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The
Ideals and Training
of a
Flying Officer

R. F. C.



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THE
IDEALS AND TRAINING
OF A
FLYING OFFICER

FROM THE
LETTERS AND JOURNAL
OF
FLIGHT LIEUTENANT R. W. MACLENNAN
R. F. C.

Killed in France, 23rd December, 1917

(Extracted by his Father)

R. W. Macleannan
Barrister
Toronto





2ND LT. R. W. MACLENNAN



LT. MACLENNAN
In Flying Kit

THE IDEALS AND TRAINING OF A FLYING OFFICER

RODERICK Ward Maclellan, known to his friends as Ward, was a Queen's Arts graduate of 1914. He was born in Toronto on the 17th of May, 1893, and was killed in France on the 23rd of December, 1917. Prior to entering Queen's in 1910, he had received his earlier education in the schools of his native city. Both his father and his grandfather Maclellan were graduates of Queen's. He decided to follow his father in the legal profession, so in October, 1914, he registered in the Law School at Osgoode Hall. One immediate result of the war in legal circles was the Osgoode Rifle Club which he joined and he soon became one of the crack shots. He completed his first year in law in the spring of 1915, and in October commenced his second, and at the same time joined an Officers' Training Corps connected with the University of Toronto. In December he decided to join the reinforcements which Queen's was gathering to send to her Hospital then at Cairo. In January, 1916, he went to Kingston and enlisted as private number 03755. While there he received the result of the Christmas law examinations, standing fifth in a class of about ninety. In his farewell letter from Kingston he said: "I wish you all good-bye again, and remember that I am going off on work which is congenial and necessary, and I could not with any self-respect stay in Toronto any longer."

He sailed from St. John with the rank of Sergeant, on the 2nd of March, crossing the Atlantic on the Scandinavian. To

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a fresh water sailor from boyhood the voyage was full of interest, although he described it as a very rough passage. "There was frequent lifeboat drill. When we were within a day or two of England greater precautions were taken. I was chased back to my room by the guard several times, because I had started without my belt. They were carried everywhere, to the dining room, to the lavatories and on deck. It made me think of the Ancient Mariner and the Albatross, to see all the passengers going round with white life preservers slung round their necks.—On the ninth day we began steering a zigzag course. On March 12th the "Mosquito fleet" came out to meet us. Away on the horizon to starboard I saw three small black specks, gradually growing larger, racing towards us like mad. Others rushed towards us from the port side, and presently we had seven wicked looking torpedo boats escorting us. Flashes from their signal lamps ordered alterations in our course. Presently H.M.S. Drake speeded up and disappeared over the horizon ahead.—As we lay in Plymouth harbour I was impressed by the hills, green and brown in the sun, and after snowbound Canada the sight of green herbage was most welcome."

The next day he reached Shorncliffe, and as Queen's Hospital was then on its way from Egypt to France, the reinforcements were detained in England, and the various members were detailed for duty in several places. MacLennan was soon taken on the orderly room staff of the Canadian Army Medical Corps Training School then stationed at Dibgate, a clearing depot for the Canadian Medical Service. He was given a new number 535405, and remained at this work for three months. In June, 1916, he with others from the school was transferred to the Shorncliffe Military Hospital to organize a new staff. He was again in the Orderly Room, and in a short time was advanced to the rank of a Staff Sergeant. He remained at this work until February, 1917. During this period he several times had leave and visited Dover, Canterbury, Glasgow, Loch Lomond, Edinburgh, Melrose, Abbotsford, Stratford-on-Avon, Exeter, Bath, Land's End, and London many times.

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After a few months with the Medical service he became firmly convinced that with his education and military training he could render more valuable service if he had a commission. He accordingly applied for the position of Honorary Lieutenant and Quarter Master in the Medical service where he had gained much experience. He felt most keenly the difference of social grade, which unfortunately seemed to exist, between the commissioned and non-commissioned rank. Referring to the application at this time, the Major-General at Canadian Headquarters wrote from London to his father. "I have pleasure in informing you that your son is recommended for promotion in very flattering terms indeed, and his name has been noted for promotion when a vacancy occurs." The promised advance was so long delayed, that he was obliged to seek a commission in another branch of the service.

Writing home in March, 1917, he said: "What I am about to tell you may come as a bit of a surprise, but I know you will, on thinking the matter over, approve of it. Just on the eve of my departure for France I was taken off the Queen's Hospital draft and held here, on account of an application sent forward in February to the War Office to secure my appointment to a commission in the Royal Flying Corps. It appears now that I shall be accepted, and shall commence a period of instruction. One reason for my taking this step is because fit men are in such great demand for fighting units. Nothing has made me happier for a long time than my two interviews in London with officers at the War Office."

While waiting a summons to one of the Schools of Military Aeronautics, he went back to his old post as an orderly room Sergeant in the C.A.M.C. Depot, then at Westenhanger. Writing on the 15th of April he said:—"Here I am again in London in circumstances a little surprising. For a week I had been intending to spend this Sunday here on my way to Scotland on leave, this time to see the Trossachs and Glasgow, and Bath on the way back. I had my ticket (a free one) and my kit all packed, and then it was all knocked on the head by a telephone message ordering me to report tomorrow to an officers' Training School in Oxford. You would have been amused if you

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had seen me this afternoon, struggling from Holborn Station to Paddington with full kit, through the streets of London. It was a sight to behold, and I sincerely hope I shall never have to repeat it. I had rather expected to go to Denham in Buckinghamshire for the first part of my course. Think, however, of spending several months in Oxford. I had often had a vain hope that some day I might visit the old colleges. Now it is actually going to take place, and I am very pleased indeed. Do not forget to write often, as I have left all the friends I have made during the past year, and shall now have to make new ones."

Oxford he enjoyed in full measure, and with his pen and camera sent many pictures home of what he saw and heard. He was quartered for aeronautic instruction, first at Christ Church and later at Brasenose. "Our mess"—he wrote—"was a great comfort, in Christ Church undergraduates dining hall. We entered through a massive stone porch with a beautifully groined stone ceiling. The hall was a huge place, and could seat 300. There were two open hearths and the walls were covered with oil paintings of famous graduates and notables. Henry VIII and John Wesley were conspicuous among these."

In his first letter from Oxford he wrote:—"I have already had leisure in which to stroll about to see the architectural beauties of the town. It is undoubtedly the finest place so far as buildings go that I have seen. Beautiful vistas abound. Go almost where you will, a curving street fades into the distance, and the spot at which the curve begins is usually surmounted by some lovely tower. The effect is resting and pleasing. How I wish my family could see what I am seeing just now of old England."

After his first Sunday in Oxford he wrote:—The Presbyterians parade to St. Columba Church. I did not care much for the service on account of the preacher. This evening I shall go to the University Church St. Mary the Virgin, it has the most beautiful spire I have ever seen. After his second Sunday—I attended the Church of England parade held in Christ Church Cathedral, part of the College. The service was short and appropriate and the music was provided by a fine

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pipe organ. There was no choir. Owing to the nature of the work I have been doing, this was the third Church parade I have attended in over twelve months. On May morning at 6 a.m. from the banks of the Cherwell, I heard the old hymn to the Virgin sung from the top of Magdalen tower by the choir.

One thing I have enjoyed to an enormous degree, it has taken me out of Khaki for a few hours for the first time in sixteen months, is lolling about in white flannels on the river and at Christ Church tennis courts. I have had a few sets and am beginning to get into fairly decent form again, and to get back my old service. We are encouraged to take part in athletics all we can, so I am going to try some rowing in fours. It was on the fine Saturdays and Sundays that we investigated the charms of the Isis and Cherwell, and found them very good. I have had my first experience in rowing a shell with sliding seats on the Thames. It was great sport and took place on a hot June day. I was rather hoping that we would upset in transit, but we got along fairly well and managed to stay in the boat. I brought away a few blisters to remind me of the trip.

I am delighted to find some place where I can get inside of a home occasionally. He wrote, after making the acquaintance of Mr. and Mrs. H. T. Gerrans, the former one of the Dons of Worcester College, Oxford.—Closer acquaintance made me feel quite at home. They opened many places for me which otherwise I would not have seen. One night I had dinner with Mr. Gerrans. Every Sunday evening it is customary for the College dignitaries to "dine in Hall" in the Provost's special dining room. The party was a small one, the Provost or Head of Worcester, the Oxford representative in the House of Commons, an Army Chaplain just returned from France, Mr. Gerrans and myself. The meal was bounteous, tastefully served and most enjoyable. Probably a greater treat was in listening to the conversation and discussion for two hours following the meal. I was extremely interested to have this opportunity of seeing some of the inner life of Oxford.

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A goodly portion of his leisure was devoted to his correspondence and journal. A weekly letter addressed jointly to his father, mother and sister, never once failed in crossing the Atlantic to his home in Canada. Other relatives and friends also received letters. The extracts which follow are his own account of his experiences in the air, and some of the other things which were of more than passing interest to this student in khaki.

Brasenose College, Oxford, Sunday, 1st July, 1917. The great thing this week is examinations, and if we are successful, our Commission. The extra amount of cramming that has been going on the last few days, reminds me of Osgoode Hall and Queen's. One of the most important subjects we have is rigging, and extra stress has been laid on it, so I have been doing a lot of scrambling in and out of planes, and through wires, and I flatter myself that rigging is one of my best subjects. I wish I could say the same about engines. We have four different types to learn, and they are pretty complicated affairs you may be sure. We had four hours of practical work on them, running them and starting them by turning the propeller, or "prop." This is usually done by a mechanic, but an officer has to learn how it is done, in case he has to make a forced landing, and then has to restart his engine to get home.

Photography is another branch of work taken up, but it is not very difficult. Some beautiful instruments are used with exceptionally fine lenses; they all work at about $f/4.3$. The cameras are fixed focus and we use 4 x 5 plates of a special kind. At the school are hundreds of interesting aerial photographs, which are used in conjunction with lectures. I am not giving away any great secret in saying, that probably every inch of the British front in France is photographed daily.

Possibly in my next letter I shall tell you to address all further communication to R. W. Maclennan, 2nd Lieut. R.F.C.

No. 8 Training Squadron, R.F.C., Somewhere in England, 7th July, 1917. R. W. Maclennan, Esq., 2nd Lieut., R.F.C., is addressing this letter to you from the Training Squad-

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ron to which he has been sent from Oxford. The examinations lasted two whole days and were held in the City Corn Exchange on George Street. Many of us were surprised and rather annoyed at the simple questions asked; only about three per cent. of the applicants failed. The papers were (1) Rotary Engines, (2) Stationary Engines, (3) Bombs, Instruments, Photography, Wireless, etc., (4) Rigging and Theory of Flight, (5) Aerial observation, and (6) A practical test in reading Morse on the buzzer.

The examinations terminated on July 5th and the results came out that afternoon, and my commission dated from midnight of the 5th. On the 6th I was sent with about 40 others to this camp, where we shall learn to fly.

Our journey from Oxford was via Basingstoke, where there is a Canadian Hospital. We had an hour's wait, but did not see anything of the town; being officers we travelled first class. We then passed into the Salisbury Plain district, which is now over-run with Australian and New Zealand troops. We reached Bulford about 7.45 p.m. and waited two hours until a lorry came from the Aerodrome. Bulford was the centre of the Canadian camp in the early days of the war. It is a long way from anywhere, and our camp is a long way from even Bulford. We arrived at the Aerodrome about 10 p.m., and I found three Canadians in the Squadron to which I was posted. I was assigned quarters, found my servant, had my camp bed unpacked, and turned in.

I think we are going to be comfortable here, though it is not such a civilized place as Oxford. The officers mess is near the village on a height above the river. We have to wait on ourselves in Cafeteria style, and cannot sit and be looked after as at Oxford. The quarters are crowded at present, and many of the new arrivals had to go into tents. I share a room with two others in one of the four rooms in little white and black bungalows built of beaver board. They have red (imitation tile) roofs and yellow chimney pots. The mess resembles a good country club and has a capital billiard room, and well furnished anteroom and in front two tennis courts. The aeroplane sheds, half a mile east, are huge affairs, built

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of corrugated iron. Each flight has its own shed. There are three squadrons with three flights each.

The Training Camp, 8th July, 1917. I can now tell you something about my first flight which took place this morning, and ended only a few minutes ago. It was in a Maurice Farman dual control machine. The engine and propeller are behind both pupil and pilot, and so the machine is a pusher, and the pupil, who sits away out in front, has a splendid outlook, with nothing in his way. The first flight in R.F.C. parlance is a "Joy ride," and is a trip as passenger to see whether you are going to be sick or frightened. I was neither the one nor the other, and enjoyed every minute in the air. We were up fifteen minutes. I was told not to watch the ground as we were leaving it, and so I kept my eyes on the horizon for a minute or two. Then I took a look at the ground below, and as it seemed to be quite natural to be leaving it, I kept on watching it getting farther and farther away. You know how a bicycle in turning a corner has to lean slightly in, to keep from falling outwards. An aeroplane does the same thing in turning, and this "banking," as it is called, was hard to get used to. However when I remembered how needlessly people are scared by a sail boat leaning over in a stiff breeze, I liked banking, and hoped the pilot would do some more, and when he did it again I hardly felt it.

