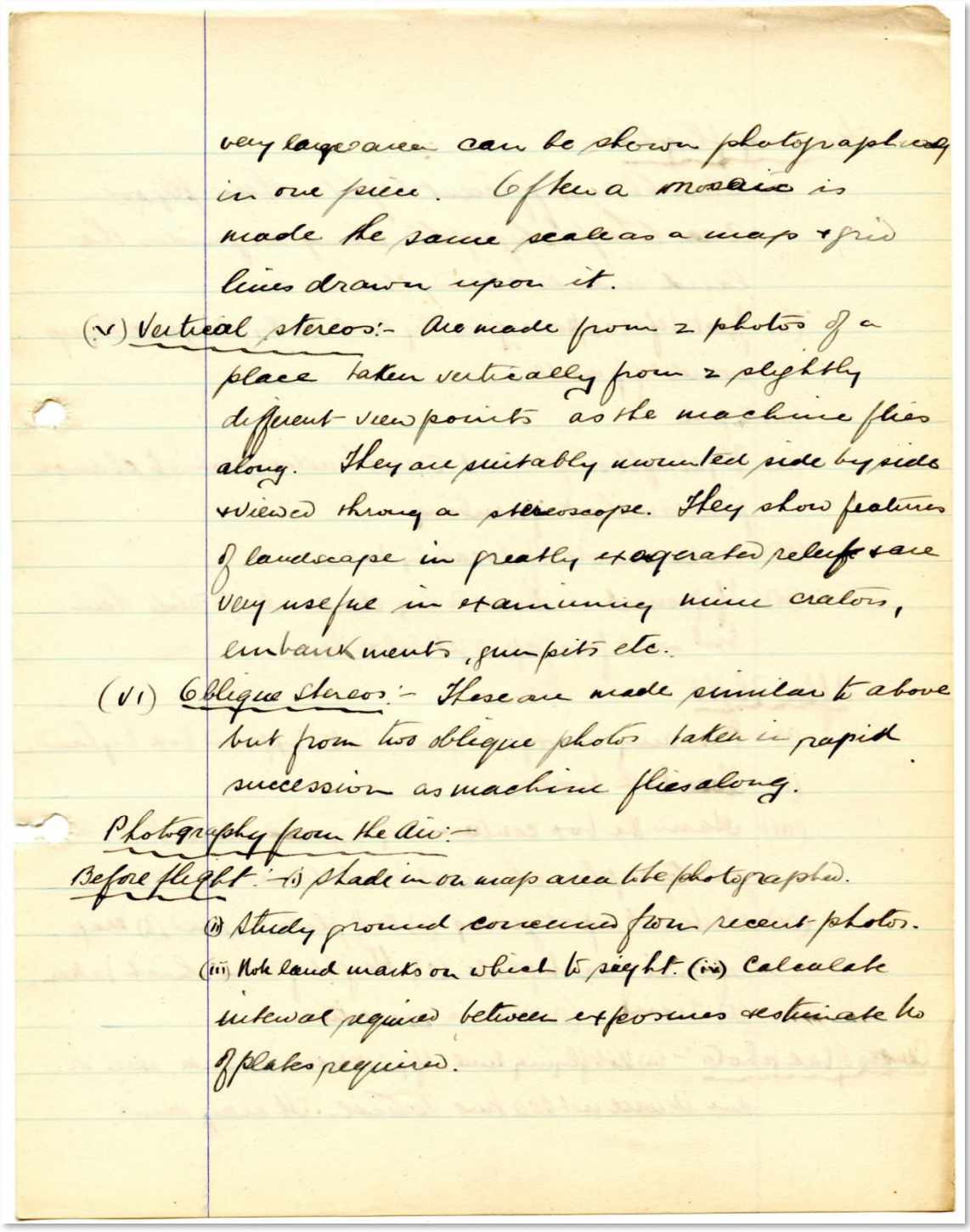

very large area can be shown photographing in one piece. Often a mosaic is made the same scale as a map & grid lines drawn upon it.

(v) Vertical stereos:- Are made from 2 photos of a place taken vertically from 2 slightly different viewpoints as the machine flies along. They are suitably mounted side by side & viewed through a stereoscope. They show features of landscape in greatly exaggerated relief & are very useful in examining mine craters, embankments, gun pits etc.

(vi) Oblique stereos:- These are made similar to above but from two oblique photos taken in rapid succession as machine flies along.

Photography from the Air:-

Before flight:- (i) Shade in on map area to be photographed.

(ii) Study ground concerned from recent photos.

(iii) Note land marks on which to sight. (iv) Calculate interval required between exposures & estimate No of plates required.

