HIGH ADVENTURE. II

BY JAMES NORMAN HALL

HAVING simple civilian notions as to the amount of time necessary for dressing, Drew and I rose with the sound of the bugle on the following morning. We had promised each other that we would begin our new life in true soldier style, and so we reluctantly hurried to the wash-house, where we shaved in cold water, washed after a fashion, and then hurried back to the unheated barrack-room. We felt refreshed, morally and physically, but our heroic example seemed to make no impression upon our fellow aviators, whether French or American. Indeed, not one of them stirred until ten minutes before time for the morning *appel*, when there was a sudden upheaval of blankets down the entire length of the room. It was as though the patients in a hospital ward had been inoculated with some wonderful, instantaneous-health-giving virus. Men were jumping into boots and trousers at the same time, and running to and from the wash-house, buttoning their shirts and drying their faces as they ran. It must have taken months of experiment to perfect the system whereby every one remained in bed until the last possible moment. They professed to be very proud of it, but it was clear that they felt more at ease when Drew and I, after a week of heroic, early-morning resolves, abandoned our daily test of courage. We are all Doctor Johnsons at heart. Laziness is a virtue only when we all practice it together.

It was a crisp, calm morning — an excellent day for flying. Already the mechanicians were bringing out the machines and lining them up in front of the hangars, in preparation for the morning work, which began immediately after *appel*. Drew and I had received notice that we were to begin our training at once. Solicitous fellow countrymen had warned us to take with us all our flying clothes. We were by no means to forget our goggles, and the fur-lined boots which are worn over ordinary boots as a protection against the cold. Innocently, we obeyed all instructions to the letter. The absurdity of our appearance will be appreciated only by airmen. Novices begin their training, at a Blériot monoplane school, in Penguins — low-powered machines with clipped wings, which are not capable of leaving the ground. We were dressed as we would have no occasion to be dressed until we should be making sustained flights at high altitudes. Every one, Frenchmen and Americans alike, had a good laugh at our expense, but it was one in which we joined right willingly; and one kind-hearted *adjudant-moniteur*, in order to remove what discomfiture we may have felt, told us, through an interpreter, that he was sure we would become good airmen. The *très bon pilote* could be distinguished, in embryo, by the way he wore his goggles.

The beginners' class did not start work with the others, owing to the fact that the Penguins, driven by unaccustomed hands, covered a vast amount of ground in their rolling sorties back and forth across the field. Therefore Drew

and I had leisure to watch the others, and to see in operation the entire scheme by means of which France trains her combat *pilotes* for the front. Exclusive of the Penguin, there were seven classes, graded according to their degree of advancement. These, in their order, were the rolling class (a second-stage Penguin class, in which one still kept on the ground, but in machines of higher speed); the first flying class — short hops across the field at an altitude of two or three metres; the second flying class, where one learned to mount to from thirty to fifty metres, and to make landings without the use of the motor; *tour de piste* (A) — flights about the aerodrome in a 45 horse-power Blériot; *tour de piste* (B) — similar flights in a 50 horse-power machine; the spiral class, and the brevet class.

Our reception committee of the day before volunteered his services as guide, and took us from one class to another, making comments upon the nature of the work of each in such a bewildering combination of English and Americanized French that it is impossible for me to attempt to set it down on paper. For that matter, I understood but little of his explanation, although later I was able to appreciate immensely his French translation of some of our breezy Americanisms. But explanation was, for the most part, unnecessary. We could see for ourselves how the prospective *pilote* advanced from one class to another, becoming accustomed to machines of higher and higher power, 'growing his wings' very gradually, until at last he reached the spiral class, where he learned to make landings at a given spot and without the use of his motor, from an altitude of from 800 to 1000 metres, losing height in volplanes and serpentines. The final tests for the military brevet were three cross-country flights of from 200 to 300 kilometres, with landings during each flight, at three points; and an hour flight at a minimum altitude of 2000 metres.