The first machines used for instruction were designed by Farman, as a suitable buss in which to fly with his wife. They are for comfort and not speed, have 70 to 80 H.P. air cooled 8 cylinder motors, and 60 miles per hour is about the best they will do. They are slow climbers, and we only went up 600 feet. The German attacks on London were carried out at an altitude of 18,000 (over 3 miles). The aerodrome and hangars looked very small, even from 600 feet, and sheep in a field like pieces of dirty rice. The first motion of the volplane back to earth rather took my breath away but I soon got accustomed to it. The machine had no windscreen and, as I was not wearing goggles the speed of 60 miles rather hurt my eyes.

Prior to leaving Oxford, all who had passed their examin-

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ations visited the Quartermaster at Christ Church and were issued a flying kit, the value of which is from \$150 to \$200. It forms quite an imposing array and consists of a yellow leather coat to one's boot tops, with a high collar and lined with fleecy wool; a yellow leather flying cap covering head, face and neck, except eyes and nose (the inside is lovely and soft, and lined with sealskin); a learner's helmet made of leather and padded with rubber and never used; sealskin gauntlets to the elbows; leather thigh boots lined with sheepskin and with red rubber soles; a large pair of rubber overshoes with cloth tops, the latter to be worn over the sheepskin high boots to keep them dry before a flight. None of these wonderful things are worn in the summer, but the coat makes an excellent bath robe and a fine extra blanket on cold nights. We also received a camp kit which cost us about \$40—folding bed, pillow, rubber sheet, bath and wash stand and a folding chair.

Being an officer now, I no longer have to clean my boots or belt. My batman is a youngish large chap of extreme deafness, and as far as I can make out far from lofty intelligence. Most batmen are like this. However if he succeeds in getting me out of bed each morning at 4 a.m., in time for early flying, he will be doing something to help along the war.

The Training Camp, 15 July, 1917. My second flight took place the evening following the day of the first, and in the same machine. It was also a "Joy ride," but this time we climbed to 3000 feet, and came down in a spiral of rather small radius. It was very thrilling, and was done I think in order to test my nerves. We came down very quickly, and the sudden change from low to high pressure made me quite deaf for a few minutes after landing.

During the past week I have done three and one half hours actual flying, and I am enjoying it very much indeed. I cannot help feeling that it would be great fun to fly around over the islands in Lake Joseph. Flying over cities does not appeal to me much. Out here we are far from the habitation of man, and, but for the hutted military camps, there are no houses in sight.

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My instructor still accompanies me in the machine, but I do most of the flying, and am gaining confidence every day. Landing is considered the most difficult thing for a beginner, but I do not find it hard and I enjoy it. It is done in this manner:—You pick a nice green field where the grass is fairly short. I usually land from 200 feet; at that height a field with short grass is easily distinguishable. The nose of the machine is pointed towards the earth, the engine is throttled down to a slow speed, and the machine begins to plane down. She comes pretty fast but you hardly realize this, and are only conscious of a steady throbbing noise as the air beats against the planes. There is no sensation of falling, merely gliding towards the ground. When twelve feet off the ground you slowly pull back your control lever (joy stick) and the machine flattens out and runs over the grass with little jarring or bouncing. A poorly made landing makes the machine jump up and down and bounce like a rubber ball. If by mistake the pilot flattens out too soon, i.e. about 20 feet off the ground, it immediately loses its forward speed and drops like a plummet. Landing on its wheels it usually bounds into the air, pauses a moment, drops again, and this time having no forward speed at all the full weight of the machine, pilot, engine, etc., dropping from a slight height causes the undercarriage to break or possibly something worse happens.

I wonder if I am tiring you with ravings about flying. Sometimes we fly over country hamlets, and it is interesting to look down at the upturned faces of the yokels. A flock of sheep moving across a meadow resembles, from 400 feet, a mass of white maggots crawling, a rather nasty description, but so it seemed to me. The other morning we passed over one of the Australian camps just before breakfast, the men were being given physical jerks in the barrack square, surrounded by wooden huts. While we watched, they began to play leap frog, and it was an amusing spectacle. It is interesting from a height to watch other aeroplanes sliding along far below, giving the impression of flat white fish swimming at a lower level in the sea. One thing has struck me forcibly, that there is little or no noise to bother you. From the ground the

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machines seem to kick up a fearful row in the air. When flying you hear the engine and propellor, but it is by no means deafening, and you can easily talk to your passenger.

Machines always land into the wind, so a large T is kept on the ground near the hangars, the cross piece facing the wind. This is moved when the wind changes, and you know that if you land up the long part into the cross you are all right.

Our daily programme: Flying from 4.30 to 8.00 a.m. We each get an hour, taking it in turn. Machine gun and wireless from 10 to 11.30 a.m. Then we are usually free till from 7 to 10 p.m., when more flying is done. We spend part of the day making up the sleep we lose in getting up so early. In the morning and in the evening air currents are very little disturbed by the heat of the sun.

From what I could see at Oxford certain classes are still going on in all the colleges. All Souls seems entirely devoted to undergraduates. The Ladies' College "Somerville" is carrying on its usual work. In the other colleges the students are nearly all Medicals completing their course before enlisting, or Hindus, Japanese and Americans, the latter Rhodes' scholars. Except the colleges mentioned, all others house cadets. There must be between two and three thousand there all the time. There are two infantry cadet battalions as well as the Royal Flying School of Military Aeronautics.

The Training Camp, 22 July, 1917. It is Sunday morning and wonder of wonders the authorities have decided that for this week it shall be a holiday.

I have now completed my instruction with 'dual control', and the night before last I was allowed to go up alone for a short time. It was a quiet evening and I got on quite well, and the flight increased my self confidence to a great extent. I was a bit nervous at first, but made my landing fairly well. I did not go higher than 500 feet. The next morning I had two flights of half an hour each, getting in several landings. The wind was strong and the air bumpy, and as the wind blew over the sheds it made taking off difficult. I scared the Major by taking off over the sheds, instead of through the gaps be-

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tween them, and I got "bawled out" by him for this when I came down.

I am now a "soloist" as far as present machines go, and am consequently treated with a certain amount of respect by the other chaps, who are still going up with their instructors. I was surprised to learn that I was the first of the forty who came from Oxford, a fortnight ago, to do a solo flight. The instructors have trying times in getting the chaps persuaded to go up solo for the first time.

I have been lucky too. Landing an aeroplane is like bringing a sail-boat into a wharf. It can be done easily by one who knows how, and the inexperienced or careless person can do it with a bump. The undercarriage, or wheels on which an aeroplane lands, are designed, in the instructional machines, to break with a bump, and thus save the more valuable parts and also the pilot from harm. Every night someone makes a bouncing landing, and to use a term common here, "does in" their undercarriage. Last night I had a crash, I bounced slightly when I touched the ground, then lost flying speed, "pancaked" and swerved to the left, causing my two port wheels to turn over. I was delighted to find that nothing was broken. The mechanics in my flight were overjoyed when I came in without having damaged anything at all, and I made several landings. All the other machines but one had breaks. This meant that the mechanics have to spend all today fixing them.

Last Friday I spoke to one of the instructors about Stonehenge and expressed a desire to see it some day. He said, "Jump into my machine, and I'll take you over before dinner." In I got and off we went. I had my camera and took some photographs on the way, of the flight sheds, our camp and of Stonehenge itself. We viewed it first from 400ft. Stonehenge in afternoon light makes a pretty sight from the air. The dark green stones, each pair supporting a flat slab, laid across them, form a large circle, set in a light coloured green field. Quite a contrast to the hundreds of wooden huts, part of the modern camp nearby. We flew down quite near the ground, as we got

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to the place, circled round it for a minute, and then flew back to the aerodrome.

Although I was the first of our bunch to do a solo, it was not because I was rushed through. I had careful instruction and received two hours more dual than most get. I have got now so that I can look about me while in the air; at first I had to look straight ahead all the time.

London, 26 July, 1917. I completed my four hours "solo" on the afternoon of July 23rd, with great success. My landings gradually improved as time went on, and I managed to complete my course with only one breakage, a strut cross-bracing wire, which was repaired inside of five minutes.

I have been able to get 48 hours leave from the camp, and so took the opportunity of running up to town to finish getting my clothes. I think I have everything now.

I return to the aerodrome tonight, but shall leave it almost at once to go to a more advanced squadron, as I have learned all they can teach me at this camp.

I went last night to see a comedy called "General Post" at the Haymarket Theatre. It dealt with the war and was good; it has been playing here about half a year. If it should come to Toronto be sure and see it.

Central Flying School, 28th July, 1917. As you will see, I am no longer at the old camp, having finished my elementary training there. The Central Flying School is probably the best of its kind in England, and is equipped with a fine supply of modern machines. It is situated on a high table land. I came here yesterday in a cloud of dust in the tender which brought me, my luggage and six others from the old camp.

While the old camp is fresh in my mind I might say something of the training I received there. I got most of my instruction from my Squadron Commander, Major Atkinson. He was a splendid man, and I believe had been with the R.F.C. prior to the war. A lot of confidence came to me from his advice and "tips," and as a result I managed to do my four hours of solo flying with no trouble or accident of any kind. As I was the first of my Oxford companions to finish solo fly-

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ing, this, I think, helped to get me my two days leave, as it was almost unheard of that leave should be obtained after completing one's elementary instruction.

Before I left the old camp, I got to thoroughly enjoy riding around the aerodrome alone in a "Rumpty" as the instructional machine is called. For ordinary flying (putting in time) I used to go clackety-clacking round at 400 feet, and soon became so accustomed to the old busses that I could lie back and rest and view the country and not think much about actual flying, which became pretty well instinctive.

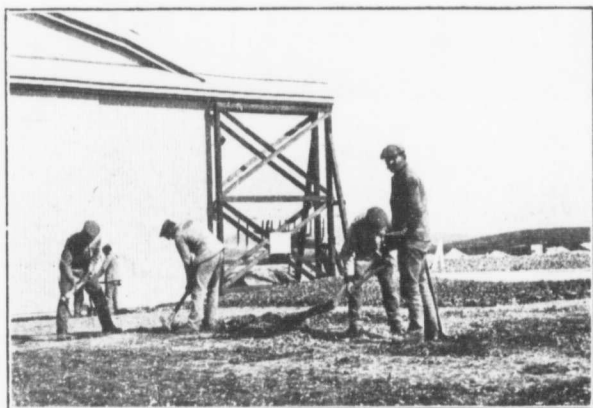
The machines here are quite different; they pretty well fly themselves, and are much faster. There is not the same engine noise. The old busses used to clack away like a sewing machine or a one-cylinder motor boat. Those here "hum" and would even satisfy Uncle Jim, they are so noiseless.

The Camp, 29th July, 1917. As I write it is half-past three, and in Muskoka with you it will be shortly after breakfast. I am having my little touch of imaginary Muskoka. I had the choice of sharing a room in a wooden hut, or of having a small bell tent pitched in a grove of pines in rear of the mess. I chose the tent, and am enjoying sleeping out doors again. The view from the tent door is a wide one. It overlooks miles and miles of rolling downs.

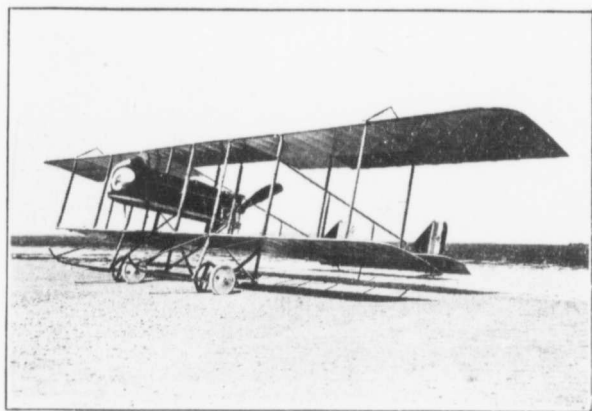
Our mess is a lovely place. It is a large long one-story building built of concrete blocks. The ceilings are high and there are large windows everywhere. It has a big lobby, a huge dining room, a large billiard room, two writing rooms, a card room and the ante-room which is a long rectangular room with its southern side all windows and has several sky lights, the whole effect tending towards that of a studio. I have several times thought of trying some photographs there. The floor is tiled and covered with rugs and the walls decorated with deer's heads. The dining room is also a big bright room and the walls are hung with good oil paintings. The mess as a whole is more like a large hotel than an implement of war. I suppose it will be kept on as a training centre after the war.



