OBSERVATION, SELECTION, AND ASSIGNMENT

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PREFACE.

As a result of the late war, the growth of the Air Service from a comparatively small and obscure branch of the Army to one of considerable importance has been made with almost unprecedented rapidity; so rapidly in fact that despite an excellent record in the face of great difficulties, from a point of observation alone, the knowledge of a preferred science of operations for actual service is probably far behind similar knowledge in other branches of the Army.

In times of peace, methods for training flying personnel are reduced to system. The most ingenious training methods may then be used satisfactorily, but despite apparent perfections, their final test is war. Even observation theories adapted from allies in the past emergency were largely inapplicable to unforeseen conditions found with the First Army, and to a large extent successful tactics had to be learned at first hand.

To assist in having training theories conform as near as possible to actual fighting conditions, the writer shortly before his discharge submitted an incomplete and abbreviated outline of old and new tactical methods successful in his squadron, entitled, "Methods in Observation." This covered only tactics in the field.

Aside from details of observation training, there are a number of general principles dominating its efficiency, of equal importance with tactics of combat, and which combined with these tactics vastly increase the efficiency of the squadron.

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Late Lt., 99th Aero Squadron.
OBSERVATION, SELECTION, AND ASSIGNMENT.

The material here contained was originally prepared by former Lieut. F. E. Eaton, who served with the 99th Aero Squadron in the A. E. F.

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REFERENCE.

C. A. S., Fifth Corps, September 8 to October 20, 1918.
C. A. S., Fifth Corps, October 20 to November 11, 1918,
Records Ninety-ninth Squadron, September 8–November 11, 1918.
OBSERVATION, SELECTION, AND ASSIGNMENT

A percentage of misfit men in observation is the subject dealt with, and the article may be divided into two general parts:

1. QUALITIES NEEDED AND WHY.
2. SELECTION AND ASSIGNMENT.

PART 1.

As written, the following applies to missions of a single airplane. In formations, with modifications, more especially to the leader.

The Air Service differs from every other branch of an army in the following all-important point:

In other branches initiative combined with daring is highly desirable. In the flying personnel of a squadron it is indispensable.

While it is desired that all troops have these qualities, it is probable that ground forces acting in mass may have a large part of their numbers partially deficient in this respect and yet win successes, provided the quality is dominant in their commissioned and noncommissioned officers. On the other hand, should a flying member of a squadron lack this in appreciable quantity, he is not only of practically no value, but may, and probably does, cause incalculable damage, which in terms of ground effective may reach losses equivalent to hundreds or thousands of infantry.

It is doubtful if there is an analogous branch in the ground forces. There each man or officer is responsible to a higher rank ranging up to the Commanding General. Contrary to this status, the flyer on a solitary mission is not only his own master, but to all practical purposes is, on a given mission, responsible to no one. Theoretically responsible through orders from the squadron, practically as soon as he is in the air he is free to do the mission to the utmost of his abilities (which may be good or poor), slur the mission, or in a few cases where he so decides, not do it at all.

The majority do their best. In the last case such an individual may "get by" for a few times and then be removed or neutralized with no more damage than loss of an effective and equipment. In the second case, more numerous and commonly caused by "nerves," the damage is insidious, almost unrecognizable, and impossible to cope with for the time being. In ways to be described this damage is irreparable and means not only loss of a squadron effective, but actual loss of hundreds or thousands of ground effective through lack of duties performed which are thought to be performed. From this general statement it may already be inferred the importance of the questions dealt with.

Detail.—In taking up the quality of service rendered it will first be endeavored to illustrate the importance of missions carried out with maximum diligence by citing a few (personally known) critical cases, in each of which it will be noticed that success or failure is but a slight difference in the attitude of the personnel.

Fog.—In probably no other way can the temperament of a squadron be more accurately measured than in their reception of bad weather. A few will demur at "impossible" flying when conditions are actually only inconvenient. Of the eight missions to be given, no less than five were performed in weather outspoken by some as "impossible," and in only one of the eight were weather conditions really excellent. It is an observed fact that demurring at weather is in almost exact proportion to work performed by various members.

