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The Aviation Number

April, 1924

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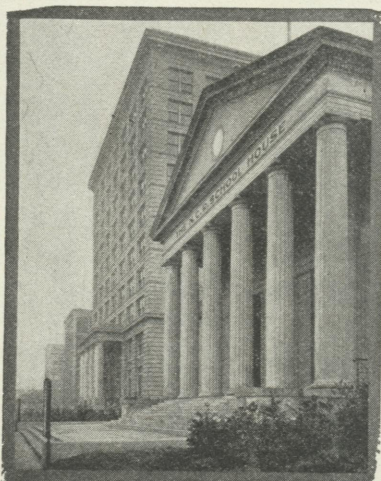
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The University of Dayton Exponent

Vol. XXII

APRIL, 1924

No. 4

Aviation Number

CONTENTS

Dedication	John H. Holtvoigt, William Himes
Orville Wright—An Interview	Carl J. Crane
Story—A Flying Chance	Ernest Stecker
Sketch—Mr. Frederick Patterson	J. F. Toedtman
Verse—Winged Fantasy	Frank Potts
Essay—The Art of Flying	Richard L. Sayre
Travel—The Air Route to Paris	Juan Carrasco
Essay—China's Share in the Development of Aeronautics	Francis X. Tsu
Essay—The Pulitzer Races for 1924	Bernard Losh, '15
Editorials—Easter	Garrity
The Aviation Number	Crane
The Flight Around the World	F. X. Tsu
The 1924 Pulitzer Races	Ratchford
Acknowledgement	Young
Magazine Wrack	Carl Ziegenbusch
University Chronicle	Gable Fleming
Athletic Notes	Charles Dougherty
Up in the Air	Varley P. Young

ILLUSTRATIONS

The Wright Brothers and the Barling Bomber
Frederick B. Patterson
A Winged Fantasy
The Power of the Giant of the Air
Etienne Tsu

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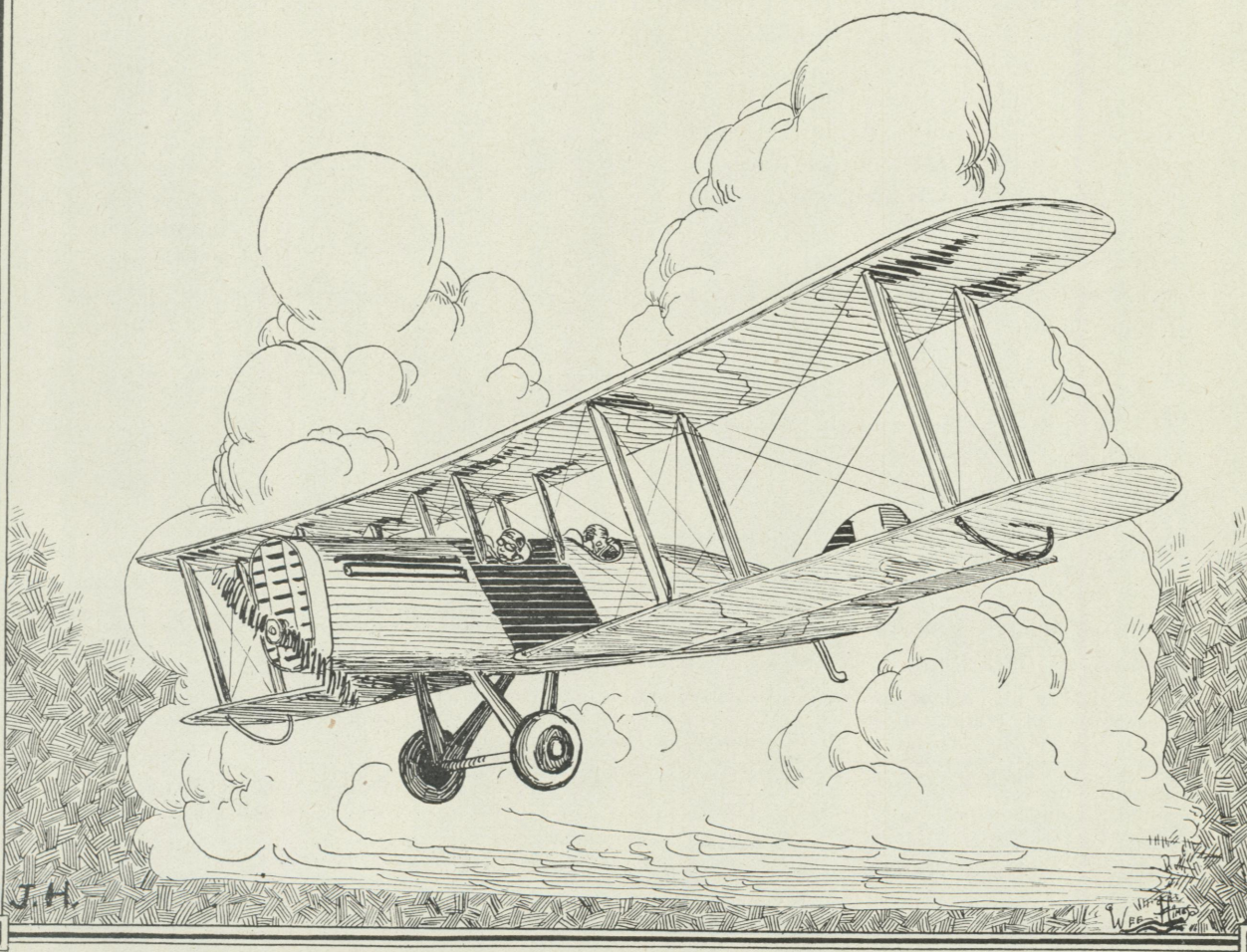
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THE EXPONENT, UNIVERSITY OF DAYTON, DAYTON, OHIO

❑ DEDICATION ❑

To Wilbur and Orville Wright,
Scientists and Engineers, Inventors of
the Airplane and Pioneers of Aviation,
Citizens of Dayton and Benefactors of
Men, This Number of the Exponent
Magazine is Dedicated





The UNIVERSITY of DAYTON EXPONENT



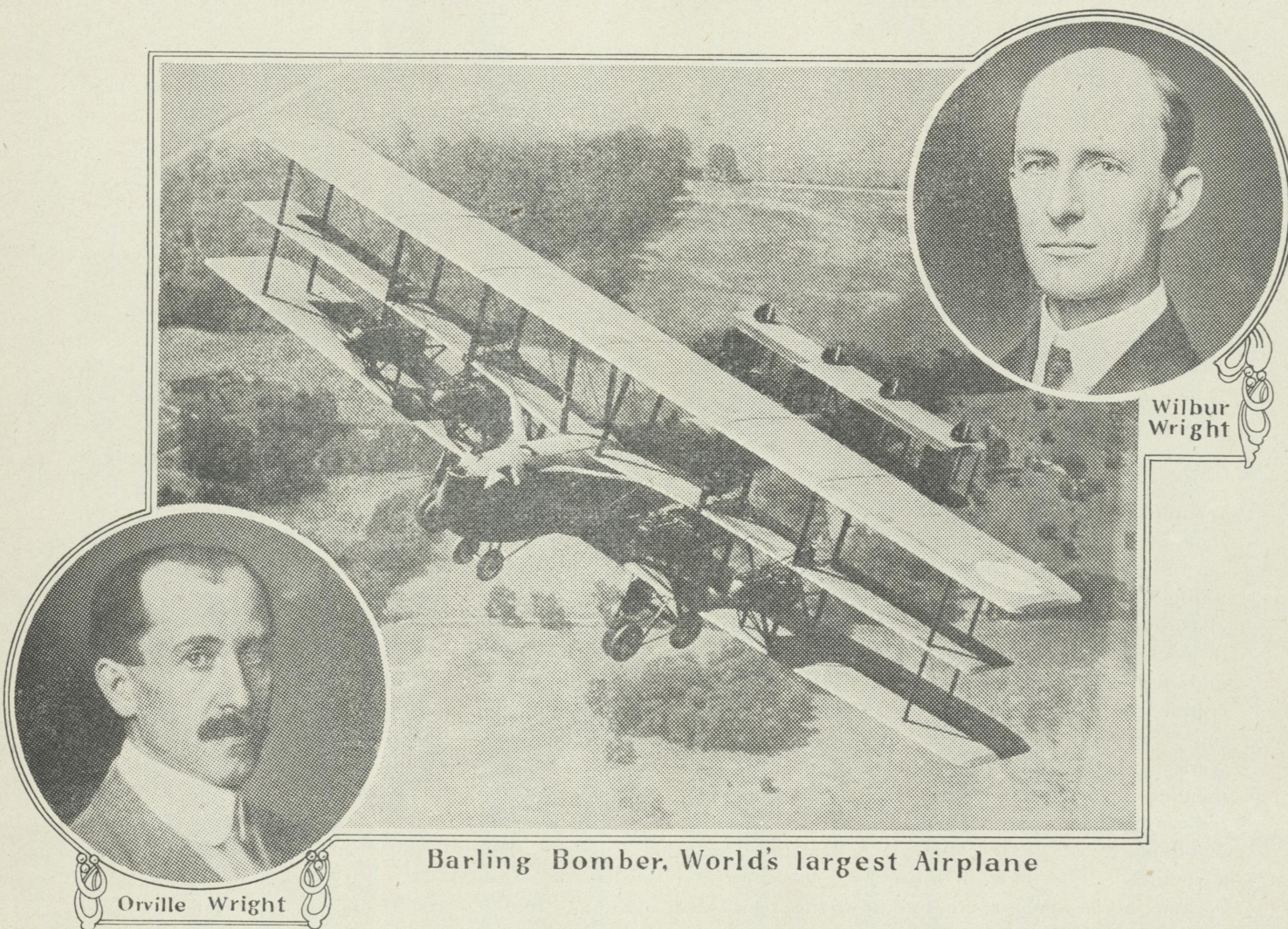
Vol. XXII

APRIL, 1924

No. 4

Orville Wright: An Interview

By Carl J. Crane



Barling Bomber, World's largest Airplane

NATURE, the sculptor, was moulding a beautiful mantel of white over the crude outlines of a busy city one cold afternoon in February as I turned into the offices of Orville

Wright. At five o'clock I was due. It was almost that time when the cheery smile of Mr. Wright greeted me and invited me into his private office. Here it was that Mr. Wright, seated behind his

drawing board, gave me an insight into a most colorful career; one to which history itself can present no parallel.

Mr. Wright is a man of average stature, very erect and with sparkling blue eyes that sparkle all the more when speaking of matters pertaining to aeronautics and just what were the factors that rushed through my mind in the first few moments of conversation with Mr. Wright that it seemed at first that no definite one would persevere, but as I now write there is one that stands out more forcibly than the rest; it is the quiet and unassuming manner of speech and the genuine kindness and big-heartedness of the greatest genius of aeronautical activity the world has ever known.

"Mr. Wright, how did you become interested in aeronautics and just what were the factors that led up to your invention of the first heavier than air flying machine?", I ventured after a moment's deliberation.

"Well," said Mr. Wright, "my brother and I never really worked toward the end of perfecting an airplane, at least not in the early part of our experiments. We used to take a yearly vacation and it was during these vacations that we used our time in playing with gliders. It was just real play for we were interested in the big kites and got more real enjoyment out of this sport than if we had been hunting or fishing. We got started with the gliders, for as boys we were interested in kites and we usually followed what interested us most. In fact, every thing I have ever done has been done from the viewpoint of interest." Mr. Wright here sounded the keynote of many a successful man's career.