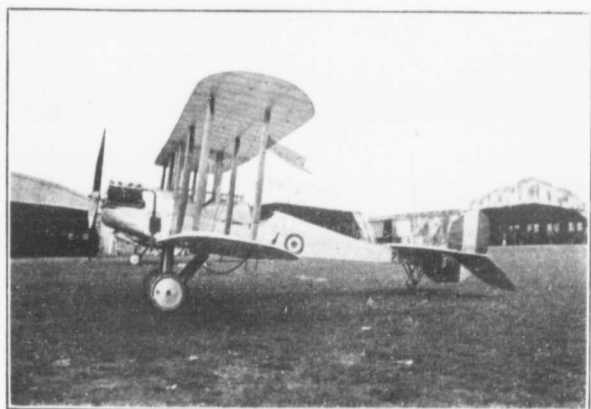
Mess—Central Flying School



Prisoners—Central Flying School



1ST TYPE—Maurice Farman
Short Horn—"Rumpty"



2ND TYPE—B.E. 2b. "Hunguffin"
The Machine he flew to Oxford

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I had rather hoped that life with the R. F. C. might make me grow a bit thinner, but we have such splendid meals that I am beginning to despair. I have never had such good food, such variety and such tasty cooking as we are enjoying at present. It has Oxford completely beaten, although the surroundings are not as impressive. The mess is also much better, and incidentally much more expensive, than at the old camp.

30th July, 1917. On this date he opened a note book entitled "Flying Notes" and under the heading "Notes for the Fighting Pilot" placed this Foreword. The book was in his kit when it was returned to Canada by the War Office:—

I keep this note book for the purpose of collecting in it every possible bit of information I can pick up on flying and aero-fighting, and to record every incident of interest and instructive use on every flight. I shall be surprised how interesting and instructive it will soon become.

The first few notes are written with the intention of impressing upon me the importance of making myself efficient, and how effective I can be if efficient; also to give me an ideal which it is absolutely necessary I should work up to. The ideal is by no means perfect, and until I can thoroughly satisfy myself that I have reached it, I cannot hope to count myself amongst the ranks of fighting pilots who count overseas.

As a single fighting unit I have the means of doing more damage to the enemy than any other in the whole army.

At the Camp, 5 Aug., 1917. It is nine a.m. and owing to numerous "bumps" in the air and low clouds and mist, flying has been "washed out" for this morning, so I shall be able to write letters, read and have a lazy time. You never saw such weather. It has rained and blown and been misty every single day for a whole week. I have only had two flights since coming to U—, and they were over a week ago, and lasted only an hour altogether. It became monotonous sitting about waiting, so I applied for leave and proceeded to Bath last Wednesday and returned here Friday night.

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The friends I visited have been there for four years, and in that time have developed an almost unbelievable garden. It contains almost every kind of flower and vegetable that I ever heard of, and in addition has peach, pear, cherry and apple trees, all bearing fruit; and strawberries, raspberries, logan berries, and gooseberries. The loganberries are a cross between blackberries and raspberries and they are said to grow better than rhubarb. The berries are large and slightly tarter than raspberries. It almost made me laugh to think of our efforts for years and years to get a decent peach off our one tree, when theirs is bearing a large crop after only three years. They did not raise it from seed however. Besides all this, they have about thirty chickens and eight or nine rabbits. Their table always had their own lettuce, and salads on it, and the first night I was with them they had a fine vegetable marrow.

My batman here is a constant source of worry. He does the ordinary things, such as boots, belt, buttons, etc., pretty well, but he has an insatiable habit of searching through all my belongings, especially on Mondays, in order to send my clothes to the wash. Last week he sent nearly everything I own, including my winter underwear and a suit of pajamas I had never worn. When I came here first, he unpacked all my stuff, and spread it all over and about my tent, with a sort of decorative effect. I usually prefer to have my belongings, not in immediate use, packed up in my kit bag, and it took him several days to see this and to learn that I did not want him to drag all my family skeletons out into public view. He is a very useful chap, and I don't know what I shall do when the war is over. Even three days in Bath without him made me feel lost.

The life agrees with me, and I am enjoying it. I hardly know how I shall ever be able to settle down again after the war.

Our programme at U— is as follows. Early morning flying when detailed, breakfast at 7.30 a.m. followed by a parade at the sheds at 8.20. Flying takes place all morning weather permitting, but during the forenoon an hour is spent at machine guns, an hour at artillery observation, and half an

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hour at a lecture or drill. We have the afternoons off till 4.30 p.m. when evening flying commences, this lasts till 8.45, when we rush to the mess and "gobble up" what remains of dinner, which had been served at eight. Luncheon is at 12.45 and tea at 4 p.m. Instead of a few waiters, we have a small army of waitresses who look after us very well.

The Camp, 12th August, 1917. The past week has been a dull one; continual rain day after day has made flying and certainly instruction impossible. Yesterday I had a "joy ride" in one of the very fast machines. It was fine, and gave me all sorts of thrills. The chief disadvantage is the stream of castor oil which the rotary engine throws out all over the machine, pilot and passenger. The fastest machines of all are tiny little things and carry only one man. They have stationary engines and are not nearly so dirty as those I have just mentioned.

I had a letter recently from one of the chaps at Westenhanger, and he tells me that quite a number are joining the flying service as a result of the step I took.

On Thursday I was inoculated for typhoid and consequently had a sore arm for a day or two. It is all over now. This was my first inoculation since the dose I had in Kingston in 1916.

The Camp, 14 August, 1917. To his Uncle Bob: You ask about first flights. The first couple were merely joy rides during which I became accustomed to the 'feel' of being off the ground, turning, banking, etc. The remainder of the 5 or 6 hours I spent on dual control. The practice machines are fitted up with one set of control levers, rudder bar, throttle and switch for the instructor, and a duplicate set of each for the pupil. The latter rests his hands and feet lightly on the controls while the instructor does the actual flying. Each movement made by the instructor is felt by the hands and feet of the pupil, who soon begins to associate the action of the machine with the different movements of the controls. Later on the pupil takes control and the instructor merely rests his

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hands on the levers. Still later the pupil takes full control and the teacher (who is behind) rests his hands on the pupil's shoulders to show him that at last he is actually flying the machine alone, usually greatly to the surprise of the latter.

After this, a fine morning is chosen when there is not much wind and the young birdman tremblingly sets forth on his first solo flight. He goes round the aerodrome once or twice and then essays a landing, and if he carries this out successfully his confidence is increased enormously, and he usually gets on pretty well.

This morning one of the instructors took me for a "joy ride" on one of the fastest machines, an "Avro." We were bound for ———, a nearby aerodrome, but at 3000 feet the clouds got so thick that we had to turn back. The clouds were the great white ones that pile up on one another against a deep blue sky on a summer day. We found ourselves in a sort of gorge, which seemed to run for miles between huge banks of the white clouds. Far below us as we looked down the lane between the clouds lay a bright green strip of fields. On either side, almost touching the wing tips of our machine, was an impenetrable mass of snowy white cloud-bank. Far above us as we looked up through the cañon walls was a strip of bright blue sky. This gorge of clear air between the clouds, although very narrow, extended several miles back to the aerodrome. It was great. I hope I am not boring you with all this detail, but I have no particular news.

The Camp, 19 August, 1917. Since leaving Oxford I have had quite a little opportunity for reading, and have read all kinds of things, some of the better books being: Conan Doyle's "Micah Clarke," and part of "Martin Chuzzlewit", one or two of Alexander Dumas' tales, two humorous books by George Birmingham, about small Irish villages, and one or two of Bernard Shaw's plays.

I am still doing dual control on B. E. 2b machines, which, by the way, are quite out of date for military purpose, and were obsolete even before the war. They are good busses for instructional purposes, for if one can fly one of these, he can

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fly anything else made. Our pet name for these *antediluvian* birds is "Hunguffin." I probably told you that the Farman machines, on which I learned to fly, are called "Rumpties." Nearly all machines have similar pet names. One rather popular type of scout machine is called a "Pup" because of its small size. Another is called a "Camel" because its planes have a peculiar humped appearance, when looking at them from the front. It will be another month before I have anything to do with either Pups or Camels, as, when I finish with Hunguffins, I have to learn to fly Avros before going on to the smaller scout machines.

Fog and low clouds hold us back a great deal. Fog is the worst, and then it is not safe to go up, as it is difficult to see the ground and hard to land properly. A good lookout is kept from the ground when the machines are up, and if a fog is seen approaching, white rockets are sent up, and all machines must land at once. The rockets burst high up, above the clouds if they are low ones, and the flashes are easily seen. This happened once in my early experience.

During the past week I had several rides in an Avro. Probably the most thrilling thing you can do with an Avro is "stalling." This is a safety arrangement to enable a machine to get into a proper gliding position, in case of engine failure. First, when flying level you get up a good speed, then gradually point the machine's nose up and up, until she climbs so steep that the engine will take her no further. Then, if the engine is shut off, the machine will tail slide a short distance, then her nose will drop and she will dive, and from this she is gradually flattened out again. The dive is a fine thrilling sensation, and has tobogganing beaten a long way. The machine is so designed that she will come out of the dive herself, although the pilot usually pulls her out.

The controls of all these machines are simple. The main one is the "joy stick," a handle which comes up from the floor between the pilot's feet. To go up, the stick is pulled towards the pilot, to go down, it is pushed forward, and the engine shut off. To turn to the left the stick is moved towards the left, and this tilts the planes to the left, at the same time the

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left foot, which is resting on the rudder bar, in front of the joy stick, is pushed slightly forward, this with the left bank which you have previously put on the machine turns her to the left. When the turn is made you press gently on the rudder bar with the right foot to make it central again, at the same time you take off the bank by moving the joy stick slightly to the right. The whole thing soon becomes instinctive, and you do it all without thinking about it.

I have been exploring the country by road on a rented bicycle, and it has been very pleasant. Our one great drawback is remoteness. The school is six miles from the nearest railway and the same distance from even a small town. One afternoon I went nearly to Devizes on a bicycle. I expect to go all the way next time. There is a beautiful road and no bad hills. I passed quite close to the white horse cut out of chalk on the hill side. As soon as I start solo I shall fly over it and take an aerial photograph.

When we are detailed for early morning flying we do not worry about waking up at 5 a.m. in time to get to the sheds at 5.30. Part of the duties of the air mechanics, privates in the R.F.C. and technically known as "Ack Emmas," is to wake us in time for flying. In case the weather is not suitable we are not wakened at all. When we are wakened we have to sign a slip of paper to the effect that we were called. This the Ack Emma retains in case we should go off to sleep again.

London, 25th August, 1917. I persuaded the authorities to let me have a couple of days leave this week end. I shall write a longer letter when I get back to camp.

It is amusing to see the Sammies about the London streets. They cannot help looking, acting and feeling new. It is great fun taking and returning their salutes, and while they look a fine body of men, I shall be very surprised if they do not earn a worse name for discipline than our own Canadians.

I have just come into the hotel after walking up the Strand from Trafalgar Square, and there were crowds of these chaps on the streets. It has not taken the London street girls

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long to find them out, and as the Sammies are pretty well paid they are bound to receive all kinds of attention from these ladies.

At the Camp, 28th August, 1917. I got back to the school just ahead of a storm, which made Sunday night blustery. I thought the tent would go before morning. It cleared about 5 a.m. on Monday, and I was able to get a short flight before breakfast. Soon afterwards rain clouds appeared again, and ever since we have lived in a deluge. I was wet through for the first time since I left the Military Hospital, and till after lunch, when I got a chance to change, I was rather uncomfortable. The rest of the afternoon I dozed on my bed covered up by my leather coat, and listened to the rain beating on the tent roof.

Owing to the bad weather, which has prevailed ever since I came to the Central School, I am still on dual control. I am now ready for solo, and wait for a decent day on which to begin. They are careful here to choose good weather to start beginners on their first flights alone.

If I should be unlucky enough to break one or two machines in landing, I will be sent to an Artillery Training Squadron for further instruction. This is the fate that befalls a great many, some of whom have been here for a long time. However, in nearly two months flying, I have not broken anything yet, and am not likely to do so now.

The Camp, 2nd September, 1917. Until to-day, the wet stormy weather continued, and consequently I am still on dual control and am getting an excellent chance to learn everything.