With all the activities of the school taking place at once, we were almost as excited as two boys seeing their first three-ring circus. We scarcely knew which way to turn in our anxiety to miss nothing. But my chief concern, in anticipation, had been this: how were English-speaking *élèves-pilotes* to overcome the linguistic handicap? My uneasiness was set at rest on this first morning, when I saw how neatly most of the difficulties were overcome. Many of the Americans had no knowledge of French other than that which they had acquired since entering the French service, and this, as I have already hinted, had no great utilitarian value. An interpreter had been provided for them through the generosity and kindness of the Franco-American Committee in Paris; but it was impossible for him to be everywhere at once, and much was left to their own quickness of understanding and to the ingenuity of the *moniteurs*. The latter, being French, were eloquent with their gestures, delightfully eloquent. With the additional aid of a few English phrases which they had acquired from the Americans, and the simplest kind of French, they had little difficulty in making their instructions clear. Both of us felt much encouraged as we listened, for we could understand them very well.

As for the business of flying, as we watched it from below, it seemed the safest and simplest thing in the world. The machines left the ground so easily, and mounted and descended with such sureness of movement, that I was impatient to begin my training. I half believed that I could fly at once, after a few minutes of preliminary instruction, without first going through with all the tedious rolling along the ground in low-powered machines. But before the morning's work was finished, I revised

my opinion. Accidents began to happen, the first one when one of the 'old family cuckoos,' as the rolling machines were disdainfully called, showed a sudden burst of old-time speed and left the ground in a most alarming manner.

It was evident that the chap who was driving it, taken completely by surprise, had lost his head, and was working the controls in a very erratic way. First he swooped upward, then dived, tipping dangerously on one wing. In this sudden emergency he had quite forgotten his newly acquired knowledge. I wondered what I would do in such a strait, when one must think with the quickness and sureness of instinct. My heart was in my mouth, for I felt certain that the man would be killed. As for the others who were watching, no one appeared to be in the least excited. A *moniteur* near me said, 'Oh, là là! Il est perdu!' in a voice so mild that I turned to look at him in horrified surprise. The whole affair happened so quickly that I was not able to think myself into a similar situation before the end had come. At the last, the machine made a quick swoop downward, from a height of about 50 metres, then careened upward, tipped again, and diving sidewise, struck the ground with a sickening rending crash, the motor going at full speed. For a moment it stood, tail in air; then slowly the balance was lost, and it fell, bottom up, and lay silent.

Now an enterprising moving-picture company would have given a great deal of money to film that accident. It would have provided a splendid dramatic climax to a war drama of high adventure. Civilian audiences would have watched in breathless, awe-struck silence; but at a military school of aviation it was a different matter. 'Oh, là là! Il est perdu!' adequately gauges the degree of emotional interest taken in the incident. At the time I was shocked at this apparent callousness, but I understood it better when I had seen scores of such accidents occur, and had watched the *pilotes*, as in this case, crawl out from the wreckage, and walk sheepishly, and a little shaken, back to their classes. Although the machines were usually badly wrecked, the *pilotes* were rarely severely hurt. The landing chassis of a Blériot is so strong that it will break the force of a very heavy fall, and the motor, being in front, strikes the ground first instead of pinning the *pilote* beneath it.

To anticipate a little, in more than four months of training at the Blériot school there was not a single fatality, although as many as eleven machines were wrecked in the course of one working day, and rarely less than two or three. There were so many accidents as to convince me that Blériot training for novices is a mistake from the economic point of view. The upkeep expense is vastly greater than in double-command biplane schools, where the student *pilote* not only learns to fly in a much more stable machine, but makes all his early flights in company with a *moniteur* who has his own set of controls and may immediately correct any mistakes in handling. But France is not guided by questions of expense in her training of *pilotes de chasse*, and the best opinion appears to be that single-command monoplane training is much to be preferred for the airman who is to be both *pilote* and machine-gunner. Certain it is that men have greater confidence in themselves when they learn to fly alone from the beginning; and the Blériot, which requires the most delicate and sensitive handling, offers excellent preliminary schooling for the Nieuport and Spad, the very fast and high-powered biplanes which are the *avions de chasse* above the French lines.

A spice of interest was added to the morning's thrills when an American,

not to be outdone by his French compatriot, wrecked a machine so completely that it seemed incredible that he could have escaped without serious injury. But he did, and then we witnessed the amusing spectacle of an American, who had no French at all, explaining through the interpreter just how the accident had happened. I saw his *moniteur*, who knew no English, grin in a relieved kind of way when the American crawled out from under the wreckage. The reception committee whispered to me, 'This is Pourquoi, the best bawler-out we've got. "Pourquoi?" is always his first broadside. Then he wades in and you can hear him from one end of the field to the other. *Attendez!* this is going to be rich!'