"When still quite young I was attracted by the results of wood engraving and decided to try my luck at it. I did, and enjoyed it so much that I became quite adept with the tools of my own fashioning. Not having the necessary funds to purchase engraving tools I found that the springs out of pocket knives would quite satisfy the purpose and it was with these springs, refashioned of course, that I spent many an hour at wood engraving. Several specimens of the wood engravings were so well done that experts of the art commended them, and you might know that my profession in life was then settled. I was to be a wood engraver." Here Mr. Wright paused with a reminiscent twinkle in his eyes. "Of course it became necessary for me to know the results of my work and I set about getting a means of printing. As I was not able to buy a real printing press I went in search of the materials. I procured an old fragment of a tombstone which due to its plane surface seemed most likely to suit my purpose and after some time had a workable print-

ing press. My father and brother seeing my determination to become a printer managed after a while to get a small printing press for me. This was the apple of my eye for quite a time, but it only whetted my appetite to do larger work and after a short while I was ready to publish my first newspaper. It was not very elaborate but nevertheless it was a newspaper consisting of two sheets and the size was twenty-two by thirty-two inches." These were the ramifications of the earlier pursuits of Orville Wright.

When interest called to greater accomplishments, Mr. Wright found himself taking an active interest in bicycles. Mr. Wright continued: "My brother and I became interested in the sale and finally in the manufacture of bicycles. We did this however because we found the work interesting, we liked it very much and at times perhaps we would not have stayed in the bicycle business had not our fancy commanded us to. Once a year we managed to get away from the usual run of things and we spent that vacation on glider experiments. This was great sport and as such we took the proposition until one time when we came face to face with a problem that aroused our suspicion. We had constructed a glider and based our design on some of the existing aeronautical data of the times. When we tested it out we found that it would not perform as we had anticipated and proved that the data was incorrect. Further tests proved it conclusively and the more experiments we made the greater the number of technical discrepancies we encountered. We were using some of the only existing data on wings and had to go by these characteristics, so when we found them to be wrong we were on the verge of discontinuing our glider building. This was perhaps the only time we were almost thoroughly discouraged, for after finding the data unreliable we were at a loss what figures to incorporate to work out our designs. We knew that it would take considerable time and funds to obtain data of our own but there was some spirit that carried us through, so we set to the task of obtaining reliable information of the forces that played on a wing in flight." Here Mr. Wright paused a moment to bring forth from a cabinet a little pasteboard box from which came, unmistakably, sounds of metal against metal. He set the box on the drawing board and lifted the cover. "Here," said Mr. Wright, "are some of the model wings that we first tested to determine their various characteristics." One by one Mr. Wright explained the various characteristics of each model wing and told just how they obtained the results. Mr. Wright told how by taking first a full size glider and determining the factors such as lift and resistance for the glider wing, then constructing a

small scale model of the glider wing for test in the wind tunnel, they established a point of known value from which to work. After this small size model wing was made and tested in the wind tunnel, other model wings were also made and tested being compared with the first one. Mr. Wright said, "We took no absolute measurements on the models for the apparatus would not permit of this, but we compared our various wing models with the first one on which we knew the actual data from full size tests on the gliders." Indeed this was just another way of how genius accomplishes when it starts to work. "This was a simple way of accomplishing our results and they were results that we could go by and guided us in the building of the first power-driven man-carrying flying machine."

Mr. Wright while discussing the various phases of his experiments would frequently refer to his successes as bits of luck. Luck it may have been, but truly the luck of genius, or better, the intuition of a great mind coupled with a tenacity of purpose that admits of no defeat.

"Mr. Wright, were you ever discouraged in your adventures by those near and dear to you?" I ventured.

"No," was the quick response, "on the contrary we were encouraged just so long as we were working on anything, no matter what it was, that remained within the bounds of reason."

"The thing that was the greatest handicap when it came to the realization of the power-driven machine, was the way many of the engine builders responded to our inquiries—there were no responses! Just one, but even in this case the engine was much too heavy and in other respects it would not meet our requirements. So here again we had to do some original work. Finally, however, we succeeded in building an engine that ran nicely and delivered some sixteen horsepower for the first few minutes of operation and then fell off to twelve horsepower. This, however, was ample for our needs and it was with this engine that we finally succeeded in accomplishing power flight."

Just pause a moment, gentle reader, and try to picture to your mind the real problems, handicaps and difficulties that were faced, grappled with, and surmounted. How many of us would have been content to say "it can't be done"; and truly how many did say "it can't be done"! But to the genius that was theirs, "it can't be done" was perhaps the spark that enkindled their potential ability with the enthusiasm and forceful effort that "told the world" it could be done!

"Mr. Wright, what do you hold for the future of the airplane," I asked.

"I would perhaps be guilty of a grave error if I were to prophesy or to limit today, what tomorrow

will bring forth. No one really knows just what will be the economic force of the airplane of tomorrow. I do not believe, as some seem to think, that airplanes will be used within the city as the automobile of today is. The airplane has come to solve a problem distinctly its own, not to take from the railroad its work of hauling great loads of ponderous material, or to take the place of the automobile or ocean liner. On the contrary it has come to supplement these and to apply its usefulness to world-wide problems that have not yet found a real solution. The usefulness of the airplane lies in its speed and facility of locomotion, and not so much in its great size and capacity to carry tremendous loads, for we know today that the efficiency of the airplane decreases as its size increases. I have the most optimistic views however, that the airplane will find in the near future its real application in the economics of the universe much the same as the steamship and automobile found their value and worthy application."

The evening light of this wintry day was casting long shadows and the merry glow of the street lamps stood out against the dark background of closed shops as I left Mr. Wright's office with him. The day was done.

Wending my way home I could not help but marvel at the genius of man, yet still more at the designs of the Creator. Indeed there must be a most intricate law by which the Almighty favors man in his earthly endeavors. There must be a law of many variables by which the Creator lets man work out his destiny. It is true that we cannot all be great to the degree of world recognition. There are many who are big of soul and mind who are not men of great renown; just as true that there are men of great renown who are lacking the true qualities of heart and soul that typify genuine nobility. To credit Mr. Orville Wright with merely intellectual genius would be an injustice, for indeed, there exists in his personality that modesty of demeanor, nobility of heart and soul together with the intellectual genius, that all combine to mould out the true greatness that is his—Orville Wright. Many years ago the genius of Tennyson prompted him to write—

"For I dipt into the future, far as human eye
could see,
Saw the vision of the world, and all the wonders
that would be;
Saw the heavens fill with commerce, argosies
of magic sails,
Pilots of the purple twilight, dropping down
with costly bales."

Orville and Wilbur Wright realized the dreams of this poet.

A Flying Chance

By Ernest Stecker, Jr.

THE sun was slowly sinking in the West, and the silence of the approaching night was gently hovering about the weather-beaten Ranch House, as Bill Lawson returned from the corral, where he had been feeding the horses, and seated himself alongside of Chip Broderich. Chip was deeply engrossed in his own thoughts and did not move when Bill came up.

Bill, like most cowboys, possessed a heart full of sympathy, and it hurt him to see Chip in such perplexing moods without being able to help him; Chip was keeping his troubles away from this old pal who loved him and had aided him in every difficulty since he was a small boy.

As Chip arose from the porch, he muttered to himself more than to Bill, "She said I was temperamental," and with that left the ranch house and crossed over to the corral fence a short distance away. "Must be having some trouble with his girl," thought Bill as he slowly raised himself and went into the house to consult an unabridged dictionary, that had somehow, sometime, found its way out there from civilization, to find out just what was the correct meaning of temperamental.

Upon reaching the corral fence, Chip climbed to the top rail, and, lighting a cigarette, continued his thoughtful attitude until his attention was suddenly drawn to the beautiful sunset that was adjusting itself before him. As a general rule Chip did not give much attention to such an ordinary incident as a sunset, but for some reason his thoughts attentively lingered on the beautiful picture before him. Noticing this fact, Chip remarked to himself: "I suppose I am temperamental."

As he watched the quick changes in the Western sky and the manner in which the rays of light from the fast fading sun played upon the clouds above him, a sudden yearning gripped his heart; he longed to fly once more.

Although still a young man Chip had spent the many months of the World War, "Over There," as an observer in the Air Service, and in this way had become not only a good pilot, but also proficient in all the tricks of the game.

Upon leaving the Army at the close of the war, Chip had no desire to continue flying, and this fact had caused much comment among those who knew him. He had never intimated in any manner, although often questioned about it, why he had given up this new and inviting sport.

The sun had disappeared behind the Western ridge. The dark shadows of the coming night

were softly stealing across the valley as Chip continued to watch the beautiful colors on the clouds grow less vivid and then disappear. "Was that a bird's wings that had caused that silver flash high up near the clouds," he wondered. Then, from out of the still air about him, there came the soft purr of a motor. A string in his heart responded to the sound of the coming airplane, sending the blood rushing through his veins; causing his whole physique to become alive and tense. With a whoop he jumped from the fence and sighting the still distant plane he cried: "Mr. Aviator, I extend to you a heartfelt invitation to sup with me this eve."

Bill, as he looked out into the quickening darkness, suddenly jumped to his feet, fear and consternation o'erspreading his features, as he watched Chip on the run toward him, "Get me some gasoline," cried Chip. Still perplexed as to why Chip had suddenly developed such queer ways, Bill grabbed him by the shoulders saying: "What is all the fuss about, kid. Temperamental is not a bad word." With a grin at his old pal's sincere interest in him, Chip hurriedly explained the necessity of some quick action.

Within a few minutes, Chip with Bill's aid had mixed two large cans of gasoline with some thick oil. Judging the best direction for a plane to land, he proceeded to make a big arrow on the ground pointing in the direction the wind was coming from. He had sent Bill a good four hundred yards distance away and instructed him to make a straight line parallel with the barn as long as the gas would last and then to light a match to it. Finishing the big arrow, Chip struck a match to it and then proceeded to draw a line parallel to the one Bill had made, making sure that there was sufficient room to set a plane down between them.

As the flames shot into the air, Chip's hopes likewise took a sudden leap for he could see that the plane was losing altitude as it came nearer to him. "That's sort of a new way to round 'em up," said Bill as he came up to where Chip was standing, "What's the idea of the burning gas, do you think it will have any sort of effect on that thing's appetite up there? Reminds me of trying to make some of those wild ponies come up from the pasture by shaking oats in a tin can." Chip paid little attention to Bill's warbling, so intent was he on watching the plane that was getting closer each second. "Bill, if he ever cuts his motor, it will be a sure sign that he accepts my invitation to dine with us this eved," said Chip, his hopes beginning to rise

as the sound of the motor became less distinct, and the plane nosed over into a headlong dive toward them.

The eye of the coming aviator had evidently been attracted by the flaming signals, and he was at least coming down close enough to give them the once over. Suddenly the motor began to roar again and the plane circled overhead a number of times, and then some distance back leveled out and made a dive to land. When the plane settled down on the ground between the two lines of flame and rolled smoothly for a short distance, Chip remarked to Bill: "Whoever he is he can certainly set them down in the dark." "Get hold of the other wing Bill, and we will help him guide her in close to the house."

When they had the plane just where Chip wanted it, he gave the pilot a signal to cut the motor. A young man, about Chip's age, then jumped from the rear cockpit and advanced with extended hand saying: "American Legion." "You bet," answered Chip gripping the extended hand with all the good fellowship he possessed.

"Where were you headed," asked Chip as he helped the stranger out of his flying equipment. "Oh, just barnstorming, expected to make this Government landing field northwest of here some time tonight, and then continue East in the morning. How did it happen that you gave me the safety signals. There is a lot of cross currents up there, and believe me those little streaks of flame looked good to me. You learned that in France didn't you? Were you a pilot?" "An observer, most of the time," answered Chip, "but I had a lot of experience with signals and means to make a landing easier for a pilot. But coming to the point, I was certain you were low enough to read my signals, and I am certainly glad that you are here. We will tie your boat down for the night, and I want you to know that you are the boss of this place until you get ready to leave. By the way, what is your name?"