The first serious accident occurred a few days ago, and I am going to tell you about it so that you may understand what small need there is to worry. Most accidents occur on the type of elementary machines I flew at the beginning. They are the hardest of any to fly, and I am glad I am successfully finished with them. The smash occurred to a chap named Wood from Kingston. I went to college with him, and I believe his father is a missionary in India. His machine nose-dived about

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200 feet to the ground and there was not enough of it left to think of repairing it. Every bit was smashed to atoms, and yet Wood was practically unhurt. He had a black eye, a scratch on his head and a tooth knocked out, and nothing else. I went to see him in the hospital yesterday, and he expects to be flying again in almost no time. Only one bad smash in about 3000 flights, since I have been here, and that one only slightly shaken up, looks pretty safe, does it not?

This afternoon I spent playing singles on our lovely tennis courts. You never would think there was a war going on to look at U— this afternoon. Motor parties leaving and arriving at the mess, tennis players in white flannels, golfing enthusiasts, male and female, dotted all over the links which stretch away in front of the mess, and an occasional aeroplane humming and whining overhead. Sunday afternoon flying is voluntary, and not many machines are about. If you had strolled through the camp on the opposite side from the mess, the sight of a barbed wire enclosure, guarded by sentries, would have disillusioned you. These chaps are kept here to be employed on heavy manual labour, such as digging septic tanks, making roads, etc. They are a contented lot and seem to work pretty well.

I would like to have a heavy muffler for flying with. Have plenty of socks at present, thanks.

The Camp, 9th September, 1917. Since I last wrote I have made my first solo flight at the Central Flying School. I managed it all right, making several good landings, and was complimented by my instructor. It was made in a B.E. 2b, an almost pre-war type of machine, which is hard to fly, especially in bumps. I have now done six hours on this machine and in a few days will go on to Avros which are steadier and easier to fly.

A couple of days last week I was not quite up to the mark, and was not allowed to fly at all. That is one of the things they watch carefully in the Central Flying School. No one is allowed to take a machine in the air unless in the pink of condition. All I had was a slight cold which gave me a stiff neck for a day or two.

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Possibly you will be interested in a meagre description of afternoon flying. We have to be at the sheds at 4.10 p.m. In front of them runs a strip of tarred road surface fifty feet wide. On this the machines stand while waiting to go up; it is called the "Tarmac." We have a roll call at 4.15 p.m., and then sit in the sun on the tarmac with our "funny hat" and goggles. Presently a loud spluttering and then a deep hum from one of the forty machines lined up, is the signal for the commencement of the evening work. One of the instructors is going up to test the air. Up he goes, does a couple of circuits round the aerodrome, lands, and says: "2b pupils can wash out till six o'clock. Avros had better stay." This means that it is too bumpy for B.E. 2b's, but safe for Avros. Being a 2b artist, I go back to the mess or to my tent to read for an hour or so, and by the time I get there a dozen machines are in the air, and the throbbing hum of their engines is pretty loud. By the time I get well into my book the sound is no longer heard, although it is still there. One becomes unconscious of the racket, especially in the early morning, when one is lucky enough not to be on early flying, and can sleep peacefully through a row that would put an army of steel automatic rivetting machines to shame.

I go back to the sheds at six, and the air above the camp is thick with machines. In one place two Camels and a Pup are practicing aerial fighting, and are chasing each other up and down and around with all kinds of weird engine noises. Farther over and very high up five Avros are practising "formation flying"; keeping close together they are following their leader, who has a long streamer flying from his rudder. From the ground they resemble a small flock of birds, and they are so high that their engines cannot be heard above the hum of those below.

Quite near the ground a few pupils are practising landings, under the watchful eyes of their instructors, whose flow of language is surprisingly copious, should the landing prove a specially bad one.

Half a mile away, out in the centre of the aerodrome, a pupil is sitting in his machine. He has been careless in land-

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ing and has "lost his prop." In other words he has stalled his engine, and has to sit there till a mechanic can run out to start him up again. Needless to say, pupils who do this sort of thing frequently are most unpopular with the mechanics. Swinging a propeller is no easy task, but when it entails a half-mile walk at each end of the job, it is rather worse.

Over by the sheds a number of pupils are waiting their turn to go up. One of them in a machine is nervously running his engine preparatory to going up alone for the first time. His instructor is standing on the side of the machine watching the instruments and shouting directions. The engine is slowed down, and off goes the machine, first slowly over the grass till it reaches the centre of the aerodrome, then with roaring engine, and heading into the wind, it tears off the ground, rises and floats up and up till it becomes a speck five miles away. From this moment until fifteen minutes later when the machine again approaches the sheds, and prepares to land, is a trying time for the instructor, who can do nothing but look on. This pupil makes a fair landing, and proud as punch gets out of his machine and is told that he can "wash out" for the remainder of the evening.

I have been detailed to do a reconnaissance of two roads, each about ten miles long, with a view to their suitability for concealment of infantry from aircraft, facilities for watering horses, condition and traffic. In addition I have been shown two spots on a map and have been told to ascertain what is on the ground at these points.

I get in my machine, put on my leather cap and tie a pencil on the end of a string to my belt. Then I fold my map so that the spot I have to cover is visible, and then secure my map to my left leg above the knee with one of my garters. I do the same with a notebook on my right knee, and after a final polish of my goggles I am ready. The next three minutes is spent in testing the engine. This is found to be O.K. I wave my arm, do up my belt, the chocks are taken away from beneath my wheels, and I slowly taxi out, look round for other machines, then heading to wind I take off.

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Up comes the tail, and over the ground I go for about 200 yards. When a speed of 50 miles an hour is reached the machine takes herself off the ground and starts to climb. When 1000 feet is reached I slow down slightly and fly level. Presently I reach one of the spots to be examined. It is between a road and a wood and appears to be nothing more than green grass. Nothing is unusual so the engine is shut off and down she goes to 400 feet, for a closer look. From this height I can just make out a newly dug hole about four feet in diameter and near it two more. I mark these on the map, make a note of their size and fly off in the direction of the other spot. To reach it I have to pass over a large wood and then some plowed fields, and expecting bumps from these, I climb to 1000 feet, before passing over them. But even then I feel them, and the old buss jumps around as if she were alive. The spot brings me over a farm. Again I come down to 400 feet and in the centre of the lawn in front of the farm house are two white strips. A "T" is quite plain and something resembling "H" was beside it. Hurried notes are made of these strips, and the machine is headed for R—, where the road reconnaissance is to begin. I have been told to do it from 4000 feet, but at 2000 I am getting into the clouds, and as the bumps from them are pretty bad, I come down to 1500 and do the scheme from there. The two roads, 16 miles, are done in fifteen minutes, hasty notes being made as I go. One of them I find much more suitable for the required purpose than the other, on account of woods and trees through which it runs. It also winds alongside the river, and consequently would be good for watering purposes.

At this stage, just as I am admiring the sunset, which is a gorgeous one, and am thinking it time to return to the aerodrome, my engine begins to splutter and gives signs of "conking out." This is because I have been up an hour and a half and have used up all the petrol in my top tank. So I begin pumping the supply from the reserve tank into the top one, and the engine, now quite satisfied, picks up and runs merrily again. There are few machines up now, as it is almost dinner time. It is beginning to get dark and as I am gliding down

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an occasional jet of flame from my exhaust can be seen. It gives a weird effect, especially from the ground.

Soon the grass is tearing along right under me. I feel the wheels running along it, and the next minute I am undoing my belt and getting rid of my map, notebook and goggles. The machine is left to the care of the mechanics, and I am off to the mess to eat a huge dinner, and then to roll into bed, rather tired after two hours in the air.

London, 15 Sept., 1917. I managed to get some leave, and have been in London for the past two days. I have seen some of the damage done by German bombs. They make great holes in the street and break all the glass for many hundred feet.

Getting out of Clapham Common after the theatre was quite a problem. All the theatres seem to empty about the same time, and the tubes were simply jammed. I have been in some pretty thick London crowds on previous occasions, but never with a girl to look after, and we had rather a time to keep together. It was managed all right, but I had enough of the underground for one night, and came back to Westminster on the upper deck of an electrical tram—by which hangs a tale. I have crossed the Atlantic Ocean without a qualm, I have been present at post mortems which would sicken a stone image, I have negotiated the upper air in bumpy weather with confidence and buoyancy, but I was almost sick to my disgust. I did not actually "frow up" but I was never nearer it since that memorable occasion on the Corona when returning from Le Roy twelve years ago or more. London trams are very slow, and the one I was in had the upper deck roofed over and enclosed. The beastly things roll a lot and generally are creations of the devil.

The following day I spent doing a little shopping, visiting my tailor, book stores, etc. I called at Burberry's and had a fleece lining fitted to my trench coat. I also purchased a pair of heavy leather gauntlets for use in the machine both for warmth and to keep my hands clean. I visited the best barber I could find, as the C.F.S. artist who made two attempts at cutting my

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hair, made a frightful mess of it each time. All this and a trip to Cox & Co., my bankers, took most of the day.

I shall probably have more to say about flying, and less about London, in my next Sunday's letter.

Central Flying School, 19 Sept., 1917. To H. M. M. Many thanks for your letter of 20th August. It helped to make up a large Canadian mail which was very welcome. Your letter confirms rumours that have filtered over here from the Aviation School at Camp Borden. It seems that both the type of machine and the speed at which men are rushed through is responsible for many fatal accidents. Things are different here. We are fortunate at this school, which is one of the largest and best in England. It is an honour to have been chosen for it. Here, Scout pilots are trained, and having been the original scout squadron prior to the war, it has a reputation to maintain.

Although remarkably free from serious accidents, we do smash up a good many machines. In order to cope with this it is almost a small industrial community as well as a flying school. The repair and assembling sheds and the engine shops would shame the average Canadian manufacturing town. About 100 machines are kept in flying condition, and about a quarter as many are in dry dock.

The mess is first class and the facilities for recreation and athletics rival a good country club. We have squash courts, football and baseball fields, excellent golf links, and tennis courts that equal those of the best club in Toronto. The man power problem is acute over here, and every position that can be filled by women is so filled. All the cooks, waiters, clerks, etc., are girls, and all the mechanical transport vehicles, except the heaviest lorries, are also driven by girls. Having so many women in the lines would seem to create rather a problem for those in charge of discipline, but it works out remarkably well. There has been no trouble so far and various small social events have been arranged with success.

About the middle of August we held a sports day, followed in the evening by a large dance. This was well patronized, not only by the officers but by the other ranks too. It seems almost

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incredible that in a British Military Unit such a thing could happen.

At the Central Flying School, 23rd Sept., 1917. I have just begun solo on Avros, having done about 15 hours very successful flying on Hunguffins without smashing a single thing. Rather a record I think. I am very pleased in consequence. Avros are quite different to fly. They are stable in the air, practically fly themselves, and if they get into a nasty position, come out of it themselves. The other busses I have been on will not do this, and are not so safe; I am glad I am through with them.

I got lost this morning for the first time. Five machines went up together to fly in formation. I was the second on the right. After we had been up for a while we all got into a cloud, and as a precaution against getting too close to the rest, I put my nose down and came out of it. I could not find the others anywhere, and we were miles away from the aerodrome. I did not recognize any of the surrounding country. If I had not had my compass, I should have had to land, and ask where I was, as I had no map with me. By steering south I came to a town I recognized as being L——. This relieved me very much. I knew the way from there and in twenty minutes regained the "drome." I was glad I did not have to land, as it makes one feel so foolish to ask where you are, and have some yokel volunteer the information that you are in Master Brown's field. When I got back to the aerodrome it was just in time to catch up with the rest of the flight and we all landed together in perfect formation. I enjoyed this morning's flip, as in formation all one does is to keep one's eyes on the leader, and do just as he does. If one gets engine trouble, one has to drop out, but that does not happen often.

During the week fifteen American soldiers arrived here to be trained as Ack Emmas (air mechanics). To-night we had two American officers in the mess.

This afternoon I went to the village to call at the Alexander's. At one time they were *the* family of this part of Wiltshire, and owned most of the land about here. Mrs. A. asked me to walk to Rushall with her to visit her husband's

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mother, who lived in a real country house. As I seemed interested in English Country places they showed me all over the house. It was a charming place, large and rambling. The dining room was panelled in oak, and the kitchens, pantries and sculleries seemed endless. The bed rooms were old fashioned and each had a huge four-poster. Of course the roof was thatched. The garden was fine, and from the house the view through the garden and over the distant downs, was lovely. I had a pleasant afternoon.

Last night we had a nice time in the mess. The orchestra played for an hour after the meal, and then we had an impromptu concert. I have got very attached to the mess. Four of us go about together and have a happy time. I get homesick for them and it, when I go on leave, and am always glad to get back.