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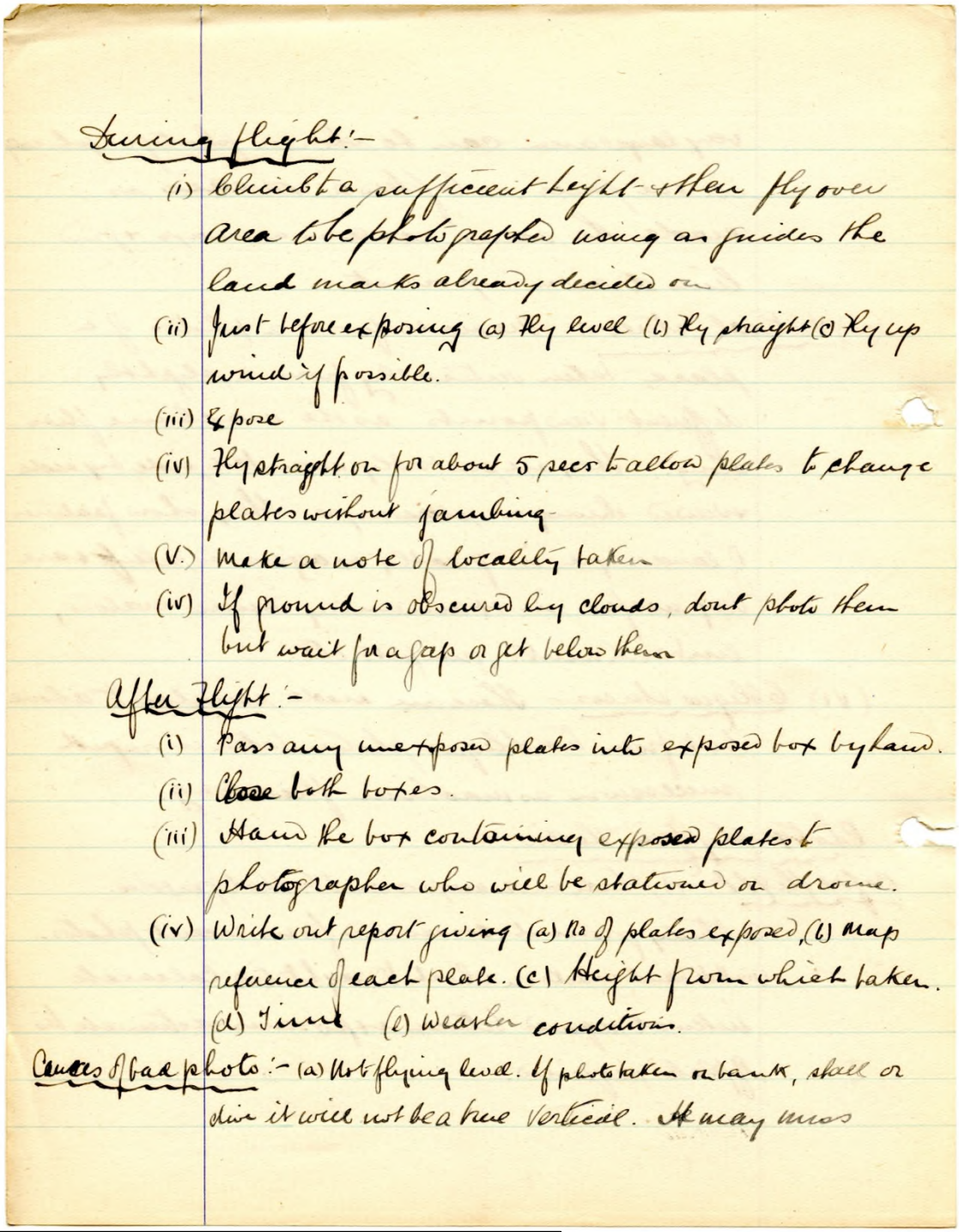

During flight:-

(i) Climb to a sufficient height & then fly over area to be photographed using as guides the land marks already decided on

(ii) Just before exposing (a) Fly level (b) Fly straight (c) Fly up wind if possible.

(iii) Expose

(iv) Fly straight on for about 5 secs to allow plates to change plates without jambing

(v) Make a note of locality taken

(iv) If ground is obscured by clouds, dont photo them but wait for a gap or get below them

After flight:-

(i) Pass any unexposed plates into exposed box by hand.

(ii) Close both boxes.

(iii) Hand the box containing exposed plates to photographer who will be stationed on drome.

(iv) Write out report giving (a) No of plates exposed, (b) Map reference of each plate. (c) Height from which taken. (d) Time (e) Weather conditions.

Causes of bad photo:- (a) Not flying level. If photo taken on bank, stall or dive it will not be a true vertical. It may miss

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his pinpoint & photo will be distorted.

(b) Vibration caused by badly running engine causes movement to show on photo.

(c) Excessive ground speed due to photographing downwind in a gale also causes movement.

Importance of Photography:-

To the Staff:-

(a) The enemy's intentions can be discovered & his probable movements disclosed by amount of rolling stock at stations, material at dumps, existance of new roads, tracks & light railways & works under construction.

(b) The exact position & strength of his 1st & 2nd line defences & fortified villages in rear is shown in photographs.

(c) Maps are kept up to date by photographs.