"George Kingston," answered the stranger as he fastened the covers on the cockpits. "Not the famous 'Break-'em-up George,'" asked Chip quickly. "The very same," answered the newcomer with a grin. "Our outfit was often near yours," Chip continued, "but I never did get to meet you. Still your face seems familiar." Just then Bill came around to where they were standing and Chip introduced him to George. Then the three satisfied that the plane was anchored safely for the night, started for the Ranch house.

After the evening repast Chip with George adjourned to the south side of the house to enjoy the cool breeze of the night under the light of western stars. "Bill is quite a character," said George as

he seated himself in a rocking chair. "Yes," said Chip softly, "they don't make them any more like Bill." Chip, had always formed an opinion relative to the character of his new acquaintances on first sight, and perhaps with only one or the other exception, his first impression proved to be a lasting one.

As Chip listened to George relate some of his experiences his heart went out to this stranger who had suddenly dropped into his life. For some reason, he felt that here was perhaps a friend who could take the place of the pal that had been more than a brother to him throughout the war, but who, soon after, had drifted out of his life.

"How are the people around this part of the country?" asked George. "It seems to me, that where I came from they changed a lot during the war. Have you noticed anything like that?" "In very many ways I have," responded Chip, "but some times I am forced to think that it is myself that has changed the most and not the great majority. One reason I think that has caused us to change, is a lack of confidence we place in others. This fact is brought about, I think, by the attitude that most people took when we related some of the most ordinary experiences we went through across the pond. It's the same old story: 'Truth is stranger than fiction,' in other words, they did not want to believe us. Knowing this, we naturally became somewhat reserved and kept those things that had really become a living part of us to ourselves, rather than have them laughed at and doubted. I especially found this very true in the gang I ran with before the war; they seem to take great pleasure in trying to convince me that I spent all my time while 'over there' enjoying myself in Paris, rather than being continually in the Zone of Advance. The attitude they have taken does not in the least affect me, only in one respect. I am very fond of a certain young lady in this town north of our ranch. She is very beautiful and naturally I am not her only admirer. About a month or so ago, I noticed a change in her attitude toward me, and it puzzled me so much I called her 'Miss Mystery.' My adversaries, if I may call them that, were using my reserved attitude, and some of the stories I had told, to convince her that I was a mere mollycoddle with a very vivid imagination. This sort of propaganda naturally had its influence on the young lady and although she has said very little her actions manifested this fact. The last time I saw her in town she said that I was temperamental. Since that time I have been longing for some chance to prove to her, first of all, the fact that she has greatly misjudged me, and secondly, that I could, in reality, put across some of the things, that the gang seemed to consider the impossible. The plan I have to

carry out came to my mind soon after I first saw your wings flash in the sunlight this evening. It is this, if I can once get her to go up in your plane with me I will teach her the real meaning of nerve." "But don't you think you are taking a great chance there, Chip," asked George, remember it might work the other way and she would really learn to hate you?" "I am willing to take that chance," answered Chip, it will be worth it." "A flying hance," laughed George, "yes I guess it will."

Early the next morning Chip went to his trunk and got out his flying equipment. As he shook the wrinkles out of his flying suit he pictured himself the last time that he had made these same preparations, a short distance back of the front lines. "I won't have to worry about any of 'Fritz's gang' giving me any trouble this morning," he thought as he adjusted his helmet and goggles.

All things in readiness, Chip climbed into the rear cockpit, after having helped George start the motor.

With a wave to Bill, George pulled open the throttle and they were off. During the first few minutes in the air, Chip did not pay the least attention to the behavior of the plane; he was interested in the looks of his ranch from the air, and the great improvement it would be to have a plane to make the rounds of his ranch which was some thousand acres in area.

After a short time Chip sighted the town they were headed for, and adjusting his telephone connections gave George the direction to take, also encouraging him to give her all she had, "for you know its the first impression that counts," said Chip, "but on second thought perhaps we had better not pull any stunt flying, for we may queer the game, as these people have seen very few planes, and they may get us down as reckless flyers." "That's a good idea, Chip, we will educate them to the easy going first," answered George, at the same time beginning to circle, on the lookout for a good landing place.

Within a very short time after landing a great number of cars rushed out to welcome the new arrivals. Chip remained in the plane with his goggles down over his eyes hoping that no one would recognize him until the proper time. Soon however George motioned for Chip to come to him, which Chip immediately did. "Say," whispered George, "the young lady in this car over here is going to put the clamps on our program, just listen to her line." Chip did not have to go around from behind the car to find out who the speaker was that George was referring to. It was Miss Mystery! After listening to her talk for awhile George's hopes for a cleanup in passenger carrying began to fade. After wandering among the young men

in the crowd for a time, George decided that their general opinion on flying could be summed up in a few words: "Flying is a great sport, but it's best to keep one foot on the ground." "You go ahead and try and get some one to go up with you and I will stay here with the plane as I don't want Miss Mystery to recognize me till we get up." George then faced the crowd and asked if there were any of them ready to take a ride. "What are your prices," asked a rather old gentleman. "Ten dollars for five minutes, fifteen dollars for ten minutes, and special rates for longer rides," George replied. The whole crowd was anxious to see the plane take off, but none had the nerve to go up. George's hopes began to fail when the only answers he could get were: "I haven't any insurance," "Do you guarantee a safe return?" Chip watching from the plane felt certain that he could dispel this false fear in their hearts once he talked to them, but he still wished to keep his identity unknown. Motioning for George he told him to tell the crowd that they were going to take a short hop, and for each and everyone of them to convince him or herself of the safety of a ride, and to take advantage of the wonderful opportunity they had to go up for the first time in an airplane. Accomplishing this little act, George climbed into the front cockpit and adjusted the stick in the dual control. After Swinging the propeller, Chip climbed into the rear cockpit to take charge of the controls. "She's under your command," said George turning around, "now make it smooth, get me." Chip answered with a nod as he gave her the gun.

Maneuvering above his wide-eyed spectators, Chip studied the trick of the plane, noticing in particular that the right wing had a tendency to drag. He was especially pleased however on account of the easy manner in which the plane handled. It was only when he nosed her down to land that Chip felt the least bit nervous, but quickly forgetting this he glided into his landing mark and set her down like an expert. "Couldn't have done it better," said George, as they taxied in close to the crowd.

"Listen George," said Chip, as he turned off the switch, "I feel just right today, and I know I can get the best out of this boat, so go over and try to persuade Miss Mystery to go up, but don't tell her that I am going to pilot the ship."

George then proceeded to try and induce the young lady to go up. After refusing very politely for a number of times, she at last began to be persuaded by George's clever arguments, finally saying: "I have a friend that lives near here, claiming to have had a lot of experience in flying, I wish he was here to advise me if I should risk a ride or not. Still, he may not know as much about it as he claims to." "If Chip were here," she

thought to herself, I would go up for no other reason than to show him that he did not have anything on me when it came to being up to the minute in the latest sport." Thus forgetting her fear in a desire to even up her score with Chip, she decided to go up. Also planning to call Chip, and tell him, that she too had been an observer, and found it rather tiresome. Hence, it was with the idea of a ride already accomplished that Miss Mystery was helped into the front seat, after adjusting a helmet over her bobbed hair and fixing her goggles.

George fastened the straps over her shoulders and clamped the belt, and was attaching the telephone connections when Miss Mystery asked: "Why do you have to have these tied to you?" "Those are the telephone connections," explained George, "so you can talk to my pardner back here." "I thought that you were going to take me up." "No I cannot go up awhile yet, I have to get this crowd into the notion of taking a ride, you see my pal here stutters and its up to me to do the oratorical work. But rest assured he is a dandy flyer and you need not worry, just enjoy the scenery."

George then went around and swung the prop till the motor started, then holding to one of the wings help Chip to turn the plane into the coming breeze. With a nod to George that he could let her go Chip glanced at the back of Miss Mystery's head, and then with a grin pulled the throttle open.

A keen joy spread over Chip's entire system as he felt the plane leave the ground. "We're off," he spoke into the transmitter that was strapped to his chest. As the plane gained in altitude Chip wondered how Miss Mystery was enjoying the ride, or whether she was filled with that unnecessary fear that most people have on their initial ride. Watching her closely he nosed over into a steep dive and then leveled out again. "I thought so," he said to himself as he watched how rigid she was, and the way she gripped the side of the seat. "Just relax all your muscles and enjoy yourself, you are not going to fall out. Look down to your right and you can see how your little city looks from up here." For some reason Miss Mystery would not answer him, and finally he decided that there was something wrong with the telephone connections. By this time he was nearing the four thousand feet mark on the altimeter, so he throttled the engine down so he could be heard without the phone. "Can you hear me when I talk through the phone to you, Miss Mystery," asked Chip, no longer wishing to keep his identity a secret. With a start Miss Mystery turned and looked back at him, but without answering resumed her former position. As Chip opened the throttle again to continue his climb, he heard her say over the phone: "Oh! that big boob, I just know we are getting killed." Chip fully real-

ized that she was really afraid, so he kept the plane as steady as he could so she would gain a little more confidence in him. Realizing that she was not going to be sociable, Chip called to her saying: "How do you like your temperamental pilot little Mystery? Now do you think all my talk has been just mere bluff. How many of that wise gang down there who were so ready to discredit every word I said have even the nerve to get in this boat and take a ride, or even make an attempt at taking hold of these controls?" "Our ten minutes are up, we had better be going down," was the lady's only response. "This is no paid ride you are on now, we are going to stay up here until you are convinced that all that useless criticism of yours truly you have been giving out for some time has been absolutely false. When you admit this and tell me you are sorry we will go down, until then prepare yourself for a real ride."

When Miss Mystery saw through Chip's scheme, she became very angry, more so at the injustice of Chip for taking such a place and time to settle their differences. "Chip I hate you," she shrieked into the phone, "take me down right now and don't you ever dare speak to me again." "Not so soon my dear, chances like this are very rare, we must come to terms first." "Chip I'll scream, I'll jump!" she cried. "Don't get nervous, dear, be a sport and talk sense anyway." This apparently was too much for the lady's pride, for he suddenly realized that she had taken hold of the dual control stick in the front cockpit. "Let loose of that stick," cried Chip in alarm, as the plane began to side slip. Chip did his best to get the stick free from her grasp, only to find that they were in a tail spin. Chip then realized that he was going to pay the penalty for arousing the lady's spirits to such an extent that she was in a frenzy of hate. Working and pleading with all his might he could not get her to release the grip she had on that stick, a grip that shortly would mean death to both of them.

Down went the plane; faster and faster, on its death plunge. The wires shrieked and whistled in the wind. Chip felt himself grow sick and dizzy, never before had he felt like this, not even during the hardest part of his stunt flying. "We cannot die like this," he cried still frantically working to loosen the control stick. Suddenly he felt the stick free in his hands, but like a man in a dream he seemed too dazed to realize what it meant, what he was supposed to do. Then he remembered Miss Mystery and that they were in a spin that was shortly to end in death, and as his senses cleared he began to put all his energy; all the knowledge he knew of flying into bringing the plane out of this path to destruction. Once again he felt the controls respond to his touch, he was bringing the

plane out of the tail spin. Finally he breathed a sigh of relief, his sixth sense told him he was flying level again. After trying for a time to get Miss Mystery to answer his questions he decided she had fainted," and a darn good thing," he said to himself.

Chip gained altitude again, and began to study the country beneath him. "I guess we are lost," mused Chip, "for I don't recognize this country." Sighting a farm house near the foot of a hill, he decided to land and get his bearings again. He felt sure that they could not be so very far away from George and the expectant crowd that were awaiting their return.