Do not worry about the Camp Borden accidents, we are not using the same machines as they are. Accidents here are not common, unfortunately they seem much too common at home. No stunts are allowed in any spirit of bavado. I think I shall be here another month. Then I shall be fully trained and shall in all probability cross to France. I must close now as it is getting late and I am in a formation for early tomorrow morning. I am still in tents.

Central Flying School, 26th Sept. 1917. You will be interested to hear of a pleasant trip I had a few days ago. On Monday morning I first flew an hour's formation with five other "Hunguffins". Then I was sent up to do an hour in an Avro. When I came down I got orders to go as a passenger to Farnboro near Aldershot. The Captain who flew the machine was to bring back a scout machine to the school, and I was to fly back the Hunguffin. My Squadron Commander knew that I wanted to spend a night in Oxford, so he told me, just as I went off, that if I happened to get lost on the way back, and found Oxford, nothing would be said about it.

We left the school at one o'clock and were at Farnboro, fifty miles away, in an hour. We had lunch, and as soon as I

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could get my machine filled up with petrol and oil, I started off. The weather was perfect. I followed the railway to Basingstoke, then north to Reading, and the Thames from there to Oxford. Helped by a good wind I seemed to get there in no time, taking less than an hour. Between Reading and Oxford I got lost for a few minutes, eventually finding myself over Wallingford, which I at first thought was Oxford. There was no mistaking Oxford however, once seen. Christ Church and the Radcliffe Camera are splendid landmarks. The City is a beautiful sight from three thousand feet, and the aerodrome at Port Meadow, a huge one, can be seen for miles away. I headed straight for the aerodrome, made a fairly good landing about four o'clock, and obtained permission from the adjutant, whom I knew, to have my machine looked after for the night. Then I jumped into a side-car which was going into town, and in ten minutes was at the house of Mr. and Mrs. Gerran's of Worcester College having tea. They all made quite a fuss over their first visitor via aeroplane. I was rather tired from the trip and was glad to get to bed early. Unfortunately I just missed Ted Mackay who had been with them the previous day.

I left early the following morning, but when I went out to the aerodrome the weather was so threatening that the Commanding Officer would not let me start back. By three o'clock it improved slightly although it was misty. The clouds were at two thousand feet, and as they were too thick to see through if I had gone above them, I had to fly just below them at fifteen hundred feet, so I was bumped about pretty badly. I found my way all right and reached Netheravon about four, doing the sixty miles in just sixty minutes. I had tea there, got more oil and petrol, and in ten minutes after leaving I was back safe and sound at the school, where I was 'strafed' by my squadron commander for having stayed to tea at Netheravon.

On a clear day one can see a town thirty miles away, but yesterday was so cloudy and misty that I had to come down to one thousand feet to see objects directly below me. Cross country flying on a clear day is delightful, but in "dud" weather it is not pleasant. By the way, the stamp on the envelope

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containing this letter was in my pocket for the one hundred and fifty miles of this flight.

Central Flying School, 29th September, 1917. On my return to the school late Tuesday afternoon, I flew again till dark and also on the following day until noon, when I went into Devizes to see the dentist. I was advised to have a wisdom tooth extracted. Part was removed and as a result I have been nursing a sore jaw, and a swollen face, and have not been allowed to fly since. It is now Sunday and I have just got permission to have a short flip this morning.

When I made my memorable flight to Oxford I found I was the first guest Mrs Gerrans had ever had by air. As a result I was bombarded by questions, and the most amusing part of the visit was the attitude of the two maids in the house. They had seen me before and knew who I was, and they were also expecting me as I had telephoned the previous evening. All during dinner the maid who was waiting on the table kept looking at me with eyes as big as saucers. On this trip I burned about thirty gallons of petrol and ten pints of oil.

I have now finished with D Squadron and am being sent to C. My quarters and mess remain the same. I will go on flying Avros for the present as I have not done much time on them. When I said good-bye to my late Squadron Commander he was very nice and said that any time I wanted a machine on a Sunday, or at slack times during the week, he thought he could spare me a Hun Guffin. This may come in useful some time and I shall not forget it. Speaking of these machines I am enclosing some nonsense about them in limerick form, written one day when I had nothing better to do. "Guffin" is the pet name for the B.E. 2b.

A certain sky pilot said "Why
Can't I fly upside down if I try?"
But his bus, a 2 B,
Tipped him into the sea,
—Saved his life, but he couldn't keep dry.

Another young chap said "I must
Loop the loop with my "guffin" or bust,
When he'd finished his stunt
His tail was in front
And his wing tips were wound round his thrust.

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Moral—

If you wish to aviate a "2B",
Don't be hasty just listen to me.
Stick around on the ground,
It's much safer, I've found,
If you must attain height—climb a tree.

Yesterday and today have been almost Summer days with just a touch of crispness in the air. I have moved my camp chair and table outside my tent, and sitting there, under the pine trees I am spending an hour or so writing.

As I write, Hetherington, one of our particular four is buzzing through the sky at a great height on an S.E. 5 machine, trying to take photographs at close range of another scout of the same kind. They are having a great time dodging and chasing each other. Just now they have passed out of sight, but they will be over again in a moment or so as they can fly one hundred and twenty miles an hour.

At the Central Flying School, 6th October, 1917. I am beginning my weekly letter on Saturday for a change. One reason is because it is cold and dark outside to-night, and another, I am detailed for duty tomorrow as Squadron Orderly Officer, and I shall be fairly busy all day.

Yesterday our canvas camp in the pretty pine grove was struck and now I am sharing a small panelled room in a wooden hut with Lieutenant Hemsworth, an Irish boy who is one of our four.

Since I came to C Squadron a week ago I have done very little flying, I have been in the air less than three hours. This has been mainly due to the wet windy weather, and partly to the fact that the Squadron is over-crowded at present, so, having done an hour's flying each chap is "washed out" for the remainder of the day in order to allow the others a chance to use the busses. I made a special effort to get transferred to C, because I like the machine from which C men graduate. It is a tiny one with a stationary engine and can fly level at 120 miles an hour and dive at 200. I am still on Avros, not being ready yet for this new buss.

This morning I was cold in the air for the first time. I

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went up before breakfast, and did an hour buzzing in and out among the clouds; to get clear of them I had to go up to 5000 feet, nearly a mile, and although it was all blue and gold up there, with snowy white in a great saucer below me, yet it was bitterly cold. When I came down I dived through gaps in the clouds when I could find them, as it is unsafe to fly straight through thick clouds for fear of collision. I got down in time to get a couple of eggs some bacon, toast and coffee. They tasted fine and soon warmed me up again. I did not fly again today, and with the exception of an hour at machine guns I had the rest of the day to myself.

I have been enjoying the change from B.E. 2B machines to Avros. After fifteen hours on the former I got very confident in them, yet they have not the steadiness and power which an Avro possesses. The latter has a 100 horse power rotary engine; and it is great fun taking off. The machine rolls over the ground faster and faster, your instrument shows her going 20, then 30, 40 and 50 miles an hour. About this point she leaves the ground. You do not feel her rising much, and are never conscious of the exact minute the wheels leave the earth. But as soon as you do, the speed suddenly jumps to 60 or 70 miles an hour. Even at this speed she is climbing, and when you shove her nose down so that she is flying level she will do 80 miles an hour quite easily. The pilot is not conscious of these speeds. The speed indicator, mounted on the instrument board in front of his knees, alone lets him know the difference between 40 and 80 miles. This along with the "rev." counter, which shows how fast the engine is revolving, and the altimeter, a barometer which shows the height in 1000's of feet, are the three chief instruments found on every aeroplane. An Avro will climb to a height equal to the City Hall tower at home, in less than two minutes from the time it commences running over the ground taking off.

I have spoken of the disagreeable bumps in the air near the ground, and in the vicinity of clouds. This machine is so well designed that bumps need hardly be considered by the pilot. They chuck his machine about, and would do this to any buss made, but an Avro corrects these herself, and the

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pilot does not have to be continually waggling the stick about as he does on a B.E. 2B.

When the engine is shut off and the nose of the machine is pointed towards the earth, in order to come down, the beginner usually gets a horrible sinking feeling about the stomach. This sensation entirely disappears as one does more and more flying, and now I never notice it in the slightest degree. Gliding back to earth is probably the most pleasing sensation of any. An Avro will glide down at 70 miles an hour with the engine off, without the pilot's hands touching any of the controls. During the glide the machine can be made to turn in any direction, do a straight glide, or come down like a soaring bird in a spiral. The latter is a useful mode of getting into a small field from a point directly above it.

Last evening Hemsworth and I and two of our Emma Tocks (which is morse alphabet for M.T.—motor transport) went to Devizes to a dance at the Town Hall in aid of a Red Cross Fund. We left in a Ford car about half past six and got back to camp after one. The girls were two sisters, who have been driving cars since I came to the school. Their evening dress and dancing were quite up to the mark, and we had a first rate time. This was the first dance I had been at since the memorable affair in Folkestone last February. The Town Hall made a fine ball room, much resembling the famous Assembly Rooms in Bath. (The latter by the way are now being used for the manufacture of aeroplane parts). Most of the men were officers from the surrounding camps, so we did not feel much out of water. We had a nice ride back and greatly to my relief I was not on the early morning flying list for the next day. Tonight I am going to bed early, and my batman has just put a hot water bottle in my blankets. I shall finish this some time tomorrow.

Next morning. It is still cold and raining hard. I am keeping warm by wearing my fur lined hip boots in my room. In half an hour I go to the sheds to see that everything is in order, and I shall have to change into something more waterproof. I am rather annoyed at the rain, Sunday afternoons are

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usually a holiday, and I shall not be able to have the long walk and tea at Enford which I had planned.

We do not pin much faith on the U.S.A. aero motor which is to be standardized, and made in large quantities. Standardization checks improvement, and a machine is out of date, sometimes as quickly as three months from its first appearance.

Central Flying School, 9th October, 1917. To his Uncle Bob. I was glad to hear of your vacation experiences. I can hardly imagine you doing farm work, but there is no accounting for tastes in war time. I have developed into quite a country bird myself, having hardly been in a town (with the exception of Oxford) for nearly six months. The summer in Wiltshire was delightful, but now the cold autumn weather is setting in, bringing strong winds and frequent rain to such an extent that I have only been in the air about four hours during the last two weeks.

The school here is crowded at present, and as a result of the bad weather few are being passed out. There are far more colonial chaps than Englishmen, and the Canadians easily lead the lot in point of numbers.

You will have seen from my letters home of my cross country flight to Oxford. I had a great time and no engine or other trouble. Since then I have gone on to receive instruction on faster machines, and the change has been quite a welcome one. There is a good deal to learn about them, and it will be some time yet before I feel as much at home in the new bus as I did in the old one.

A chap "blew in" here the other day from Toronto. He had been in the year ahead of me at Osgoode Hall, and had received some instruction at Camp Borden. From what I can learn the Canadian Aviation Schools manage to kill off a large number of their pupils in the early stages. We are much more fortunate here, and while we have lots of crashes, there are very few fatal ones.

The mornings and evenings are so dark now that little flying is attempted before 7 a.m. or after 5.30 p.m. This gives us much more sleep than we had in the summer, but we have practically no time off during the day.

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Central Flying School, 12th October, 1917. To his Uncle Ken. I am enclosing some more films which I hope some day you will find time to print. I had an experience the other day. The shutter of my camera suddenly went "dud" and as it is impossible to have repairs done in England now, I took the whole "blooming" thing apart, fixed it, and after about three hours managed to get it together again. Don't ever try unless you want to have a nervous break down.

The weather is seriously interfering with flying just now. Flying in the rain is decidedly unpleasant, at 80 miles an hour rain drops cut into one's face like hail stones, and the accumulation of rain and oil on the goggles makes it hard to see. This morning I had my goggles blown completely off in the air. I was lucky to make a successful grab at them just as they were disappearing overboard. I found the lenses had been pushed out of their sockets, so I had to land in order to effect repairs.

The Squadron in our school which does most flying during the week gets two days leave over the week end. Ours led by a long way last week, and if the weather is fine tomorrow I think I shall fly again to Oxford. If it is too wet, I shall go by train.

20 St. John Street, Oxford, 14th October, 1917. I am having a clear holiday from Saturday noon to Sunday night. I had a warm invitation to repeat my recent visit to Mr. and Mrs. Gerrans and I have done so. I had planned to fly to Oxford again, and having wired my hostess that I was coming, and having got my machine ready to start, I learned that the aerodrome at Oxford was temporarily closed, and that the authorities there could give no assistance to pilots landing on cross country flights. I had to change my plans and come by train. I reached Oxford about tea time Saturday afternoon having left the school at 11.30 a.m.