Both of them started talking at once, the *moniteur* in French and the American in English. Then they turned to the interpreter, and any one witnessing the conversation from a distance would have thought that he was the culprit. The American had left the ground with the wind behind him, a serious fault in an airman, and he knew it very well.

'Look here, Pete,' he said; 'tell him I know it was my fault. Tell him I took a Steve Brody. I wanted to see if the old cuckoo had any pep in 'er. When I —'

'Pourquoi? Nom de Dieu! Qu'est-ce que je vous ai dit? Jamais faire comme cà! Jamais monter avec le vent en arrière! Jamais! Jamais!'

The others listened in hilarious silence while the interpreter, in despair, turned first to one and then to the other. 'Tell him I took a Steve Brody.' I wondered if he translated that literally. Steve took a chance, but it is hardly to be expected that a Frenchman would know of that daring gentleman's history, and how the expression, 'to take a Steve Brody' has enriched the language. In this connection, I remember a little talk on caution which was given to a few of us, later, by an English-speaking *moniteur*. It was after rather a serious accident, for which the spirit of Steve Brody was again responsible.

'You Americans,' he said, 'you are not afraid. When you go to the front you will get the Boche; but let me tell you, they will kill many of you. Not one or two; very many.'

Accidents delayed the work of flying scarcely at all. As soon as a machine was wrecked, Annamites appeared on the spot to clear away the débris and take it to the repair-shops, where the usable portions were quickly sorted out. We followed one of these processions in, and spent an hour watching the work of this other department of aviation upon which our own was so entirely dependent. Here machines were being built as well as repaired. The air vibrated with the hum of machinery, with the clang of hammers upon innumerable anvils, and with the roar of motors in process of being tested.

There was a small army of women doing work of many kinds. They were quite apt at it, particularly in the department where the fine strong linen cloth which covers the wings was being sewn together and stretched over the framework. There were great husky peasant-women doing the hardest kind of manual labor. As I watched them, I could not but think how the war is changing our centuries-old conceptions of woman's so-called sphere; how she is discovering her own abilities and adaptabilities. Drew went so far as to say that in the wars of the future she would fight shoulder to shoulder with the men; but he admitted later that the idea of mothers in the trenches was too horrible to be thought of. In these latter days of the great world-war, they are doing everything, surely, with the one exception of fighting. It is a sad thing to see them, however strong they may be, doing the rough, coarse work

of men, bearing great burdens on their backs as though they were oxen. There must be many now whose muscles are as hard and whose hands as horny as those of a stevedore. Several months after this time, when we were transferred to another school of aviation, one of the largest in Europe, we saw women employed on a much larger scale. They lived in barracks which were no better than our own, — not so good, in fact, — and roughed it like common soldiers. I realized then to what an appalling extent France must have sacrificed her men, and to what regrettable necessities the nation has been put that the war may be carried through to a successful conclusion.

Toward evening the wind freshened and flying was brought to a halt. Then the Penguins were brought from their hangars, and Drew and I, properly dressed this time, and accompanied by most of the Americans, went out to the field for our first sortie. As is usual on such occasions, there was no dearth of advice. Every graduate of the Penguin class had a method of his own for keeping that unmanageable bird traveling in a direct line, and every one was only too willing to give us the benefit of his experience. Finally, out of the welter of suggestions, one or two points became clear: it was important that one should give the machine full gas, and get the tail off the ground. Then, by skillful handling of the rudder, it might be kept traveling in the same general direction. But if, as usually happened, it showed willful tendencies, and started to turn within its own length, it was necessary to cut the contact, to prevent it from whirling so rapidly as to overturn.

Never have I seen a stranger sight than that of a swarm of Penguins at work. They looked like a brood of prehistoric birds of enormous size, with wings too short for flight. Most unwieldy birds they were, driven by beginners in the art of flying; but they ran along the ground at an amazing speed, zig-zagged this way and that, and whirled about as if trying to catch their own tails. As we stood watching them, an accident occurred which would have been very laughable had we not been too nervous to enjoy it. In a distant part of the field two machines were rushing about so wildly that it was evident the drivers of them were their unwilling slaves rather than their masters. There were acres of room in which they might pass, but after a moment of uncertainty, they rushed headlong for each other as though driven by the inexorable hand of fate, and met head-on, with a great rending of propellers. The onlookers along the side of the field howled and pounded each other in an ecstasy of delight, but Drew and I walked apart for a hasty consultation, for it was our turn next. In sheer desperation we kept rehearsing the points which we were to remember in driving a Penguin: full gas and tail up at once. Through the interpreter, our *moniteur* explained very carefully what we were to do, and mounted the step, to show us, in turn, the proper handling of the gas *manet* and of the *coupe-contact* button. Then he stepped down and shouted, 'Allez! en route!' with a smile meant to be reassuring.