Picking a place as near to the house as he could, he made a landing. Crawling out of his seat he decided to see what he could do about reviving the little lady who had passed out. Crawling up on the wing he looked into the front cockpit. To his great surprise Miss Mystery met his anxious look with a smile. "Gee! that was great," she said, "Chip, I did not think it was in you." Upon seeing her in such good spirits, Chip refrained from giving her the severe bawling out that was framing itself in his mind.

"Come on and get out," said Chip and we will find out just how far we are from home." "Oh! are we lost Chip, why isn't this the most thrilling adventure." "If this is thrilling," answered Chip, "what did you think of that spin we were in a while

ago." "Oh! I didn't care for that so much, why I even went to sleep." Chip grinned. "You a real sport anyway," he said helping her from the plane. "Do you really think I acted natural up there, Chip?" "Yes, perfectly natural," answered Chip thinking of the many times she had taken the reins in her own hands and tried to have things just her way.

"Wait her a minute and I will find out which way the railroad is and then we can follow it home," said Chip as he started off to the farm house.

"Well, we won't be long in getting back, as it is not far." Get in and I will show you what I want you to do; now leave this switch as it is till I say 'contact,' then you throw the switch over like this, and repeat 'contact,' get me?" "All right," said Miss Mystery. The motor started and Chip climbed back to his seat. "By the way, little Miss Mystery—we have not come to terms yet." Miss Mystery turned in her seat, and faced toward Chip. "You win," she said smiling, "I certainly did misjudge you and I am really very sorry. I did not really mean all the things I said about you for I have always cared too much for you to do a thing like that, but you did seem so queer at times." "I am sorry," broke in Chip, for taking advantage of your lack of experience in an airplane; I know now that I should never have taken that chance." "I forgive you," she said leaning toward him to be kissed.



Mr. Frederick Patterson*

President of the National Aeronautic Association

By J. F. Toedtmann



FREDERICK B. PATTERSON

WHEN the National Aeronautic Association at its annual convention at St. Louis elected Frederick B. Patterson, of Dayton, Ohio, president, it selected one of the most progressive and enthusiastic men in the country to guide its destinies throughout the ensuing year.

Mr. Patterson is interested in the development of aviation for its commercial value as well as to make it dependable should our country ever be ensnared in another war. It could almost be said that his interest was inherited, because aviation had no stronger advocate than his father, the late John H. Patterson. For years before the death of the senior Patterson he laid plans in the interests of aviation, and spent both time and money generously for that purpose. He was an enthusiastic advocate of a separate air service, believing that the Air, Army

and Navy should be under one directing head, but separate departments. Whether the son will take up such a program at the present time is not known.

Soon after his father's death, Frederick B. Patterson took up the fight both locally and nationally for aviation's development. In a local way he saved McCook Field for Dayton. Upon learning that because of its inadequacy the government intended to remove it to some distant point, Mr. Patterson made an investigation of fields in the vicinity of Dayton, and when he found that there was a tract of 5,000 acres just east of the city limits that could be purchased, he set out to acquire it and offer it to the United States Government as a permanent field for experimental aviation work. In the remarkably short time of thirty-six hours he raised by popular subscription more than \$400,000 from

*Editor's Note—Mr. Frederick Patterson has just returned from Europe, where he has been interesting the various foreign governments in the coming Pulitzer Races.

public-spirited citizens of Dayton and purchased the land. This land, which surrounds the present site of Wilbur Wright flying field has been formally accepted by the government and plans are being made for its early development.

Mr. Patterson was formerly president of the Dayton Chapter of the Aero Club of America, and at the time of his election to the Presidency of the National Aeronautic Association he was serving as President of the local chapter of that body.

As president of The National Cash Register Company, of Dayton, Ohio, the largest concern of its kind in the world, Mr. Patterson is a worthy successor to his distinguished father, the founder of the business and the pioneer in industrial welfare work, whose name is known the world over wherever a cash register is in use. The elder Patterson especially trained his son to take up the work as executive head of the great industry created by his genius and ability, when he was prepared to lay aside the burden and take a much-needed rest from active participation in the conduct of the business. John H. Patterson was a native of Dayton, and all of his useful life was one of its foremost and most practical of public-spirited citizens. Space forbids telling all of his great work in the community. Suffice it to say that he was always foremost in any move for the betterment of his beloved city, and no one man contributed more to the great industrial development and growth of the city than he. Born in 1844, of Revolutionary stock, he served his country in the Civil War. In 1882, he began making cash registers, and ten years later he introduced industrial welfare work and became known as "the best employer in America." Later, he put in force a profit-sharing plan, established schools and conventions for his salesmen, and made The National Cash Register Company one of the most interesting and educational institutions in the industrial world. He was the outstanding figure during the Dayton flood in 1913, and it was he that proclaimed the Citizens' Relief Association, being commended by the United States War Department for his work. He deeded 294 acres to Dayton for a recreation park. Mr. Patterson was one of the first to propose the commission form of government, known as the Dayton plan. At the outbreak

of the war he placed his entire establishment at the disposal of the government and was a power for good in patriotic work and efficiency in industrial effort. The National Cash Register Company employs about 7,000 people and they have branches all over the world.

Frederick B. Patterson was born in Dayton, Ohio, June 2, 1892, and was educated in the public schools of Dayton, Adirondack and Florida Schools for two years, supplemented by a course abroad in England at Chatham House. After completing his schooling in 1910, he entered the employ of The National Cash Register Company, at Dayton, Ohio, beginning in the humble capacity of foundryman's helper and going through the various manufacturing departments, including the tool room, pattern shop, advertising department, sales department, assembly department, etc. He mastered the details of the business and familiarized himself with the workings of the Company from the ground up, obtaining a practical knowledge of the manufacturing as well as the executive, which has fitted him to ably fill his present position as executive head of the company to which position he was advanced on July 18, 1921, and to which he will devote his entire time and attention.

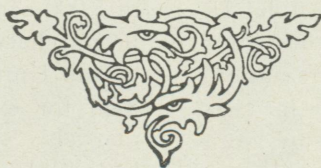
Mr. Patterson was for three years at the Canadian plant of The National Cash Register Company, at Toronto, Ontario, as assistant manager, and for three years was head of the Foreign Department, at Dayton, Ohio.

He is also a director in the Canadian company (Toronto), the German company (Berlin), and English company (London).

He is a member of the New York Athletic Club, Miami Valley Hunt and Polo Club, the Dayton Country Club, all of Dayton, Ohio; also the Thousand Islands Yacht Club.

During the World War Mr. Patterson was assigned to the 15th Photographic Section, Air Service, and was in France six months, participating in the St. Mihiel battle. He was mustered out of service in 1919, and returned to his work at The National Cash Register Company.

Mr. Patterson was married January 3, 1917, to Miss Evelyn Huffman, of Dayton, Ohio.





A Winged Fantasy

By Frank Potts

Lord of the heavens, passing thru
The darkest clouds, the fairest blue
At eve or early dawn.

Soaring in the breaking grey,
Or thru the mists of parting day,
Silently and ever on.

Sweeping like an eagle proud,
Playing with a pink capp'd cloud,
Darting gracefully.

Stamped against a sky of gold,
Dauntless, fearless, savage, bold,
Invincible and free.

Proud in peace: a peaceful thing,
Yet terrible and swift of wing
And fierce in war.

Hail to your majestic flight!
Hail to that great name of Wright!
Famed forevermore.

The Art of Flying

By Richard L. Sayre

THE world does move and though we in moments of pessimism may doubt this simple statement we have only to look about us to verify its truth. We are living in a favored age, in an age when man has unusual luxuries and facilities for easy living. The typewriter on which this is pounded out, the press through which it reaches you, are examples which are typical. The one thing, however, in which the greatest progress has been made in the last twenty years is aviation.

The art of flying is at present in a state which can be compared to the automotive industry of fifteen years ago. At that time to go motoring was an adventure in itself. The correct costume of duster, cap, veil and gloves was a necessity and after cranking up, the automobilist was ready for a merry spin through the countryside. The joy of motoring was haunted with the spectre of trouble and every ride was sure to be interrupted by a balky motor, a puncture or a blowout. The driver was a mechanic skilled in the mysterious arts of carburetion, ignition and transmission.

The airplane of today is very similar. A costume for the sake of comfort is necessary, the aviator is a mechanic and must usually make his own repairs, the necessity of provision for a safe forced landing is continually in mind and landing fields are scarce and often inconveniently located.

We can predict with surety that these will all be remedied in the near future. The enclosed airplane solves the costume problem, improvements in design are remedying the frequency of repair and municipally owned landing fields are becoming more numerous daily. Mail and passenger-carrying lines are slowly spreading over the country with the advantage of swift transportation.

While looking into the future let us remember that it was not always thus. The past of aviation is another story with many colorful incidents.

Even the ancients had the desire to fly and envied the birds in their freedom in the air. In our childhood we thrilled to the mythological tale of the flight of Icarus and his son from the Island of Crete on their wings constructed of feathers and wax. We were not troubled with the impossibility of their flight nor with the cause of the death of the first aeronaut which was, according to the tale, due to the vanity of the son who in attempting to make an altitude record flew too close to the sun and the heat caused the wax to melt and the wings to disintegrate.

If we wish to adhere strictly to the truth it was not till 1783 that the Montgolfière Brothers constructed and ascended in a hot-air balloon. This became a sport for kings but was never developed beyond its first stage.

These excursions into the air were made in the same fashion as those we witnessed in our childhood days at the county fair. I can remember how our gang assisted at one of these hot-air balloon ascensions. About fifty willing volunteers recruited from the ranks of boydom were placed in a circle around the fabric of the balloon and helped to hold the edges down while the air was led through a tunnel from a fire which was kept fiercely roaring with cups of gasoline.

Finally after a half hour or so of work during which our fingers became numb with holding down the captive air and our faces black with smoke and smudge, the balloon was filled. A parachute with a trapeze was attached and an acrobat in glittering tights appeared and became the hero of the hour. At his signal the balloon was cut loose and away they sped for a mile or two with everyone watching with aching eyes to be sure not to miss the parachute drop. It was a true drop for life for the balloon remained bouyant only a short time until it crumpled and fell.

The hot-air balloon and its later development, the gas balloon did not satisfy the ambitions of man. The balloons were subject to the vagaries of the breeze and at the beginning of a flight the ending was an unknown quantity in time and location. Dreams and prophesies of controlled flights were numerous but the accomplishment was slow to arrive.

The schedule of aviation divided themselves into two classes. One took the flight of the birds as their ideal and worked on gliders; the other turned their attention to power-driven ships. Among the first pioneers was Sir George Cayley. His idea was a navigable balloon which was to be ellipsoidal and driven by a steam engine which was to drive wings fitted to the sides of the airship. His plans were never put into execution but in our day we can look back with amazement at the prophetic qualities of his designs. His reasoning was sound and correct and the great expense of the undertaking was the only thing that deterred him. Other exponents of power-flight were Ader, Maxim and Langley. Ader built two machines for the French government but both of these wrecked themselves on their trials

and further aid was refused him. Sir Hiram Maxim built a steam-driven ship which was powered with two engines of 175 horsepower. This machine was also wrecked on the first trial and the English refused him further aid. Professor Langley having received an appropriation from Congress of \$50,000 built a tandem monoplane with outside dimensions of 48 by 52 feet. It contained a 50 horsepower engine and weighed 820 pounds. On two trial flights it was wrecked by the defective launching apparatus. These trials were on October 7 and December 8, 1903. In 1913 this machine which had been preserved was equipped with Curtiss motors and controls and actually flew, thus proving the theory of the ship was not at fault.

The glider school had not been more successful. Lilienthal and Pilcher were killed in accidents to their gliders and the others in this field, Chamte, Montgomery and Mouillard did not have success although they made many contributions to the flying cause by their experiments and enthusiasm.