Last night I spent quietly in the house. This morning I went with Mrs. Gerrans to the University Service in St. Mary's Church. It was over at 11.30 a.m., and, in the interval before lunch, I had a walk about the town. We visited several of my

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old haunts including Brasenose, and in addition I saw the inside of New College for the first time. We finished by going through the University Park.

The University Service in St. Mary's this morning, would, I think, have shocked the average Episcopalian Church goer, or at least he would have been surprised at the form it took. The ubiquitous Book of Common Prayer was neither used nor followed. There was one hymn, one prayer and a sermon, which really took the form of an argument in favour of increased theological training for the clergy. The congregation was not large, and with the exception of myself was comprised exclusively of University dignitaries, their families and a few undergraduates. It turned out the finest day we have had in two months, so that walk after the service was most enjoyable.

On Friday I received Mother's letter of 16th September. Dad had added a query as to whether 'looping' was necessary. It is not, except in very exceptional circumstances, during possibly a very hard fight. In spite of warnings some foolish pilots will persist in doing it in machines which are not strong enough for this stunt. On small, strong scout machines like a Camel it can be done with perfect safety. H—— was probably killed looping a B.E. 2b, a machine which can be looped, but with a fine chance for the pilot to kill himself. An Avro can be looped, but it is not allowed at this school. It is not built for that sort of thing and one is only courting trouble if he tries it. Now that I am past the greenhorn stage, I shall not take any risks of getting hurt in England, any more than I should chance getting run over by a motor in London. Wood, who was in a bad smash, is all right again now. His accident was due to losing his head. I have never got excited in the air in over 40 hours flying, and shall not be likely to do so now.

It may interest you to know that I flew an Avro for 20 minutes the other day with both hands in my pockets, and then only took hold of the stick because it was time to land. Does not this speak well for the stability of the Avro? Even if the engine stops all the machine does is to glide slowly to earth, keeping the correct gliding angle herself.

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At the Central Flying School, 18th October, 1917. Royal Flying Corps (Officers) Graduation Certificate No. 8476. This is to certify that Second Lieutenant R. W. Maclennan, C Squadron, General List, has completed a course at the Central Flying School and is qualified for service in the Royal Flying Corps. I. A. Strange, Lieut.-Colonel, Asst. Commandant.

Central Flying School, 21st October, 1917. This morning's mail brought quite a Canadian budget. I have not yet been able to follow Babe's suggestion to photograph Brown, my batman. When we moved out of tent, I was unfortunate enough to lose the services of my faithful Brown, and had to put up with the inferior attentions of one S——, a civilian servant. He was both lazy and incompetent, and not being a soldier, he could neither be cursed nor threatened with incarceration in the guard room. I stood him about a week and then bribed the corporal in charge of the batmen, to have old Brown returned to me. Since then I have once more revelled in clean boots and shiny belt, and find my belongings in their proper places, and my hot water bottle in bed on cold nights. I am no longer allowed to oversleep in the mornings, as B. is adamant and makes me get up in plenty of time for my 7.30 a.m. parade.

Thanks for the scarf and underwear. Speaking of warm clothes, I got a fine camels hair and wool fleece lining for my trench coat from Burberry's, which is a comfort, now that the weather is getting cold. I wear it under my oilskin when flying and in my room as a dressing gown. Worn under my trench coat it makes a waterproof garment chill-proof as well, and is fine for motoring. We pampered people of the R.F.C. get a goodly amount of motoring, even with petrol at \$1.00 per gallon. Hardly a week passes but I get two or three long drives by tender.

I seem to have finished with my beloved Avros and am now flying a Morane bi-plane. It is not so steady as an Avro and it will not fly alone. We fly them to perfect ourselves in making landings, as a Morane is probably the hardest machine to land properly. I have been flying them a week now, and

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seem to have done pretty well. I broke an axle in landing on Thursday, but that was a mere nothing. Aside from the difficult landing, they are beautiful machines to fly and they have a lovely engine. They are small and in the air resemble a fish more than a bird. Yesterday I was up in one for an hour and thirty minutes, and during my wanderings about the country went down over Salisbury and from a height of about a mile, viewed the old town and its huge cathedral, set in a beautiful green garden.

On Thursday evening, on the invitation of a chap, who went to school with me at Wellesley, I attended a small dance at a little country vicarage three miles away. Five of us went and had a pleasant evening. The following day all five of us flew over the house at various times, and coming down low performed simple stunts for the amusement of the family.

Last Friday I again went by tender to Devizes to visit the dentist. I wandered about the town by myself and took one or two photographs. It is an old place and has more small inns in proportion to its population, than any other town I ever saw. I brought up at the Black Swan where I had tea. We drove the twelve miles back to the school in the dark, leaving Devizes at 6.30 p.m.

Speaking of damaging my Morane the other day reminds me, and it may interest you to know that Bird, Hetherington, Hemsworth and I have been responsible for probably \$50,000 damage to machines since we started to fly. My contribution towards this enormous sum has been very small, but does it not take your breath away? No one was hurt in any of these crashes. It does look funny to see a machine, after a bad landing, tip over and lie on her back with her wheels pointing towards the sky, or else roll over on her nose with her tail pointing straight up in the air.

Sunday.—Today, three of us walked three miles to Everleigh, and had lunch at a little inn. We returned to the school about four in time to see the end of a baseball match between some of the Canadian officers here and the American Ack Emmas. The Canadians won 8 to 1.

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Central Flying School, 28th October, 1917. Last Monday my friend Bird and I heard that an S.E. had crashed near Lagershall. We happened to know the girl who was to drive the tender dispatched to its assistance, and as the weather was not good enough for flying, we went along too. After a ten-mile ride we found the bus on her nose in a field. The pilot was unhurt. He had got lost, and in coming down to enquire his whereabouts, he had made a bad landing and crashed. We left the mechanics to load the machine on the trailer, and Bird and I and Booth the pilot adjourned to the officer's mess of the 13th Battalion, Worcester Regiment, and had lunch. They treated us very well, and we spent most of the afternoon there. We got back to camp about 6 p.m.

Central Flying School, 28th October, 1917. I have finished with Moranes and am now flying the wonderful S.E. 5 machine. This is the type I am to fly in France. The first solo was an ordeal as the tremendously powerful Hispano-Suiza 200 h.p. motor tends all the time to pull the machine to the right, and to counteract this the pilot has to keep the left rudder on all the time. I managed my first solo without accident of any kind. These are our fastest single seater scout machines at present. They can fly level at 120 miles per hour and are strong enough to be dived at 200. The motor is heavy and consequently the machine cannot be chucked about in the air so readily as a Sopwith Camel. The S.E. 5 can be made to do vertical banks, climbing turns, spins, side-slips and loops. On account of the heavy engine they have to fly fast through the air to keep from dropping, and consequently must be landed at great speed, less than 70 miles an hour is unsafe for landing. They are absolutely inherently stable and will fly for hours with "hands off" the controls. This was a great comfort after a Morane, which has to be flown by the pilot every minute. They will ramble along at 100 miles per hour and the pilot can warm his hands by placing them in his pockets, or he can open out and study a map, or make notes, write letters or read. The cockpit is so well enclosed and protected from the rush of air that the pilot sits in comparative

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comfort and can if necessary remove and clean his goggles, an impossibility in a Morane.

While training in England I found that with an S.E. 5 I could catch up to any other machine with ease, and of course could run away from them too, if I so desired. No greater sport can be imagined than a practice flight with another S.E. The main object is to approach the opponent from behind. This is done either by diving from above, or climbing from below so that his machine prevents him from seeing you. If one gets too close behind, the rear machine is tossed about like a cork by the wash from the other propellor. One must be careful not to get too close, as the pursuer gets out of control temporarily, and the pursued is able to get away.

A record of practice fights is secured by a dummy machine gun rigidly fixed to the aeroplane. It contains in its barrel a camera, and when the sights show a good position on the tail of your opponent, you press the gun trigger, and if the aim is correct you have a picture of the other machine. The gun is timed by steering your machine till your opponent's buss appears in your telescopic sight. Can you imagine anything more exciting, a cloudless day and two machines chasing each other, round and round and up and down, a mile high most of the time. I have seldom come down after a flight cold. I find the chief problem is to keep from getting too warm inside one's leather flying kit.

This reminds me, that as we only do five hours on S.E.'s here, I shall in all probability be in France next Sunday, and so my weekly letter will I suppose be dated Somewhere in France. The Central Flying School has been a good old home to me since July and it will be quite a wrench to me to leave it.

At the Camp, 29th October, 1917. On the eve of my departure for the Expeditionary Force in France to serve in the Royal Flying Corps, I am making a few notes which will, I trust, be forwarded to my father in Canada, in the event of any casualty occurring to me within the next few months.

Going as I almost certainly shall to a Scout Squadron, I am fully aware of the hazardous nature of the work to be done,

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and the almost certainty of some mishap befalling me sooner or later.

The present system of aerial fighting necessitates several friendly machines always flying in a formation or small compact group, which reduces to a very large extent the risks of one of their number being brought down. Even if one should be brought down the other members of the formation can usually see what has happened and can give a fairly accurate report as to whether the pilot has been killed or has managed to land his machine fairly intact. Consequently if I should fall during an aerial combat, my colleagues ought to be able to furnish a report which would relieve doubt and possibly a long period of anxiety to those at home.

Information concerning a casualty should be sought from two sources: (1) the War Office, London, (2) the Officer Commanding the Squadron B.E.F., France.

Risks and hazards of the R.F.C. may be great but when one is engaged as a member of a fighting force, it is a consolation to know, that he is one of the *Senior Service* of fighting armies, and as a scout pilot is probably one of the highest trained and most effective units of the whole army. He sees more of what is going on than any other soldier. He is entrusted with a machine worth £3000. He does not have to put up with the heart-breaking conditions of mud and wet under which the rest of the army labours, and he is extremely well paid.

In addition to this a scout pilot is, one might say, a pioneer (for the flying game is still in its infancy) in that branch of the service which will ultimately cause the final downfall of Prussian Militarism with all its hateful consequences.

The machine on which I have been trained in England is the best scout machine which the British Corps at present possesses.

My present property consists of: (Kit, etc. etc.).

If I am killed I should like my family to know that ever since I enlisted in 1916 my thoughts have ever been with them, and while at times I have been very weary of the war, I never regretted the step I took in donning uniform.

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London, 2nd November, 1917. Much as I expected to be in France when I wrote you last, the fates took a hand in things, and as a result you will get another Sunday letter written in England.

After a short flight last Sunday my engine gave a little trouble, with the result that I made a rather bad landing, breaking the under carriage of my buss and bumping my head against the back of the seat. I thought nothing of the jolt at the time, but our doctor who heard about it told me not to fly for a day or two, and about five hours later I was glad of this, as the muscles of my neck stiffened up. This lasted three days but has now disappeared. The doctor is a good old sort, and hinted at leave, which I applied for and got, so now I am in London.

This trip to London is rather in the way of novelty, as I am wearing my wings for the first time, having just received my graduation certificate from the Central Flying School. The wings are white and are worn on the left breast just under the pocket. They set off one's tunic in great style.

So far I have managed to scare away the Gothas when I come to London on leave. There have been some pretty bad raids and one bomb dropped recently right in Piccadilly Circus, killed a lot of people, made a huge hole in the street, and smashed all the plate glass windows in Swan & Edgars store. You have probably seen their advertisement in Punch.

At the Camp, 10th November, 1917. Yesterday I had my first flight in ten days, and for fear I might have forgotten how to fly or land, I was sent up in an Avro. I got on well enough it seems, so to-day I was put back on S.E.'s and had a fine hour fighting Hemsworth, who was up in another S.E. We had a pretty good scrap, which consisted solely of manœuvring for positions. I had the best buss and managed to beat him rather badly. After we tired of this we went to P—, and dived on trains on the Great Western Railway. As most of them were freight or "goods" trains, and could not do over 40 miles an hour, we found it rather slow and came home.

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Doesn't it sound thrilling to have a fast enough mode of travel to make chasing trains dull sport?

By the way, an awfully handy thing to send me each month would be a battery for my little flash lamp; they are rather hard to get here, and will be more difficult to procure in France.

It is now Sunday evening and I have been resting since four o'clock. I flew all morning, and after lunch the Canadian Officers played a baseball game against the American Ack Emmas. It was my first game for many months.

At the Camp, 17th November, 1917. I was amused to hear mother speak of the times you are having to economize in certain articles of food. Over here things are rather critical, and sugar and tea are so scarce that when one is invited out for a meal, and asks for sugar for his tea, the family produce it from some strong box, and the guest usually finds that every one else refuses sugar, with a saint-like expression on their faces. Bacon, butter and chocolate are all dear and hard to get at any price. Boots are a dreadful price.