I buckled myself in, fastened my helmet, and nodded to my mechanic.

'Coupe, plein gaz,' he said.

'Coupe, plein gaz,' I repeated.

He gave the propeller a few spins to suck in the mixture.

'Contact, reduisez.'

'Contact, reduisez.'

Again he spun the propeller, and the motor took. I pulled back my *manet*, full gas, and off I went at what seemed to me then breakneck speed. Remembering instructions, I pushed forward on the lever which governs the elevat-

ing planes, and up went my tail so quickly and at such an angle that almost instinctively I cut off my contact. Down dropped my tail again, and I whirled round in a circle — my first *cheval de bois*, as this absurd-looking manœuvre is called. I had quite forgotten that I had a rudder. I was like a man learning to swim, and could not yet coördinate the movements of my hands and feet. My bird was purring as gently as a cat, with the propeller turning slowly. It seemed thoroughly domesticated, but I knew that I had but to pull back on that *manet* to transform it into a rampant bird of prey. Before starting again I looked prudently about, and there was Drew racing all over the field. Suddenly he started in my direction as if the whole force of his will was turned to the business of running me down. Luckily he shut off his motor, and by the grace of the law of inertia came to a halt when he was within a dozen paces of me.

We turned our machines tail to tail and started off in opposite directions, but in a moment I was following hard after him. Almost it seemed that those evil birds had wills of their own. Drew's turned as though it were angry at the indignity of being pursued. We missed each other, but it was a near thing, and in the excitement of the moment, not being able to think fast enough, I stalled my motor, and had to await helplessly the assistance of a mechanic. Far away, at our starting-point, I could see the Americans waving their arms and embracing each other in huge delight, and then I realized why they had all been so eager to come with us to the field. They had been through all this. Now they were having their innings. I could hear them shouting, although their voices sounded very thin and faint. 'Why don't you come back?' they yelled. 'This way! Here we are! Here's your class!' They were having the time of their vindictive lives, and knew very well that we would go back if we could.

Finally we began to get the hang of it, and we did go back, although by somewhat circuitous routes. But we got there, and the *moniteur* explained again what we were to do. We were to anticipate the turn of the machine with the rudder, just as in sailing a boat. Then in a moment we understood the difficulty. In my next sortie, I fixed my eye upon the flag at the opposite side of the field, and reached it without a single *cheval de bois*. I was so happy I could have kissed the Annamite who was stationed there to turn the machines which rarely came. I had mastered the Penguin! I had forced my will upon it, compelled it to do my bidding! Back across the field I went, keeping a direct course, and thinking how they were all watching me, and the *moniteur*, doubtless, making approving comments. I reduced my gas at the proper time, and taxied triumphantly up to my starting-point.

But no one had seen my splendid sortie. Now that I had arrived, no one paid the least attention to me. All eyes were turned upward, and following them with my own, I saw the minutest speck of an airplane outlined against a heaped-up pile of snow-white cloud. It was moving at tremendous speed, when suddenly it darted straight upward, wavered for a second or two, turned slowly on one wing and fell, nose-down, turning round and round as it fell, like a scrap of paper. It was the *vrille*, the prettiest piece of aerial acrobatics that one could wish to see. It was a wonderful, an incredible sight to me then. Was there anything, I thought, which man's unconquerable mind and daring could not achieve? Only seven years ago Blériot crossed the English channel, and a year earlier the whole world was astonished at the exploits of the

Wright brothers, who were making flights, straight-line flights, of from fifteen to twenty minutes' duration!

Some one was counting the turns of the *vrille*. Six, seven, eight; then the airman came out of it on an even keel, and, nosing down to gather speed, looped twice in quick succession. Afterward he did the *retournement*, turning completely over in the air and going back in the opposite direction; then spiraled down and passed over our heads at about 50 metres, landing at the opposite side of the field so beautifully that it was impossible for me to tell when the machine touched the ground. The airman taxied back to the hangars and stopped just in front of us, while we gathered round to hear the latest news from the front.