The glory of the first power flight was reserved for the Wright Brothers. All credit for a successful flight in a power-driven machine on a level course without reduction of speed is given to them. To be able to appreciate what an accomplishment this was let us look back over the story of their experiments and trials, which is one of great perseverance and courage.

The news of the death of Lilienthal in 1896 caused them to turn their attention toward flying and they read all the available literature on flying and gained an understanding of the nature of the flying problem and were infected by the enthusiasm of the writings of Mouillard and Lilienthal.

The Wright Brothers began their active experiments in October, 1900, at Kitty Hawk, North Carolina. In their boyhood the brothers were kite experts and their first experiments were along this line. The first idea was to build a glider which was to fly without any motive power other than the wind. In struggling toward this they first constructed a machine which was to be flown as a kite with a man on board. They found however that this machine was not able to carry the weight of a man, so they flew it from the ground with cords running to the various controls. This machine was peculiar from all previous gliders in that no attempt was made to make it inherently stable. Instead of a dihedral or V-shape the wings were arched from tip to tip and were capable of being warped so as to give a method of control. Rear vertical rudders and horizontal front rudders completed the assembly. Upon trial the first glider did not exhibit the lifting capacity which had been expected from calculation from the air tables then available.

Even when the surfaces were doubled the lifting capacity was still short.

These discrepancies caused the Wrights to discard all the air pressure tables in general use and to begin a series of experiments with different surfaces in a wind tunnel. These experiments were made with painstaking exactness and the errors of previous experiments were corrected.

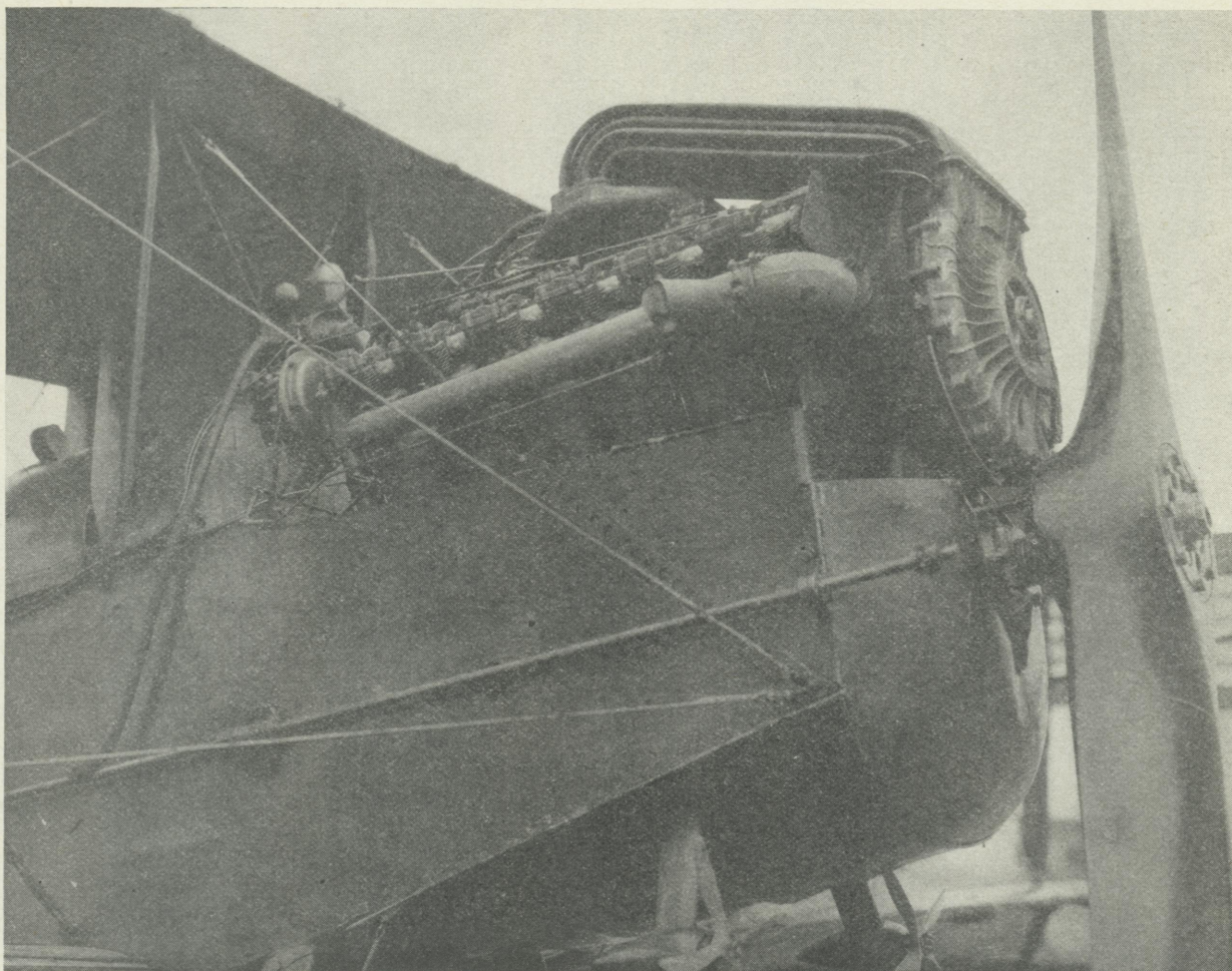
With this new data a glider was built in 1902 and many flights made in some of which they remained in the air for some time without any descent. With data obtained from their glider and experience gained in balancing the glider in winds the Wright Brothers then turned their talents toward the construction of a power-flyer.

New difficulties were then struck for nothing was known of air propellers and it was necessary to turn to theory and design. An engine for aeroplane work was an unknown quantity and again the brothers turned to experiments for a solution of their new difficulties. They built their first motor themselves as no motor builders of that time were able to furnish a motor which would weigh less than 100 pounds per horse power. This is quite a contrast to our present aviation motors which weigh only two pounds per horse power.

After the assembly of the machine and motor at Kitty Hawk some preliminary runs of the motor were made and the propellor shaft failed. These were shipped back to Dayton and repaired but then the chain sprockets gave trouble. When this was remedied by use of tire cement the shafts failed again. These difficulties delayed the first attempt at a power flight from October till December when finally all was favorable and their efforts were rewarded with the first successful flight in history on December 17, 1903.

This accomplishment made further development a certainty and the headquarters of the machine were changed to Simms Station, a few miles east of Dayton. The scene of these first flights will soon be a part of the Greater Wilbur Wright Field now being sponsored by the City of Dayton.

In the next few years until 1905 further improvements on the machines were made and a practical flyer realized. The Wright Brothers attempted to sell their invention to the United States government but received scant encouragement. All the expense of their experiments had been borne by themselves and since the result was a practical flyer they wished to start in the commercial field. Failing in the United States to receive any aid they turned to Europe and gave demonstration flights in France and Germany. Germany was the first to realize the importance of the invention in war reconnaissance and a factory for the manufacture of the planes was built.



THE POWER OF THE GIANT OF THE AIR

European inventors having a successful flying machine to guide them soon produced a number of machines of different types but all embodying the principles of the Wright machine. The monoplane was developed and others of peculiar construction were built and flown. France showed great enthusiasm and the French school included names familiar in our memory of Bleriot, Ferver, Voisin Brothers, Archdeacon, Santos-Dumont. Later names of Delangrange and Farman were added to the list.

In America the Curtiss school, developed in 1908 and 1909, turned their attention particularly to hydroplanes. The Wrights confined their activities to land flying and constantly adding refinements to their machine. I have a faint recollection of seeing the Wright ship fly at Simm's Station but I remember very distinctly the first time I had an opportunity to examine a plane at close range. This plane came to our little town, heralded by much comment and advertising in our local paper. The center of the race track at the fairgrounds was chosen as the flying field and admission was charged just for the privilege of seeing a flight. To keep back the crowd the Boy Scouts were called

out and as I was a member I found myself in a very good position. The plane was a Wright machine with two pusher propellers with chain drive. Two passengers were carried and the seats were in front ahead of the wings with nothing under their feet but the ground. In front were skids made like sled runners with small wheels placed about midway of their length. The struts running to these skids had a piece of canvas running from them to the wings resembling the jib sail on a boat. The controls were two levers on each side of the operator with a bar control for the feet. The advertisement stated that a passenger would be carried to be picked from the crowd but when volunteers came forward many were refused because they were too heavy. These flights were not fancy, the most hazardous stunt being a bank on a curve.

From 1909-1914 progress in aviation was slow in America but rapid in Europe although America did remain supreme in marine flying. The story of aviation since the World War is a familiar one with examples of the great impetus given to the art of flying by the war, soaring daily over our heads and with records being made in our neighborhood.

America is now coming into her own as mistress

of the air as she should be being the home of the inventor. All the important world records except the altitude record are held by America and that one is held by a slim margin. America must hold

this position and remain mistress of the air because only by so doing can she retain her supremacy among the nations.

The Air Route to Paris

By Juan Carrasco

COMMERCIAL flying in America might be considered in an undeveloped stage when compared with the type of flying in some of the different nations of Europe. These respective nations are helping themselves to a presumptive monopoly of the air by establishing flying fields with large airdromes containing the most up-to-date equipment. At each field transportation by air is offered to the public at scheduled times for a very reasonable price.

The reason why the air passenger pays a price which is not out of proportion to the cost of ordinary land travel is on account of the interest the European governments have taken in increasing their dominion of the air. Realizing the value of commercial flying they have established a subsidy for various companies that take care of the air routes. Since 1919 regular service for carrying passengers has been maintained across the English Channel.

Follows the impressions of a passenger.

One of the best equipped airdromes in the world is located at Croydon, England. This is a city of about one hundred thousand inhabitants, located a few miles from London.

This flying field is lined with a number of large hangars, the headquarters for several companies whose planes operate daily between London and Paris.

When contemplating a ride along one of the lines the usual preliminaries of leaving England must be gone through. The inevitable passport necessary when leaving this country by boat must likewise be in evidence when leaving by an airplane.

When we secured our tickets we were notified that we were allowed to carry thirty pounds of baggage free of charge. As soon as we had everything ready to leave porters took our valises from us, in the same manner as they do in the Pennsylvania Station in New York, and carried them to the compartment reserved for that purpose in a big luxurious "Handley Page." This is a British airplane that carries fourteen passengers besides the pilot and mechanics; it is equipped with two Rolls-Royce motors, either of which is capable of propel-

ling the plane without help from the other. The interior of this ship is very beautiful reminding one very much of a Yacht club veranda or a private car on an American railroad.

The compartment reserved for passengers is long and wide with windows on both sides. To the right and left of the center aisle are comfortable wicker armchairs. Many conveniences are also installed such as fresh drinking water, a radio, instruments registering speed and height, a lavatory, also newspapers and magazines.

Luncheon boxes, including spirits, may be ordered from the agents when booking and will be served on board. The fact is, it is very much like a passenger train de luxe only a great deal cleaner.

The plane we were in took off at ten o'clock, and three minutes later we were getting a birds-eye view of London. Then came the next most interesting sight, the great English Channel and the mouth of the Thames, which were plainly visible and a wonderful picture to behold. Our attention was then attracted by the twin towers of the Canterbury Cathedral reaching up into the heavens. Then came Dover and beyond Dover the ancient village of Folkstone, which held our sincere attention until it was drawn to gaze upon the speculative immensity of the sea. The rough waters of the Channel are about twenty miles in width and before we had lost sight of Britain's rugged coast line someone of the party with field glass had made out the low curving shores of Cape Griz-Nez. In a short time we had crossed the world famous Somme and then followed the railroad to Abbeville; looking to our left from here we could see Amiens in the distance with its magnificent cathedral, the finest example of Architecture in the world. The next town of importance was Beauvais. We were so engrossed in watching for the main points of interest that we were forgetful of being several thousand feet above the planet where we were born. Just about this time some one passed a delicious chicken sandwich and as I was about to swallow the last bite of it the droning noise of the two engines ceased and looking at the speedometer I noticed that it had increased from 90 miles per hour to 110 miles an hour and realized that our pilot was glid-

ing down a little closer to mother earth in order to give a better view of the landscape slipping far below. We were passing from time to time through banks of silvery clouds and they seemed as great billows of salt foam struck up from the prow of an ocean liner. There was no roll or bumps and when the drone of the twin engines again resumed their merry tune we were coasting along just below a ceiling of the most beautiful cloud formation I have ever witnessed which reflected on the shining wings of our monster bird and reminded me of the fairy tales of my childhood days.