I was interested to hear about Bishop's performances at Camp Borden. He has certainly done wonders in France. By the way, he was turned out at the Central Flying School, and is a good example of what the school can produce. On his way back to Canada he stopped here for a day or two, and on several occasions performed for our benefit on an S.E. 5. He did nothing, however, that the rest of us cannot do. He quite deserves any fuss that may be made over him at home. He has done enough at the front to earn a rest, and I think will be given an instructional post in England on his return. There are so many pilots now, that after they have done about four months in France, nearly all are returned to England as instructors, so I may be back here again before so very long.

These cold nights produce heavy mists in the mornings and as a result we have no flying before eleven. Flying is not very pleasant when it is hazy, and it is hard to see objects from a greater height than 1000 feet. Under 1000 feet it is not safe except with careful flying, and this becomes monoto-

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nous day after day. To-day I went up to fly formation with my instructor. My object was to keep as close to his machine as possible, and I managed to get pretty close. He became disgusted with the mist, and much to my annoyance began looping the loop. Needless to say I could hardly do this too as the machines were too close to make it safe, so I dived and landed. When he came down he explained that he was looping as a signal that the weather was too "dud" to make formation worth while, and that he was going back to the aerodrome.

Great interest is being taken by us in the new Air Force Bill, which has now had its second reading. It will create a new fighting force separate from the Army and Navy, and we shall be neither sailors nor soldiers but Airmen, and probably will wear some new kind of uniform. (The Bill had its third reading on the 29th of November, 1917, and is now Chapter 51 of 7 & 8 George V.).

Entry in Pilots' Flying Log Book, 17th November, 1917. Grand total Solo to date, 43 hours 20 minutes. Grand total, time in air, 63 hours 35 minutes.

London, 23rd November, 1917. Off for France, address care Gerrans, Oxford.

France, 24th November, 1917. Long before this reaches you I hope you will have received my wire sent yesterday from London. We left London on the "leave" train in the gray dawn early this morning, and reached the port of embarkation (a town I well know) without event. We had a rough crossing, but as it was not raining we remained on the top deck and managed not to be ill, although a lot of the chaps were pretty sick. We had a great hunt claiming our baggage, and had quite a chance to jabber what small amount of French we knew. Hemsworth and I go to our Squadron by train to-night.

No. 60 Squadron, R.F.C., B.E.F., France, 28th November, 1917. I last wrote you on Saturday from Boulogne. I have

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reached the Squadron which is to be my new home for some time to come.

I left Boulogne by train some time after midnight, and we travelled by jerks all night long in a French railway carriage, minus blinds, windows, doors and lights. Our destination was a small station somewhere in Flanders, and as we did not know exactly how far away it was we had to keep a sharp lookout, after the first four hours, in case we should run past it in the dark. I had just dozed off to sleep again when we reached our little station. We tumbled out and ran half a mile down the track to the door of the luggage van and pulled out our own kit, and threw it off the train, just as it commenced to move again.

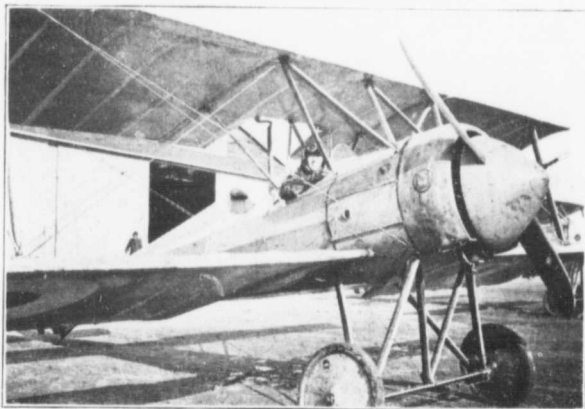
The next thing was to get in touch with our aerodrome, which we did by telephone. While waiting for the tender we went to the village in search of breakfast. This we found at the Café France, a sort of officers' club, run by a Belgian woman. We got a fairly decent meal of scrambled eggs, bread and coffee. The way the French prepare coffee gives it a peculiar taste, but not an unpleasant one.

When the tender came we collected our kit and started on a long cold ride to the aerodrome, which we reached in three-quarters of an hour. The first thing was to report to the Squadron Commander, a Captain who last summer had been one of my instructors. He was in temporary command in the absence of the Major, who was on leave, but has since returned. When we went to the mess we ran into a lot more of Central Flying School boys, who had been there in our time. There are about 24 officers in the squadron and more than half of these are Canadians, so I feel quite at home. As a newcomer I shall not get much flying during the first fortnight. I shall do all I can round the aerodrome for practice, so that when the time comes for me to go over the line I shall know something about it.

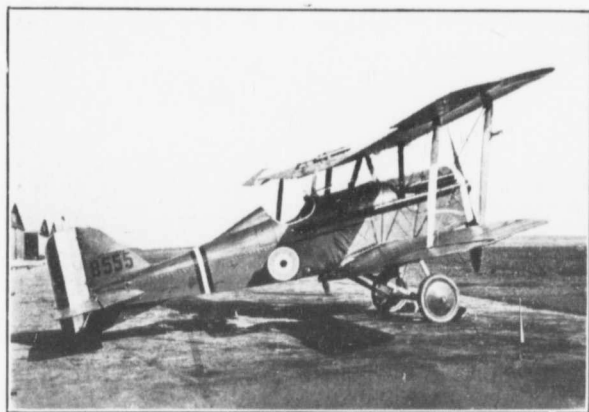
Of all the S.E. 5 squadrons in France, we seem to have struck the best. It is one which has done exceedingly well in the past. Both the late Captain Ball and Major Bishop belonged to it, and there have been fewer casualties than in any



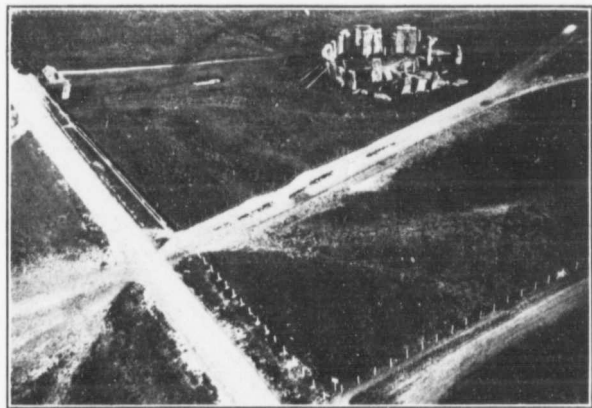
3RD TYPE—An Avro



4TH TYPE—A Morane
Lt. Maclennan in it.



5TH TYPE—An S.E. 5



Stonehenge—From the Air

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other similar squadron. Having had so few, the chaps have been in the game a long time, and so have had wide experience, and this is bound to be of inestimable benefit to new people. The aerodrome is a good twenty miles behind the line, and is practically immune from shell fire. None have landed anywhere near for months.

You ought to see our quarters. I share a hut with three others and we have lots of room. The huts are like half a barrel laid on the ground; the curved roof is corrugated iron and the ends are wood. We have several tables, comfortable chairs, our camp beds and innumerable rugs on the floor. A coal stove and an oil stove give plenty of heat, and petrol lamps give excellent light. I have not had such comfortable permanent quarters since leaving Canada, and yet we are within sound range of the guns which never cease. I was able to bring over practically every article of kit I possessed. An infantry officer would have had to leave nine-tenths of it behind.

One great comfort is that here we can wear just exactly what we like. We can come to breakfast in pajamas and wear comfortable old clothes all day long. Puttees I am discarding for good and in their place will wear long stockings. They have always been an abomination, as their tightness stops circulation and induces cold. We do not wear belts and can fly in sweaters. In fact it will be a long summer holiday with lots of excitement thrown in. Leave comes round every three months, and lasts for fourteen days.

No. 60 Squadron, R.F.C., B.E.F., France, 29th November, 1917. To an Uncle. This letter is being written behind the lines in Flanders. I came over last Saturday, just a week ago, and have been having a lovely lazy time ever since. Owing to bad weather there has been practically no work to do, and while I have been at my new home nearly a week I have not been over the lines yet.

I am sure it would have amused Aunt Grace to hear my first struggle with the French language. It was mainly concerned with ordering meals and feeble requests for note paper

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and enquiries for trains and the location of towns. My companion knew absolutely no French, so I had to do all the talking. I can hardly realize that at last I am actually in the war zone, so comfortable are we here and so happy. The others in the mess are all congenial, more than half are Canadians, and many of them I knew previously.

I have not been assigned to any particular machine since crossing, and have not even had a flight, but it will be a single seater scout machine with a 200 h.p. motor which will drive it 120 miles an hour. It sounds pretty fast, but that speed is slow compared with the rate at which it can be dived, 230 miles an hour can be done with safety. My squadron is one of the best of its kind and I am glad to say has been remarkably free from casualties. It has countless Huns to its credit too.

No. 60 Squadron, Royal Flying Corps, B.E.F., France, 30th November. To an Aunt: I am sure Uncle Ken will breathe a sigh of relief, for my camera must perforce remain in England until I go back on my first leave three months hence.

After leaving the school I expected to go to Scotland for a short course of Aerial gunnery. When I was actually boarding a train for the North, at St. Pancras, I got orders to report to Headquarters in London instead. When I went there I was politely told to proceed overseas on the ensuing Saturday. It was then Thursday, so I was lucky to have two more days leave in London.

Now I am settled for the winter. Our work consists of offensive patrols over our section of the front, and means two patrols a day, usually of one and a half hours for each pilot. Four machines go together.

My thermos bottle has had lots of use during the last month, and is becoming indispensable. It was instrumental in getting me some extra leave three weeks ago. After a minor crash, which I had in England, I loaned it to our Medical Officer, who was so pleased with it (he had never seen one before) that I had not much trouble in getting him to recommend me for some leave.

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At dinner to-night I shall drink a silent toast to the second anniversary of your wedding.

No. 60 Squadron, R.F.C., B.E.F., France, 2nd December, 1917. Sunday morning again, and it is a week since Hems-worth and I arrived at No. 60 Squadron. The time has passed quickly, and neither of us has been in the air since we left the good old Central Flying School.

I am sitting alone in the Mess as I write, bathed in a strong odour of banana oil. The men are "dopeing" our white muslin windows with a solution used for making a wind and waterproof surface on aeroplane wings, and we thought it would be a good scheme to put this stuff over our windows to keep out the wind. It contains a large percentage of banana oil, hence the smell. My own hut is a sporty place, and instead of white cloth for windows we have substituted real glass which Crompton, one of the inmates procured in a stealthy manner from some unknown source.

I mentioned before that our hut is very comfortable. You never saw such a fine collection of rugs. For the first time since leaving home (barring hotels) I have been able to walk the floor comfortably in bare feet. At night, when our stove is roaring we are fine and warm, but towards morning when getting up time comes it is pretty cold. Before leaving England I got a fleece sleeping bag from my tailor, and I find it useful already.

Our aerodrome (between Cassel and Hazebrouck) is a large one, and this is a good thing, as landing an S.E. in a small "drome" is quite a problem. We share it with two other squadrons, and another is expected shortly. Each squadron has its own mess, so we do not see much of the others, but they all seem friendly and a nice lot of fellows. Since I came, one of our oldest pilots has gone back to England, and a new one has arrived, so I am no longer the junior member of the mess.

Babe will be interested in our collection of dogs, as there are no end of them about the aerodrome. Our mess has a few special ones of different breeds, and with such names as Lobo, Nigger, Rastus, Bride and one "Hispano-Suiza," so

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called because our engines bear the same name. His chief accomplishment is yelping in order to get into our hut on cold nights. In reading the squadron orders yesterday I came across a paragraph forbidding pilots from conveying dogs to England in aeroplanes. There is a law prohibiting the bringing of dogs into the United Kingdom.

To add to the comfort of the mess, besides dogs, we have a fairly good piano and a gramophone. Every time any one goes on leave he brings back a few records, and the collection is now quite large.

The change from the school to here has been for the worse, as far as batmen go. I shall never be able to get another like old Brown. My present man is named Hazeldene, and just now he is languishing in the guard room as a result of having been found drunk yesterday.

The hours for actual flying are of necessity short, on account of the shortness of day light. Consequently we get lots of time for exercise, most of which consists in kicking a rugby ball around the aerodrome. It is about the best way of keeping warm these cold days.

Our tenders frequently run to St. Omer and even as far as Boulogne, so when not flying there are chances of seeing these places. It does seem funny to be able to go from practically the trenches to Boulogne (within sight of England) almost any time we want to. We, in the R.F.C., are about the only people who can do this.

When artillery horses are in need of a rest they are sent back from the front line. We have two or three at the squadron, and I shall probably get some riding if I can pluck up courage enough to try.