Although, taking the year around, nearly half the necessary missions on a front will fall in disagreeable or dangerous weather, and such often gives more opportunity for service than good weather, for some unaccountable reason this vital fact is practically ignored by training schools the writer attended. Training best progresses in good weather, but by teaching no distinction between training and fighting there is given a vague impression to some graduates that an order to fly in unfavorable weather is unreasonable and unnecessary.

To the contrary, at the times of both major attacks of the First Army (and throughout nearly the whole campaign) the most favorable hours for observation, those up to 10 a.m., were in dense fogs, making observation extremely difficult and uncertain. At 8 a.m. of September 26 the writer was only able to approach the front by following the dim edge of a large forest, and, reaching there, staggered blindly about, with little hope of success, until a rift in the fog gave a key position, and the result was a long and satisfactory mission.

On the 3d of November, in a similar experience in one vast white blanket, after more than an hour came another "key" placing him on the line at an important time.

On a command mission from the Chief of Staff several days later it was necessary to flutter about for two hours and all but give up, when another rift brought a glimpse of a ridge holding back the Second
Division, and a message and map to the artillery correcting their range wiped out the obstacle and the advance went on.

One of the single best missions of the squadron occurred when two friends, refusing to give up, were lost in fog, and when a little village flashed by, recognized as Romagne, reported a German division massed for counterattack, with the result that in a few hours it was all but annihilated by artillery.

Initiative in general.—Another group of missions have for their critical point the decision of how far to go in a given endeavor, raising the mooted question of recklessness, ranging from such charges by misfits to the legitimate misgivings of commanding officers as to the ultimate strength of their commands being impaired. This question, undoubtedly the most important being here discussed, reduces to a simple question of judgment phases of which it will be endeavored to show.

First may be given a mission in which at a critical time of infantry liaison the air was controlled by hostile chasse. On this occasion seven of these attacked a friendly airplane immediately on arrival. There immediately arose the question whether it was best to retire temporarily and conserve “eyes” from probable destruction or endeavor to secure urgent information. The last was chosen, with the result that after three separate combats the hostile chasse withdrew and the mission was performed. This mission may be argued; the fact remains that it was successful.

On a similar occasion, when photographs were required for a grand offensive, an airplane with engine trouble reached the lines to find itself alone and near 12 hostile chasse. With a similar necessity for decision, it was decided to endeavor and “bluff” the enemy. The result was a narrow escape and the first negatives secured of the objective.

In the most successful photographic mission of the writer’s squadron its five airplanes were divided by excessive altitude, the leader and the writer becoming separated from three protecting airplanes. Seven chasse blocking the way of the two, the leader and his observer, believing it a last chance to secure photographs for an attack, deliberately kept their way and reached the objective just as they were attacked. The writer remembers the unswerving course of the leader, and the sight of his observer, half blind (how he got by the tests is a wonder), looking back through his weak eyes at approaching death and then diving down to slide a plate and work his hand camera. The arrival of the three other airplanes under the leadership of an indomitable flight commander ended a battle in which one hostile airplane was shot down, and half the army front was then photographed.

Engines.—Missions should never be started in observation with a defective engine, but the mere cutting out of cylinders in the midst of a vital mission is not permission for its immediate abandonment; in fact, half the missions observed would never have been completed if such were the case. Observation does not depend, usually as chasse, primarily on climbing ability, but the ability to keep in the air. (Missions gaining altitude must be abandoned.) In one of several cases, when the Army was in headlong pursuit in strange territory, the question of hostile retreat or stand became important, and a command mission was attempted in villainous weather. On reaching the lines two of the three engines developed trouble, but, a moment of rare visibility occurring, the mission was proceeded with, losing and gaining altitude at great inconvenience to considerable depth behind the hostile lines. This chance was thought preferable rather than lose information covering some hundred square miles of hostile troops with their intentions.

As to the question of “recklessness” versus “prudence,” the writer is personally left in little doubt as to their respective merits. He has been grievously wrong at times; for instance, the learning of how close machine guns may be approached cost him a bullet through one of the best observers in the service. On the whole, however, the benefits outweigh the losses as to be simply incomparable.

In conclusion it may be stated as an axiom that excessive prudence, a necessary adjunct to preliminary training, loses its value to a large extent once the change to combat is made.

The foregoing and rather extensive narrative may seem irrelevant to the purposes of the treatise, but has been made to illustrate certain principles.