Again our attention was attracted by the map-like terrain far below and just then the right wing of our ship uncovered what proved to be Clermont. A little further on the forest of Chantilly loomed into sight and the way led over Beaumont on the Oise River. This part of the trip proved to be the most beautiful and interesting. Just ahead could be seen the castle of Ecouen, and just as if the huge planet called world were being turned below us, we were soon over the forest of Montmorency and beautiful Lake Enghein.

Looking to the rear we could see the distant shore line fading into a mist and the little deflec-

tions of the big ship's rudder reassured us that our pilot was on the job. By this time the noise of the engines were forgotten and every one of the passengers were apparently as much at ease as if they had been sitting on the veranda of their homes.

Some one emitted a little cry of surprise and we all turned to see the great finger of the Eiffel Tower pointing skyward. One by one the famous landmarks appeared. The golden dome of the Invalides, Notre Dame, the heights of Sacre Coeur, the Champs Elysees and the Bois de Boulogne. Again the merry hum of the double engines ceased to exist and the nose of this monster of the air was pointed directly at a very large clearing lined on all sides by a neat array of buildings that proved to be the hangars on the field at Le Bourget. As we approached terra firma the landscape rushed by with more velocity and soon a slight bump, a little rumbling noise and the whirl of throttled engines told us that we were once more on mother earth. We rolled very smoothly up to the place where the routine of customs and passports detained us a few moments but only fifteen minutes elapsed before we were rambling through the Place de la Concorde for lunch at Poccordi.

China's Share in the Future of Aviation

By Francis X. Tsu

WITHIN the next decade China must have an aerial fleet as formidable as any nation under the sun. This statement is rather startling and many would say that such is an exaggeration and an impossibility. But a thinking man will spare no time in agreeing with the writer that such is just what China needs inasmuch as she is geographically very exposed and this will have to be reckoned with sooner or later. She covers an immense territory—slightly larger than the United States, and stands amidst a host of greedy nations that did much in despoiling her integrity, and today her boundaries are still left unprotected. Just now Soviet Russia is holding Urga, the capital of Outer Mongolia. The Soviet troops imprisoned the Grand Lama and are virtually in control of that part of China.

China, unlike the United States, is constantly worried and troubled by her immediate neighbors. She may be larger than the United States but fears the foreign intrusions which are far more impending. She is like a piece of meat surrounded by hungry wolves. She has to be always on watch for alien invasions from the north as well as from the south—east as well as west. Her eastern and southeastern coasts are really the melting pot of

Asia, where battles of trades are waged, with Japan holding the advantage above all the others. Russia has been for years the famished bear of the North. Through neglect of the late Manchu government, the Russians stole thousands of acres of lands that were formerly a part of Manchuria. This land is not yet populated but is extremely fertile. The present Soviet rulers have gone one step further than their predecessors by occupying the whole Outer Mongolia while their hired outlaw bands are causing disturbances in upper Manchuria.

So much about Russia and Japan. But when we point to China's south and western frontiers on the map we see the immediate danger of an Anglo-Franco invasion. With the French holding Indo-China and the British Siam, Burma, and also India, who formerly paid tribute to China, she is ever in fear of losing her prestige and ancient glory. Her western provinces and Thibet, though scarce in population and of no value to agriculture are exceedingly rich in minerals especially in gold, silver and copper. They are what may be termed the Utopia of the world of the priceless. Already the British intervened in the affairs of Thibet and have since made many explorations through that mysterious land. While the French, unwilling to be

outdistanced by their European brethren, were one time actually on their feet to invade southern China. Though their attempts were foiled by a decisive defeat, their influence is keenly felt there and they long declared those provinces to be under their sphere of influence. The last but not the least is the possibility of an inroad by the hordes of Moslem through China's western front, where Russian mining prospectors found uranium ore, the main source of radium a few months ago. It is told in the Engineering and Mining Journal-Press that the Chinese have been working for copper on the very spot.

Thus we see that in order to provide for China an adequate defense, she needs a standing army of at least two million men and a powerful first class navy. Neither of them can be afforded by even the most wealthy nation today, and China is presently in bankruptcy. One dreadnaught often costs a nation millions of dollars and that is yet far from sufficient in protecting a coast line of thousands of miles. While the maintaining of a standing army of two million men would also require a tremendous sum—a sum that would reach a very high figure. China is said to have one million men enlisted today but one must understand that only one-tenth of them are soldiers and for the most part are simply freebooters in disguise. At that the Chinese people feel already overburdened.

What then should be done, one is apt to ask? A powerful navy and a large standing army is certainly out of the question. China can neither put up a defense on land nor at the sea. The only mean between the two is airpower and surely China must choose the aerial route. It is the simplest and the most economical and powerful of all three. The writer feels safe to say that the cost of a dreadnaught would be sufficient to furnish her an impregnable aerial defense. With a few million more for yearly maintenance and chemicals she will be master both on land and at sea. Urga, the capital of Mongolia, now captured by Russia, is not more than one thousand miles from Peking. To start an expedition to repulse the bolsheviks would require an army of fifty to one hundred thousand men at a cost of several millions of dollars. What is worse yet, is that it takes months to reach Urga since there is neither railroads nor highways between these two points. Should aviation come into play it would need only fifty bombing planes; instead of spending billions it will demand one million dollars at the most. Besides the task can then be accomplished in a relatively short time. Aside from this the Chinese people are not in favor of a powerful first class navy and an immense army. As Judge Charles W. Dustin of Dayton, Ohio, rightly said in his interview with the New York Times,

that the Chinese as a race despise war. They admire scholarship above everything and not military genius. An aerial defense, therefore will be just what the Chinese people want since it is inexpensive and requires a comparatively small band of men. The Chinese people are satisfied so long as the land of their ancestors and other territorial possessions are secure. For this and for the sake of wisdom, they must keep an eternal vigilance. It, however, may be emphasized here that only educated young men ought to be trained should China come to the realization that the aerial route is her only hope.

We therefore see what aviation will mean to China. It is important not only from the militaristic and strategical but also from the commercial and industrial point of view. The fact that China's transportation facilities are little developed gives aviation the right of its claim to supremacy. At times it takes months to penetrate from one part of China to another which would otherwise be a day's journey on railroad. Despite her size and population, China is yet unmapped and aviation can now be at the disposal of geographical expeditions for purposes that are both strategic and commercial. Any geological survey and explorations for minerals and oils can also be efficiently conducted by aviation. China is rich in oil deposits which fact is only known to a few Americans who are in that business. The sources of China's oil deposits seem rather unlimited which will all the more add to the success of the future of China's aviation.

Aviation of the experimental kind is nothing new in China. Sinologists are told that one of the contemporaries of Confucius made a glider that remained in the air for three days. For he was really the Archimedes of China, and, strangely enough his death also occurred in a siege after he invented many devices for counteracting the deadly instruments designed by still another genius on the enemy's side. The era of Confucius was not only the golden age of China's art and literature but also that of science, for science is indispensable in the progress of civilization. The writings of those first exponents of science are preserved today, and the writer feels sure that any sinologist will find himself at a loss after examining the works. Some of them have even reached the theory that the earth is round. It was unfortunate, however, that their splendid labors were not continued by the latter generations on account of the selfishness of the succeeding emperors who dreaded that the rise of geni would mean a menace to the throne. Scientific men were recklessly suppressed or even executed. Egotism was certainly the cause, but pagan religions with their superstitions were guilty like-

wise. Methods and processes that were employed at the time of Confucius are still in vogue today and that is why China is backward.

China is indeed backward though she find no way in getting back to the starting point of this age of power machinery and begin afresh. She therefor must keep herself right up with the rest of the world. So far as practical aviation is concerned, she is still waiting for chances to develop. Her people are not by any means slow in taking up aviation. Foreign experts all declare that the Chinese make excellent birdmen. The Chinese language, which is purely memory work and imitations, is in no way a barrier to originality and the development of initiative, as some would think. The Chinese certainly will be not only skilled in the technicalities of this particular science but will also be looked upon to make further researches and inventions toward the advancement of aviation.

There is talk today of getting rid of China's warlords or tuchuns, who are at the bottom of her present chaos and internal disruption, via the aerial route. This is a possibility rather than imagination. The question is where to find trained men and finance. At the present there are relatively few persons in China who know aerial warfare at all. Perhaps the most eminent of them all is Etienne Tsu, a product of the renowned St. Stanislaus College of Paris, France. He fought in the World War with the French aviation corp. He

won much praise by his bravery and the downing of two German planes and he was consequently awarded the croix de Guerre. From all aspects the future of China's aviation is bright and so far as her national defense is concerned it is concluded that China will find no better way than the aerial one.



ETIENNE TSU

The Pulitzer Races for 1924

By Bernard Losh, '15
Aviation Editor, Dayton News

FORECASTING what the International Air race meet, which is to be held at Wilbur Wright field next October will give to aviation as a general proposition is a comparatively simple problem. Specifically, the results of the meet, using past races and subsequent utilization of what was done as the basis for a prediction, is matter of the most uncertain conjecture.

It is entirely within the realms of possibility that greater speed than that which was gained by the fastest ship last year, of 243.81 miles an hour, might be made at the forthcoming meet. The desirability of such performance is however, questionable.

The races have already given to aviation more speed than it has used; this coming air classic will not likely be as productive in this respect as those in previous years.

The Wilbur Wright field events will not yield

much in the way of weight lifting and weight carrying to aviation in general.

There will in all probability, be a more efficient airplane for strictly commercial use result from the meet, those of the class now used for the mail service. And without doubt, light airplanes, with small engine displacement, accommodating a single passenger will receive their first encouragement and impetus at the Wilbur Wright field contests.

These results are generalities. They will be applicable only to aviation as a whole. To what specific use the information gained at the meet, in the exchange and exhibition of ideas, no one who has followed flying as a utility since its birth, 20 years back, would even attempt to surmise.

These air races are held annually and are designed to bring out the best planes of all types. As rewards, the winning entries gain a little prize money

and much international prestige. These have been the inducements offered to aircraft builders to enter the races on a competitive basis.

Thus far the meets have proven well worth the time and effort spent in their preparation, from a military standpoint. The present Curtiss racer which won first place in the high speed event the past two years, is the parent of the Curtiss army pursuit plane now used at United States air posts as a complete fighting machine.

Competition among the builders of large aircraft has been exceptionally keen. They are anxious to have their products show well at the races. It is heavy argument for a government contract to have a plane win in a meet of this sort. Out of the past contests grew the planes of transport type, such as the Martin and Curtiss bombers, the Elias transport and the Douglass cruisers, four of which are now being used by the army in its attempt to fly around the globe.

Because of their showing in the air races of other years, the DeHavillands were put to use in the air mail service and have proven a practical instrument for this work.

Military aeronautics have been greatly benefitted by the annual International Air races, but how about the commercail ship? The answer to this query is troubling every follower of the aerial situation.

It is a matter of national pride, worthy of every attention that has been given it, to pursue a program which brought to the United States Army and Navy flyers, every world's record worthy of the name. This program must be charted from year to year to keep abreast and even ahead in aeronautics, but it can be done without entirely eliminating commercial aviation.