It is bound to be muddy here before the winter is over, at present everything is dry. In preparation for later we have "duck-boards" or wooden slat-walks laid down between all the huts, the mess, the hangars, etc. On a dark night it is rather a problem to keep on these boards. This reminds me that my little pocket flash lamp is almost indispensable out here.

All the heavy labour in this part of France is now being done by Chinese coolies brought specially from China for this

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purpose. They are enlisted as soldiers and wear a peculiar blue padded uniform. They are employed around the aerodrome levelling ground, putting sand bags about the huts as a protection against bombs, making roads and paths, etc. They are terribly interested in our phonograph, and if we leave the door open they almost come in. To keep them out, the interpreter has painted a large sign in Chinese characters, and it sticks up in front of the mess and gives it quite an oriental appearance.

Moving picture shows are given every night or so in a Church Army Hut in the Camp. We had several good films last night. It hardly seems at all like war yet.

France, 3rd December, 1917. To friends in Oxford. I am still merely watching operations from the ground. Two fresh pilots have been posted to the squadron since Hemsworth and I arrived and we shall probably commence flying tomorrow, if the weather is suitable.

Great interest is being shown out here in the coming General Election in Canada, and the authorities are endeavoring to have every Canadian register his vote. Quite contrary to Army precedent and regulations, the authorities are openly urging every one to vote against Laurier. Most of us share this view, but it is interesting to see the officials of an Army in the field canvassing votes for one party.

The Canadians are no longer near us. I imagine they needed a rest badly after their recent push.

You ought to see our strength in dogs. The squadron boasts sixteen canines at present. The officers' mess possesses five. We are very proud of them. Besides these we have six pigs, and twenty-five hens. There is no shortage of eggs about the mess.

France, 7th December, 1917. To the Bookkeeper in the Mowat legal firm. The cake arrived and has now disappeared after having been duly appreciated by the other inmates of my sand-bagged hut.

Three days ago, nine of the Canadians at our Squadron spent the afternoon motoring to the polls at a small Belgian

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village, about ten miles away, to cast our votes in the forthcoming Dominion elections. The affair is bound to be over by the time this note reaches you. We over here are unanimous in supporting the Union Government. I was interested in seeing Mr. Mowat's name among the candidates for South Parkdale.

France, 9th December, 1917. Since last Sunday I have been waiting, waiting, waiting for a flight, and not till last Thursday did I get it. The day was cloudy and the visibility poor. Hemsworth and I were to have a practice flight, and we spent about twenty minutes at it. When we finished I had lost sight of the aerodrome, and so had he, for I could see him flying aimlessly one way and then another, diving on one hill and then on several more. As our aerodrome is near a town perched on a high hill, I knew what he was looking for, but none of the hills seemed to be the right one. After that he turned and flew east for a time, and although I knew such a course would take us into Hunland, I followed, deciding to go with him as far as the trenches, and then turn west again; just our side of the line I spotted a town which I recognized from the great relief map we had at Oxford. It is a town which has undergone more shelling than any other during the whole war. I never saw such a sight of desolation. Nothing but shell holes in all directions. Practically all the buildings in ruins, and every now and then a shell would burst in the desolate City with a blinding flash. Of course I could hear nothing of the explosion. I knew my way back to the aerodrome and felt much relieved, as it is most undignified to get lost on one's first flip. I opened my engine and soon caught up to the other machine, and signalled Hemsworth to turn around and follow me. We were at the aerodrome twenty minutes later. The flight took place last Thursday. I have not been in the air since owing to a temporary shortage of machines.

Since commencing this letter I have had lunch and the daily post has come in. It brought the *Times* of yesterday which mentioned a terrible explosion in Halifax which seems

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to have done enormous damage. What a pity it could not have been instead of Halifax.

The little town, near our aerodrome, perched on a high hill, has a fine square, from which a beautiful church can be seen, and the square and streets are cobbled. The road which leads into the town from the east, enters through a short tunnel, which emerges right into the square itself. When I was last there several howitzer batteries were coming from the line for a rest, and the caterpillar tractors, which haul these huge guns, were grunting and chugging from the tunnel into the town, and through it, making for some spot further to the rear. All units, which come out of the trenches for a rest, are sent far enough back to be out of earshot of the guns. The Casino at the highest part of the town is devoted to military purposes. From it a wonderful view of the western front may be had, puffs of smoke in the distance, captive sausage observation balloons, aeroplanes and roads teeming with hundreds and hundreds of motor lorries slowly crawling along. A batch of miserable looking German prisoners were engaged in cleaning the streets. Their appearance gave the impression that they must have been reduced to sorry straits before capture, as they all looked white, pinched and sickly. I think they are pretty fairly treated by our people and certainly given enough to eat.

Speaking of food reminds me that you may be interested to know that we do pretty well in our mess, I quote from our ordinary dinner menu:—Soup, mock turtle, toast; Fish, grilled sole, mustard sauce; Entree, beefsteak, pastry, boiled potatoes, green peas; Sweets, stewed prunes, cornstarch pudding, biscuits, cheese, coffee. Does this satisfy you? It does me.

We have the correct number of machines, six in each flight, and there are three flights, A. B. and C. I am in B. flight. There are eighteen pilots, an equipment officer who is also Quartermaster, a Recording Officer (adjutant) and the Commanding Officer. So we have twenty two in our mess.

Lunch is served at one o'clock. Sometimes I have spent the afternoons walking into the nearby town. Tea is at four p.m. and now it is dark at that time. After tea we read or

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play cards till dinner at 7.30. After dinner some music. By the way, we have a rag time band, composed of a piano, a snare drum, two sets of bones, a triangle and brass cymbals and an auto horn. It is "some" band. We all go to bed fairly early.

France, 15th December, 1917. To a teacher of his Public School days. I received a pleasant and welcome surprise when your Christmas letter was handed to me in the mess after lunch today.

The "wee box" is on its way up from the Base. Parcels usually arrive two days later than letters announcing their dispatch. Thank you ever so much, and I can assure you that your gift will be appreciated by several of us, even to the last crumb.

Much as I would like to, for obvious reasons, I cannot tell you much about our work. Suffice it that we are a "fighting squadron" using the very fastest type of machine, and there is always plenty of excitement.

I can hardly express what a wonderful thing flying is, and what a hold it gets on one. I am having the time of my life. I trained for nearly seven months in England and spent two of them studying aeronautics in Oxford University. My actual practical instruction in flying took place in U——, and there I spent five of the happiest months of my life.

Over here things are fine too. Aside from flying we get lots of motoring, football and even riding. Certainly it pays to go to the war on wings.

France, 16th December, 1917. The past week has been an easy one for the squadron. I have only been in the air a few times. Quite recently a certain town not far off was under shell fire for two days. On the first fine day after this we sent up machines to a great height above the town, in order to catch the Hun airmen, who we felt certain would come over to take photographs of the damage done. Sure enough one solitary Hun came over, but I think he got the fright of his life for three of our machines chased him all the way back to

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Hunland, but were unable to bring him down. He did not get his photographs though.

I came in a few minutes ago from a game of football which our squadron played against No. 57. We were pretty badly beaten, but had a lot of good exercise out of it.

You will be interested to know that I am going to have some riding. When cavalry horses up in front need a rest they are sent back for a few months to units well back from the trenches. We have three at the aerodrome and the day before yesterday I plucked up courage and went for my first ride. I expected to be chucked off, but by hanging on with one hand to the saddle, I got an idea of how to trot, and before the afternoon was out I had done twelve miles, had several canters and a good gallop and managed to stay on all the time. During our ride we passed through the heavy traffic of a large town, where snorting lorries and puffing caterpillar tractors made the horses nervous and unpleasantly lively. When I got back I learned that I had been riding the liveliest of the three beasts, which has given me confidence for my next attempt.

As I write it is 6 p.m. on Sunday. There is a roaring fire in the stove. Five chaps are playing cards and one other is reading on his bed. Every two weeks or so when I am an orderly officer, I censor the mail for the N.C.O.'s and men. We of course censor our own letters.

France, 17th December, 1917. To friends in Oxford. Thanks ever so much for the pocket dictionary and excellent little French Grammar. I am pleased with both and have already spent some time in their company. I had an amusing experience in connection with the language a few days ago. I had a chance to go to St. Omer and one of the things I wanted to buy was a coal shovel for the stove in our hut. After poking through the darkened streets I found what seemed to be an iron monger's shop. I could not remember the French for "shovel" although I knew that coal was "charbon." Hoping that madame might understand some English I repeated the English word "shovel" several times coupling it with "charbon," and waited developments. She triumphantly ap-

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peared in a minute or two with a toy-horse and coal cart, and seemed quite surprised when I assured her that I was not in need of a "cheval."

Have not been doing much work lately, chiefly because of bad weather. This morning I did start off on an offensive patrol, but came limping back twenty minutes later with engine trouble, and barely managed to get into the aerodrome.

Entry in Pilot's Flying Log Book, 18th December, 1917. First patrol over lines, nine enemy aeroplanes seen, four engaged, time 7.25 a.m., absent one hour and 20 minutes on an S.E. 5.

On Christmas day, 1917, the War Office cabled to his father:—"Deeply regret to inform you 2/Lt. R. W. MacLennan, R.F.C., 60th Squadron, died of wounds December twenty-third. The Army Council express their sympathy." This was followed by letters from the officers of the 60th Squadron in France, informing his parents that on returning from a patrol over the lines and while gliding into the aerodrome, his engine stalled and he could not regain flying speed and fell vertically to the ground. One of these letters contained in a sealed envelope the message which he had prepared in October to be sent home in the event of any serious casualty. His remains were buried the day following the accident in the Communal Cemetery near Hazebrouck in France by the Rev. G. R. Trussell, a Methodist Chaplain attached to No. 15 Casualty Clearing Station B.E.F.

In addition to personal tributes from old friends the following came from his new friends, though strangers to his parents:—I have just received confirmation from the War Office of the notice which I saw in the papers telling of "Mac" being killed in action. No news of all the war has affected me in the way this news has. He and I were together as the closest of friends all the time from the day we enlisted till the day he left for his commission in the R.F.C. That is why—knowing him as I did—I am proud to say that he died in the fighting a thorough Christian gentleman. Never for an

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instant, in all the year and a half we were together, did he depart from his home taught Christian principles, and thus became even a stronger man for mastering the many temptations to which all soldiers are subjected.

Out of the Oxford home where he and others had received untold kindness, came this message:—Your letter with the few lines about the Maclennans moves me to send you a note about them. Their losing Ward is such a terrible tragedy. An only son, and such a son. From the first minute he came to the house he was just like one of ourselves, interested in everything we were doing, considerate, thoughtful, friendly, cheerful, everything that could make one glad to see him come and sorry to see him go, and so capable and keen and plucky. We miss him badly ourselves, and from the way he talked about his home, I can guess dimly what it means for them all. Healthy, happy, and made to be the source of happiness for others, the waste seems unbearable. I can't write all this to his mother, but if you have a chance of making her or his sister understand how much we valued, and admired him, I hope you will. I can't bear to hear the aeroplanes overhead, nor to think of any other friend going into the air service. But that isn't a feeling I shall give way to longer than I can help.

From a London home, where he called but once shortly before he left for France, his hostess, a lady of some eighty years, wrote:—Oh you know how truly grieved and shocked we feel at the terrible news just come to-day. It is almost impossible to believe that that strong looking, bright young creature has left this world, when so lately, so lately it seems, he was here so happy and full of life and energy. He told me to tell you how he had grown, so tall and broad shouldered, that he hardly thought you would know him again. We spoke of all the wonders of the Universe that have been discovered since I was born, of the number even since he was born, and I said I thought it was proof of how our Heavenly Father was educating us for a Higher life than this when we shall learn even more and more of science and beauty and love and truth; and how God might have told man all at once, but he gave him

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the joy of using his God-like powers to discover electricity, wireless telegraphy, everything we know, and your dear son looked so reverend and thoughtful and said:—"Oh yes, it is true, how we have progressed, how we have learned, but how much we have still to learn even here. You can't think what it is to be high up in the sky, what thoughts one has." I thought that all you who knew and loved him so would like to hear what he said.

From a brother Lieutenant, five years his junior, who had been with him in the Flying School and had accompanied him to France, came a shy estimate of his departed friend, with its significant touch of the hereafter:—I am not an atom of use writing these sort of letters. I think you will understand me when I say that "Mac" was certainly my best pal in the army. However there is no use being mournful about it, he is far happier *where he is*.

From Buckingham Palace came a note of regret signed by the Keeper of the Privy Purse. The King and Queen deeply regret to hear of the loss you and the Army have sustained by the death of your son in the service of his country; and I am commanded to convey to you the expression of Their Majesties' true sympathy with you in your sorrow.