Mental states.—In now analyzing emotions and events influencing the initiative and other vital qualities of a flying personnel it is necessary to state that whatever the service a flier may render or his conception of service be, flying has been so heralded as dangerous that probably all applicants, on starting, are sincere in a belief in their abilities. This, however, brings us to the crux of the whole question, e. g.:

1. The actual developed unfitness of some and
2. “Nerves” that magnify and bring this to a head.

Granting that all fliers start with equally good intentions, we soon find them diverging radically, and
(a) What they believe should be demanded of them,
(b) Willingness to sacrifice for military good,
(c) Conception of need of sacrifice,
(d) Conscience,
(e) Capacity for sustained suspense,
(f) Interest, and
(g) During

may be cited as a few of many differences developed, these being entirely distinct from flying ability or observation instruction.

As the value of a flier in observation rests chiefly upon his mental states, it will be seen that to be seriously on the wrong side of one or more of these points practically incapacitates him for useful service, and the simple teaching of one to fly and the principles of observation tactics in no way makes him a fit member of a squadron in war. If it were
possible to select personnel who without exception were on the right side of all the points named, the efficiency of squadrons on the whole would be raised to an astonishing per cent. Each ineffective who slips by, however, cuts down efficiency to an enormous extent by failure in vital missions where success or failure is often but a slight difference in attitude.

Not only may the first test bring out defective, but point (e) "Capacity for sustained suspense" (recognized by the service in frequent leaves to the rear). All fliers feel it sooner or later. The writer frankly admits that during intense periods, when on missions every day or twice a day and in the air from three to five hours daily, he has often walked to his airplane with a dull, gripping, nameless dread, of overwrought and overworked nerves. It vanished immediately on taking the air.

It can readily be seen what the result is upon one unfit for the service. The remaining qualities necessary for success would give way, first slowly, then in a panic. Few men afflicted will admit it; if they would, the loss would be minor. Instead, they continue, possessed with every doubt and abhorrence. To them the weather is "impossible," their airplane is always out of order, and they are often sick. In the most damaging event—that of trying to carry out a mission—it may result in a dash to the scene of action and quick return with little learned of value and the reporting of inaccurate information or nonsense, while (if a liaison or command mission) 20,000 men attack and die without "sight" or help. There has been no mission as far as results go, yet who is to say, "You have not done your mission."

In photography it is "useless" to attempt a mission. These fliers probably do not realize there is anything wrong—they carry out their missions according to their lights—being merely lacking in one or more of the qualities mentioned. Yet the result is that the effective members, overworked and weary, are sent out to find why no accurate front line has been found for days, to find it in an hour, and be reproached by certain misfits on return for being "reckless."

The majority of a squadron are conscientious workers, but misfits neutralize the benefits and make commanding generals "cuss" the Air Service. In this connection I cannot help injecting a little illustration of the trials of a commanding general.

A——, one of our crack fliers, took up a new and misfit observer (I must make one point on observers), and, finding the sky speckled with "archies," skillfully dodged them and penetrated the depths of the enemy line, afore with the sights he saw. The message with its great news was dropped on an anxious and waiting general, then home-ward, "What did you drop on him?" eagerly asked A—— on landing. With a mournful shake of his head, the other replied: "Would liked to have gone over, but too many archies."

PART 2.

Selection.—It is not the intention of this article to suggest either how or where applicants for flying shall be secured, or details of training or instruction after entrance, but rather as to the weighing out or process of selecting to a required standard.

A method by which fliers can not be judged is—

Bearing.—The astonishing exception is found in this branch. Authorities who realize the importance of commanding appearance and soldierly bearing in officers handling men might be surprised to learn that, with one possible exception, no AI pilot of the writer's squadron gave the impression of being the type to best handle troops. The importance of this relative to judging flying officers with infantry requirements is obvious. It hardly proves that fliers are "peculiar," but rather that their essential qualities often differ radically from ground forces, and an endeavor to judge them by standard Army tests is unjust and unwise in the extreme.

Age.—It is interesting to note that this question affords somewhat different reasoning in observation than in chasse. In chasse one of the chief objections to advanced age is slowness in pure flying reactions or "feel." In observation this is comparatively unimportant.