Commercial flying has thus far been the sacrificial lamb placed upon the altar of speed. Not enough prizes are offered at these meets to the builder of an airplane which lifts the heaviest load; to the ship which travels swiftest, longest, with the greatest weight and at the lowest cost!

More effort in this direction and more encouragement in the air meets in coming years is necessary if commercial aviation is not to be abandoned.

Instead of having the Army and Navy compete for the high speed prizes, in airplanes which have been built to their specifications, thus stifling competition in design, both commercial and military aviation would be helped mightily if the builders

entered into the races under their own name instead of having their products flown as government ships.

Commercial aviation hasn't much money to spend and it costs a great deal to construct an airplane capable of flying in the high speed events of these meets.

When the country's most prominent builders of airplanes are engaged in contracts for the Army, Navy and Marine Corps, they are not particularly anxious to build a plane for themselves and shoulder the responsibility and expense. Much less are they concerned in building a ship for commercial concern which is not a manufacturer.

When they build a motor and sell it to the government for \$6,000, these same builders are loath to construct the same power plant for a private enterprise and sell in for \$4,000, which is the logical result of competition.

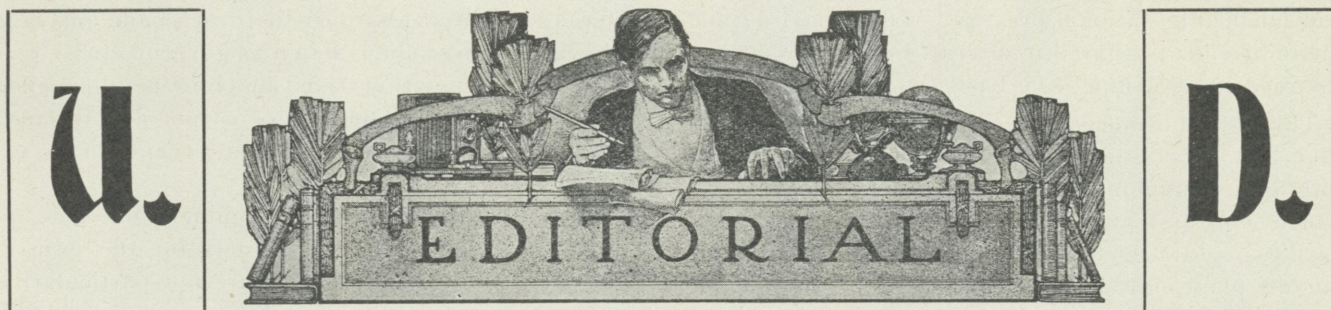
In place of having the three arms of government service competing one against another, the future International Air races will find the manufacturers in the field, if they are to be run at all.

The future races must be placed on a business basis. Capital prizes must be offered commensurate with the expenditure to builders. Commercial aviation must be encouraged to participate in the future meets, not discouraged. Further, it must be welcomed, not tolerated.

Commercial aviation is the one sure way of building up a proper and efficient air reserve. How quickly can a plant, engaged in the manufacture of commercial airplanes be turned into one to produce war craft! And the experienced commercial flyer is a potential fighting pilot.

Because cognizance of these facts is being taken, the Dayton meet bids fair to be an epoch in flying history. Larger prizes than ever before are being offered—a gradual step but assuredly, one in the right direction. The efficiency and performance contests have been given more thought for the Dayton meet than heretofore and the entirely new element of light plane flight, which has been utterly neglected in the past, has assumed impressive proportions in the considerations of this meet.

Altogether, the Wright Field contests will probably mark the beginning of a new era in aeronautics, and it is a reasonable expectation that in 1925 and 1926, the airplanes that poke their noses in the blue sky, traversing the trackless and mysterious air lanes will bear as integral parts, at least some of the discoveries born of information gained at the 1924 International Air races.



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Easter Greetings

Just seven long weeks of Lent. A doleful season, full of mortification and penance. Everything suggests the spirit of Lent. Nature gloomy and forboding; the Church mournful and sorrowing. The hearts of men are downcast and heavy. Lent progresses and we again live in thought the Savior's last days of anguish and sorrow. Soon it is consummated. Gloom, doubt, darkness and death pervades the universe. A world bows its head and silently mourns.

Rejoice! Allelulia! Allelulia! 'Tis Easter morn. The Church resplendent in joyful regalia; Nature blossoms, sings, and lives. We have sorrowed that we might rejoice. Allelulia! Allelulia! He is risen!

May Easter morn bring to you a joyful conscience and sincere happiness is the wish of the University of Dayton and The Exponent.

—Deddens.

The Aviation Number

A university stands for the best thought of the day. A university trains today the leaders of tomorrow. In view of the foregoing this number of the Exponent was planned.

Realizing that aeronautics has come to assume vital force in the economic well-being of the world we are trying to bring more forcibly to the attention of our "leaders in the making," the vital interest they must take in aeronautics. We are preparing today, and in doing so we must prepare completely. We do see that the future is a field yet untrodden and to those who, thinking now, in-

vest in a more intimate knowledge of this great science and art of flight, the future will reward.

However, not only to the future do we look, for in doing so, the past we may forget. We give, and heartily too, our most sincere recognition to those who have so nobly accomplished by thought and deed the results that are in evidence today.

Science admits no barriers and the art refines the crude works of science. Such has been the case with flight. Many have failed but by their failures we have learned and to them a large measure of credit is due. We often overlook this. Some have succeeded and to them we bow in recognition.

Flight, man's greatest earthly accomplishment, is yet in the rough and needs men to carry it on, just as in the past, men have brought it here. This can be accomplished in various and sundry ways.

Let it be known to all that by this we heartily lend a hand to the wheel of aeronautical progress and by our moral and practical support we will see man spread out the wings of flight, the greatest economic force for good that the world will ever know.

—Crane.

The Flight Around the World

It is befitting and opportune that America, the first exponent of aviation, should claim the laurels and the unique record of being the first and foremost to circle the world in the air. It is indeed, as viewed by many critics, a necessity and too, a movement that will give impetus to further the cause of aviation in America in view of its

present almost decadent state as compared to the rapid and enormous aerial development in European countries.

The world flight is in no sense a mere adventure because everything that goes into the make of the flight is carefully calculated, scientifically planned and thoroughly equipped so that all contingencies are taken care of. If anything unexpected should happen, at least one of the planes will reach the destination as was the case with the NC's.

Just to show that America has the friendship of the world, Japan, China, Turkey and the Continental Europeans have promised assistance all the way. As the machines fly close toward Japan they will be greeted by a detachment of the Japanese navy accompanied by their fighting aerial guides. The flyers will be somewhat stunned to find the sleeping Orient really awakening because there they will see air machines already coming into active use, and as they blaze their way to Shanghai they will be met and welcomed by Captain Tsu's squadron and at Hong Kong, they will enjoy the hospitality of their former comrades who are now building Dr. Sun's air fleet.

At this writing, the Americans are about to leave Seattle while the British, who started a few days later, just reached Rome in a clockwise route. It is therefore possible to make comparisons and discuss the character and difference between the two. The British attempt to circle the world with a powerful 450 horsepower Vickers machine. It is amphibious—unlike American machines that need to change from wheels to pontoon and vice versa. They are said to make the flight regardless of engine mishaps and meteorological discrepancies and have an avowed desire to beat the Americans. The British flyers propose to repeat the feat of Captain Alcock and Lieutenant Brown who, as we remember, made the only non-stop flight across the Atlantic.

The sole purpose of the British is therefore aimed to give the world a thrill while the Americans purviews to establish a commercial route around the world and to add prestige to the American nation as President Roosevelt did when he sent the American Navy circling the world.

—F. X. Tsu.

The 1924 Pulitzer Races One of Dayton's pet boasts "The Center of Aviation in the world" has become a fact. Dayton, the home of so many things, has finally been given official recognition as a great center of aviation activities through its selection for the 1924 Pulitzer Races. Official recognition, yes—but private recognition. Ah! That's another phrase and depends on each and every citizen of Dayton. Dayton's

citizens alone can prove to the multitude of visitors that will attend these races that Dayton is justly called "The Center of Aviation in the World." But how? Let me enumerate just a few salient necessary conditions that the visiting public expects and must be given.

In the first place throngs of visitors from North, South, East and West postulates **advertisement**. In order to bring this phase of preparation to completion a competent committee has already been formed and promises to give the country all the advance publicity possible. Their work will start about a month before the races are scheduled.

The Reception Committee will play a very important part, and in their hands much of Dayton's future popularity depends. The visitors must be impressed by a favorable reception. Their first impression, usually a lasting one, must be one of welcome and future happiness while in Dayton.

Our present young generation seems to think that the way to a man's heart is through jazz, lipstick and rouge. Although a bit mid-Victorian it is nevertheless true that the way to a man's heart is through his stomach and we might add a good soft, clean bed. Dayton your visitors will be won through these two factors of physical comfort. You must give them accommodations in both the matter of hotels and restaurants that they can find in their own vicinity. Pleasure of course will be their object in visiting Dayton, but their personal comfort, ah, that cannot be forgotten for a successful affair.

All day long during the races there will be a steady stream of humanity to Wilbur Wright Field but when night descends this stream will return to Dayton. What must you give them then, Dayton? Shows, concerts, dances, in a word, Dayton, you must amuse them. High class amusements of course commands **high class prices**, but Dayton, your visitors are tourists. They'll willingly pay for your best performances.

The cleanliness of our city will be another important factor in the final results obtained by Dayton from the Pulitzer Races. Our city must be as clean as possible and all care must be taken to make it look in the eyes of our visitors as it does to us, namely a model city.

Dayton, this is your big **opportunity**. The biggest and best advertisement you have received for many a moon. Your standing as a really great city of this country and as an aviation center depends entirely upon you. Dayton you can and you must.

—L. Ratchford.

Again They Help

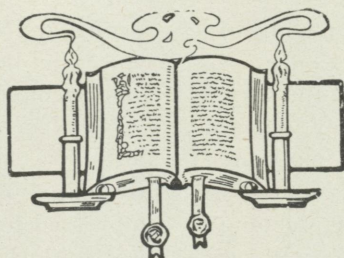
In this world of busy commerce and industry one scarcely expects a great corporation, one of the

largest in the world, in fact, to take cognizance every once in a while of a much smaller—spacially—body. But it is well known that whenever called upon the National Cash Register Company of Dayton has extended every courtesy to the University of Dayton and its students.

In the preparation of this Aviation issue of the

Exponent magazine, the editors—regular and special—extend their most cordial thanks to all concerned of the N. C. R. organization for their worthy co-operation. Especial thanks are given for the use of certain illustrations and halftones which otherwise would be unobtainable.

—Young.



The Magazine Wrack

By Carl Ziegenbusch

AVIATION

The aeronautical world of today both at home and abroad should be thankful to be represented by a magazine that so perfectly interprets the progress of the field of aviation as does the magazine **Aviation**. Besides being the oldest American aeronautical magazine it is perhaps the best, and what makes it good is the fact that we see it often—once a week. **Aviation** is a readable magazine for it combines in a most pleasing manner the various points of interest in the aeronautical field. Anyone connected with aviation in any manner, the man who flies, the man who builds or the man who takes care of the airplane finds something of interest in **Aviation**. The Army and Navy are represented and this feature is interesting and might be extended a trifle more. The popular as well as the technical side of the field is represented and numerous pictures embellish the matter. We take a great delight in saying that we are proud of the work that **Aviation** is doing to further aeronautical progress and we wish them the best of success.