(d) Comparison of photos taken on different days shows amount of work done by enemy in a given time

(e) Examination of photos of L of C reveals important railway junctions, bridges & X roads

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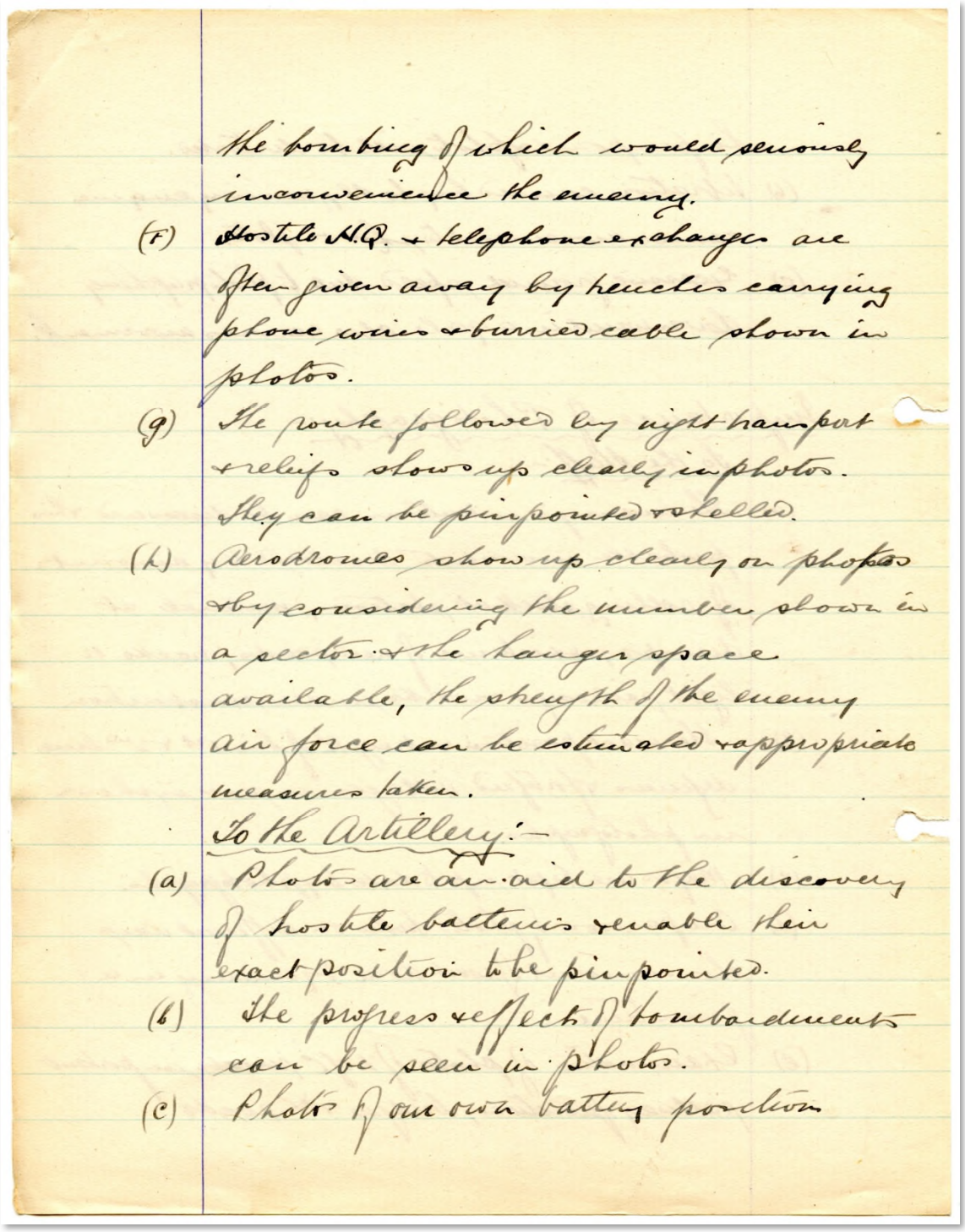

the bombing of which would seriously inconvenience the enemy.

(f) Hostile H.Q. + telephone exchanges often given away by trenches carrying phone wires + buried cable shown in photos.

(g) The route followed by night transport + reliefs show up clearly in photos. They can be pinpointed + shelled.

(h) Aerodromes show up clearly on photos + by considering the number shown in a sector + the larger space available, the strength of the enemy air force can be estimated + appropriate measures taken.

To the Artillery:-

(a) Photos are an aid to the discovery of hostile batteries + enable their exact position to be pinpointed.

(b) The progress + effect of bombardments can be seen in photos.

(c) Photos of our own battery position

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To the Air Force:-

(a) Pilots & observers can rapidly learn a new sector from mosaics & obliques.

(b) Before a shoot the observer studies a photo of the target & marks a properly scaled clock code on it. Takes the photo into the air, & sends corrections from it.

(c) After registration a photo of target shows the exact position of each shell hole & checks the observers spotting.

(d) Similarly photos taken before a bomb raid show the target, taken during the raid show the bursting bombs, & after raid show the damage.

(e) Before contact patrol, pilot carefully studies detail photo of front line.

To the Infantry & Tanks:-

(a) The exact position of German front line & its strength can be seen

(b) Enemy wire & the gaps in it are noted.

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