Assuming that a flier's personal courage is the same at 20, 25, and 30 years, we find that the chief objection to age is an increased tendency to calculate risks. In other words, the deliberate weighing of chances which increases with age and is counted a virtue in some branches does harm in observation. This is owing to much vital information being secured at exceptional risk. As often happens on a mission, an opportunity or necessity for securing information of extreme value at extreme risk suddenly arises. It is no reflection on fliers to state that while theoretically the "calculator" best decides the amount of risk warranted, practically he unconsciously gives undue weight to personal safety. When it is realized that most observation fliers are prone to always underestimate value and overestimate risk, it becomes clear that extensive calculating is undesirable. It is here that the younger man, seeing an opportunity and deciding on the moment, gives on the whole better service.

Indications of misfits in training.—While the weighing of a man in training is extremely complicated and uncertain, there are numerous indications of misfits, a few of which might be (there are exceptions)—

(1) A man who persistently looks at clouds and hopes "there will be no flying to-day" may be judged as to value in difficult battle conditions.

(2) He who (with good mechanics) has great difficulty with engines and airplanes or complains of poor equipment will probably do so at the front.
been included "excellent flying." This is because it is possible that a man who has other good qualities yet, trying hard, is only an average flier, may be worth more (in observation) than some "crack" fliers. Generally, however, good flying is indicative of other qualities.

In a squadron probably one of the chief services the commanding officer can render is the keeping of a careful record of missions and the removal of ineffectives, to be replaced by the many good men in the rear, thousands of which in the late emergency did not secure active service in a squadron.

A very grievous mistake was made in the recent emergency through not then having grasped observation fundamentals. This was the prohibition of acrobatics at an advanced observation school the writer attended. (This practice may not have been universal.) To prescribe rules for taking-off, landing, and altitude is one thing; to discourage practice, initiative, and daring is another. The writer would not for half his flying time lose the hour or two in which he learned to execute a vertical bank a hundred feet above an interesting observation point, to sideslip within a few hundred feet of machine guns, or to skid away from them.

It is, therefore, confidently concluded that in war, after providing the best obtainable airplanes, primary instruction and rules for altitude, only calculable damage can be done by limiting the performances or tests of fliers, thus instilling excessive prudence and discouraging the very qualities necessary to success. The few casualties thus saved are incomparable with the forwarding of incompetent personnel to a front, and the Air Service can not afford to increase the inefficient, one of which may retard the efforts of a division or corps.

Assignment.—Providing essential qualities are present, men not assignable to one mission may often be used in another. For example, a man useless for the calm calculations of reglage may make a most efficient trench straffer. On the other hand, some missions may require a compound.

Merely as an illustration is given a possible assignment where necessary qualities are present, but some of these (or outside) qualities dominate.

- *Chasse (pursuit) — "Crack" fliers.
- "Strafing" (ground attack) — Extremely reckless, gunnery.
- Artillery reglage — Calm, mathematical, exceptional concentration.
- Photography — Maps, distances, etc.
- Deep reconnaissance — Maps, gunnery, exceptional vision.

Command missions — Compound.

Infantry liaison — Compound.

This hasty and imperfect illustration may yet give a rough idea of the wide range of distribution. The last two missions require a mixture of qualities because the tactics of a corps may depend in a given instance upon the amount and accuracy of information furnished.

A flier with qualities for several types of missions should be allowed to choose. The assignment of a man preferring low flying to photography or one preferring high to Infantry liaison would obviously be a mistake. In this connection it may be stated that many a conscientious training commandant, worried over a student who, possessing every quality of skill, ability, and usual good judgment, still desires to fly unusually low and do acrobatics at little altitude, would be vastly astonished if informed that this erring student has possibly a "born instinct" for Infantry liaison and should be carefully examined for sufficient other qualities to allow him to be so assigned. By "carefully examined" is meant the ascertaining of whether he is doing it from inexperi- ence or has the "instinct." (Accurate detail in Infantry liaison can seldom be observed above 300 meters.)

To sum up.—(1) On a given observation mission in battle the occupants of an airplane are a little army all to themselves, and it is chiefly in proportion to their conceptions of duty and sacrifice, their initiative and daring, that the result depends, whether it range from the destruction of a hostile division to one of their own.

(2) The effectiveness of a squadron is in direct proportion to the number of flying members having certain mental states apart from simple flying ability.

(3) It should be the serious endeavor of training forces to single out and select such students above and beyond the test of good flying and studious papers.