For he had left the front, this birdman, only an hour before! I was incredulous at first, for I still thought of distances in the old way. But I was soon convinced. Mounted on the hood was the competent-looking Vickers machine-gun, with a long belt of shining cartridges in place, and on the side of the *fusilage* were painted the insignia of an escadrille.

The *pilote* was recognized as soon as he removed his helmet and goggles. He had been a *moniteur* at the school in former days, and was well known to some of the older Americans. He greeted us all very cordially, in excellent English, and told us how, on the strength of a hard morning's work over the lines, he had asked his captain for an afternoon off that he might visit his old friends at B——.

As soon as he had climbed down, those of us who had never before seen this latest type of French *avion de chasse*, crowded round, examining and admiring with mingled feelings of awe and reverence. It was a marvelous piece of aero-craftsmanship, the result of more than two years of accumulating experience in military aviation. It was hard to think of it as an inanimate thing, once having seen it in the air. It seemed living, intelligent, almost human. I could readily understand how it is that airmen become attached to their machines and speak of their fine points, their little peculiarities of individuality, with a kind of loving interest, as one might speak of a fine-spirited horse.

While the mechanicians were grooming this one, and replenishing the fuel-tanks, Drew and I examined it line by line, talking in low tones which seemed fitting in so splendid a presence. We climbed the step and looked down into the compact little car, where the *pilote* sat in a luxuriously upholstered seat. There were his compass, his speed-dial, his revolution-counter, his map in its roller case, with a course pricked out on it in a red line. Attached to the machine-gun, there was a most ingenious contrivance by means of which he fired it while still keeping a steady hand on his controls. The gun itself was fired directly through the propeller by means of a device which timed the shots to the minutest fraction of a second. The necessity for accuracy in this timing device is clear, when one remembers that the propeller turns over at a normal rate of between 1200 and 1300 revolutions per minute.

It was with a chastened spirit that I looked from this splendid fighting 'plane, back to my little three-cylinder Penguin, with its absurd clipped wings and its impudent tail. A moment ago it had seemed a thing of marvelous speed, and the mastery of it a glorious achievement. I told Drew what my feeling was as I came racing back to my starting-point, and how brief my moment of triumph had been. He answered me at first in grunts and nods, so that I knew he was not listening. Presently he began to talk, giving me dark

glances into that mysterious, moonlit mind of his. It was of romance again, the 'romance of high adventure,' as he called it. 'All this' — moving his arm in a wide gesture — was but an evidence of man's unconquerable craving for romance. War itself was a manifestation of it, gave it scope, relieved the pent-up longings for it which could not find sufficient outlet in times of peace. Romance would always be one of the minor, and sometimes one of the major causes for war, indirectly of course, but none the less really; for the craving for it was one reason why millions of men so readily accepted war at the hands of the little groups of diplomats who ruled their destinies.

It was impossible to follow him far. I had, as I say, only dark glimpses into his mind. But half an hour later, as we stood watching the little biplane again climbing into the evening sky, I understood, in a way, what he was driving at, and with what keen anticipation he was looking forward to the time when we too would know all that there was to know of the joy of flight. Higher and higher it mounted, now and then catching the sun on its silver wings in a flash of light, growing smaller and smaller, until it vanished in a golden haze, far to the north. It was then four o'clock. In an hour's time the *pilote* would be circling down over his aerodrome on the Somme front.

(To be continued)

BRITISH TACTICS IN THE WAR

BY H. SIDEBOTHAM

I

Strategy is the art of choosing the battlefield; tactics, the science of winning the battle. Strategy is half politics; for the right field of battle is that on which victory will give the highest proportion of political results to the expenditure of effort and of life, and the choice of the battlefield cannot be right unless there is a clear perception of the political ends of the war. And, therefore, because there is so much politics in strategy (using the term politics in its widest sense), the best strategists have commonly been, not men who were nothing but soldiers, but men of imagination with a taste for soldiering. Cæsar, Alexander, and Marlborough were all men of this type.

Tactics, on the other hand, is half business. If two armies are fighting in exactly the same way and by exactly the same rules, the conflict is likely to be bloody and the results indecisive. The successful tactics, therefore, are usually those which break with old rules; and the same qualities which make a man a good engineer and a skillful inventor, or even a successful man of business, would probably make him a good tactician. In strategy and tactics alike, convention and dogma are the enemies of success.