FLIGHT—England

Anyone who reads aeronautics reads **Flight**. **Flight** is perhaps the only English aeronautical journal that gives to the American public news of the work being done abroad. We can not help but appreciate the carefully prepared and pleasing matter contained in **Flight** and it represents to a marked degree the field of aviation in Great Britain. One thing that impresses the reader is the large amount of advertising featured in **Flight** which speaks well

of the aeronautical industry in England. We would however like to see a more abundant amount of matter in the magazine but perhaps the scarcity of material whets our appetite for **Flight** as it is always awaited with the anticipation of enjoyment and profit.

SLIPSTREAM—Dayton, Ohio

Slipstream, published monthly in Dayton, Ohio, is an aeronautical magazine that represents in clean-cut detail the news of the world of aviation and it is presented in a form that is most pleasing to read. **Slipstream**, not too old, is prospering and we believe this is due in a large measure to the attractive arrangement of the material. Together with the local and national news we find a large number of interesting pictures that describe to the popular reader in most concise and clear terms, just what is going on, and the progress that is being made. **Slipstream** is in a very convenient location to obtain news fresh off the market for Dayton is the location of the center of the aeronautic world. We take great pleasure in reading that section of the paper devoted to the Army activities. Frequently unbiased editorials appear that show much forethought. The paper is still a little too local in its tone, not being truly representative of the universality of the field but every succeeding issue is better in this respect and without a doubt the near future will place **Slipstream** to the front as the leading monthly aeronautical paper of the United States.

University Chronicle

By Gable Fleming

FURTHER ACTIVITIES OF THE BAND AND ORCHESTRA

JUST a word as a little digression from our chronicle of the past year's events in the history of the band and orchestra. Has it ever occurred to you how much amusement these splendid organizations render the student body? Can you imagine a spirited game of football without the snappy tune of our athletic march? Many visitors come to our games merely to see the live, glowing spirit of youth exemplified by the student body, and is it not the band that forces the picture of that spirit to the depths of their minds. What would our cadets do on the march without the band to keep their hearts light and their feet from becoming weary? In short, on any occasion when a public demonstration is to be staged there is but one channel for outlet—"Send the Band." We're glad to go—we want to help all we can—but boys, when you speak of the band, remember they too are those "who are doing just a little bit more."

If there was one performance of the year that was immeasurably appreciated it was the one given for the old fellows, and some young ones, too, at the National Military Home. The music was most appropriate. There were some pieces for the boys who still wore their blue. Those in khaki heard their one-time favorites also. The youngest of our heroes, the "doughboys" listened most attentively to the songs they heard but a few years ago, far removed from this spot, when they were still of sound body. Gee! It surely must have sounded good to them.

Though our high-school boys lost a tough game to the best team in the state, our band won a decisive victory at the Southwestern High School Tournament. It took a little of the sting out of the defeat when you could say to the Stivers' boys, "Did you hear that band of ours? I guess they're not so bad, are they?"

But who did we help at the Christ Child game? That also isn't a secret. Don't you imagine that some of those little tots who sat along the sidelines with their daddies, or perhaps watched them play, had a bright idea instilled into their hearts that perhaps some day they too could play one of those big horns that wrap around your neck.

Those who attended the concert given by the band on March the second were more than agreeably surprised. Look at the program printed below, and notice in particular the character of the music that was rendered. You don't find any of these in the programs of the majority of university bands.

PROGRAM

Concert given by the University of Dayton Band
at the University Auditorium, Sunday,

March 2, 1924, 8:15 P. M.

Prelude—"The Star Spangled Banner".....Keyes
Audience and Band

March—"El Capitan" Sousa

Overture—"The Caliph of Bagdad" Boieldieu-Lake

Violin Solo—"Concerto No. 1 in A Minor" ..Accolay
Violin, Francis Gabel
Piano, Louis Podesta

Descriptive Piece—"A Hunting Scene".....
Bucalossi-Meyrelles

Intermission

Cornet Solo—"Whirlpool Polka".....Hartley
Cornet, Frank Krug
Piano, Joseph Mathes

Overture—"The Wedding Ring".....Barnard

Saxophone Solo—"Valse Vanite".....Wiedoeft
Saxophone, Jerome Muth
Piano, Louis Podesta

An Alto Trio—"Visions".....Hayes
Robert McMurtrie, Norbert Kreusch,
Charles Mitchell

Saxophone Quintette—"Toreador Song from
Carmen" Bizet

"A Little Bit of Pop".....Hayes
A curt comedy concocted from "Pop
Goes the Weasel"

March—"The Stars and Stripes Forever"....Sousa

The formal opening of the baseball season took place April 5th and the band again did their bit. The following day the Fourth Degree K. of C. presented two tablets to the veterans of the Spanish-American War and the World War. The band made a very good impression especially when they played one of Sousa's greatest "El Capitan." And, say boys, watch for Sousa's favorite "King Cotton" which the big red band plays pretty nice.

U. of D. Academic Club With the motto "Sapere Aude" a new organization has been formed at the University. Reverend Gregory Feige is the sponsor of the club, whose purpose is to foster high ideals in Literature, Art, and Science. To strive for Wisdom, Knowledge and Culture. To accomplish this the means adopted were: Fulfilling class obligations; broadening mental horizon by thought exchange among members; mutual criticism; esprit de corps.

The organization of the club consists of a patron, who shall be the President of the University; a director, a member of the faculty shall manage the club with the assistance of the board; this latter will consist of one senior, one vice senior, one secretary, two councillors and finally one promoter of activities.

At the first meeting of the club the following officers were elected: senior, Carl Crane; vice senior, Martin Murphy; secretary, Joseph Deddens; councillor, Gable Fleming, and promoter of activities, John Garrity. At the first official meeting a paper will be read by Cyril Scharf.

Provincial's Visit The various classes of the colleges and high school were inspected during the first two weeks of April by the Very Rev. Lawrence A. Yeske, who is the Provincial of the Eastern Province of the Society of Mary. Father Yeske was Vice-President of the University a decade ago and later Director of Mt. Saint John.

Extension Work Construction has been resumed on the new Alumni Hall to the great joy of those who share in the vast extension program of the U. of D. The Hall has taken on the appearance of a completed building. It is expected that it will be in readiness for occupancy next September.

National Aeronautic Association The University of Dayton is the first University or College in the United States to be granted a charter of the N. A. A. A preliminary meeting prior to closing the charter membership was held April 14. An interesting talk was given at the first meeting by Mr. Ahler of the National Cash Register who is one of the prime movers to establish interest in Aeronautics. The forming of this organization at the U. of D. is truly a step forward and marks an era of progressiveness for the University.

U. of D. Club On April 7 a U. of D. Club was formed in Dayton. The ball was commenced rolling by the able Extension Director, William Carroll. The purpose of the club is iden-

tical with the purpose of the other U. of D. clubs formed in Chicago, Detroit, Pittsburg, Cleveland and many other cities. Mr. William Keyes was elected president. The Messrs. Cappel, Finke and Shea were elected vice-presidents. William Carroll elected secretary and Hugh Wall treasurer.

Father O'Reilly gave the principal talk at the first meeting. He outlined the growth of the school from an academic viewpoint. He explained for the benefit of the club that fifty-six high schools were represented at the University. He emphasized the fact that thirty men hail from Cleveland and of the good work carried on by the Cleveland club. Father O'Reilly advocated the proposed plan of a Catholic Central high school so that the entire U. of D. might be devoted to college work.

At the second meeting Bro. John Bodie gave a talk on the history, past, present and future, of athletics at the University. The members of the club are heart and soul behind Brother Bodie in his proposed plans for placing the U. of D. in the lime-light of athletics.

Vocational Week The week of April 6 to 12 was set aside at the University as Vocational Week. Every student was requested to pray for a religious vocation if not for himself, to strengthen those who have devoted their lives and for those who are hesitating whether or not to take the final step. Father O'Reilly gave a sermon exhorting the students to become leaders in the community and thus advance the interest of the Catholic Church.

Ohio Federation of Colleges Father Bernard P. O'Reilly and Father John C. Gunzelman attended the meeting of the Ohio Federation of Colleges held at the Ohio State University in Columbus April 3, 4 and 5. Father O'Reilly attended the meeting of the Presidents and Deans and Father Gunzelman attended the meeting of Professors of English.

Mission Father Garcia left the University of Dayton on April 12, to conduct a mission for the young people of Sacred Heart parish of Terre Haute, Indiana. Father Garcia is an experienced priest in the conduction of missions as he has had varied undertakings in the mission field of the South and of the great northern field in Mexico.

National Flower Show The National Flower Show was held in the public auditorium in Cleveland, the week of March 29 to April 6. Bro. Fred Hartwich, professor of biol-

ogy at the University attended the show. Brother Hartwich gave an interesting account of the exhibition and of the interest displayed by those attending the show.

Visitors The University of Dayton was visited by the parents of the late Bro. John Voelker, S. M., on April 15. Mr. and

Mrs. Voelker are ardent supporters of the school. They are especially dear to the faculty of the University because by their moral support and training they fostered the vocation of Brother John. Brother John, it will be remembered by the older students, taught in the elementary grades for a number of years. Just before his death he held the position of secretary to the President of the University, then Saint Mary's College.

Athletic Notes

By Charles M. Dougherty

VARSITY BASEBALL

The University of Dayton's 1924 baseball team has undergone several weeks of intensive training thus far and appears all set to romp through a very difficult schedule with ease. Speed and ability characterize the red and blue players who have been whipped into first class shape by Coach Harry Baujan.

Old "Jupe Pluvius" put a crimp into the activities of the Red and Blue mentor and his men for quite a number of days but despite his efforts to thwart them the diamond artists of the University have developed into a formidable team. The present indications are that the Varsity will start off the season in a creditable manner by conquering their opponents in the first three games before the Easter holidays. The scheduled games before Easter are with Antioch on April 5, Coffield Washer on April 12 and Huntington College April 15. All these games will be played on the University grounds.

The greatest strength of the Red and Blue this year lies in the infield department. Despite the fact that only two veterans of the inner gardens returned this year for service the infield is every bit as strong as the one of last year. The two veterans, Puig, a first baseman, and Scales, a third baseman, are back for another year of action and hope to continue their murderous work in the batting line. At shortstop Coach Baujan has placed "Joe" Back, the former star infielder of the Dayton Perps. To cover second a Cleveland boy, Doljak, is being groomed. These two newcomers handle their position in an impressive manner and stand up well in the batter's box.

At present the outfield posts are being sought after by a number of likely looking candidates. The three veterans, Scharf, Achieu, and "Skeeter" Eisele are being pushed to the limit to hold their favorite

positions. The new men who are endeavoring to cop berths in the outer gardens are "Marty" Murphy, Taylor, Belanich, Potter, Hipa, Supensky, and "Tom" Byrne. The chances of "Marty" Murphy grabbing the center field post are mighty good due to his terrific batting and his wonderful throwing arm.

In the catching department "Bill" Blake, last year's veteran, and Tobin, a newcomer, stand out above the rest. Tobin was considered one of the best scholastic catchers in Iowa circles for more than three years and he is living up to his reputation by giving Blake a battle for the regular job. The second string catchers who appear promising are "Lou" Mahrt, the football and basketball star, "Gene" Hug, a Cleveland lad, and Eikenbary, a classy Dayton product.

It is upon the shoulders of his pitchers that Coach Harry Baujan rests the burden of the team's success for the coming year. The ace of last year's aggregation, "Dode" Caulfield, has returned and is still demonstrating wonderful slab work. Caulfield will undoubtedly bear the brunt of the mound work during the next three months. "Charlie" Rodway, Snelling and Bradley three other slab artists of worth, are pitching in great style and will see service in the box. Schantz, a southpaw, is also making an impression.

Hitters of real worth are lacking in the Red and Blue camp. Not more than four worthies are dependable with the bludgeon and can produce hits when they are most needed. Scales and Puig are about the peers in the slugging line and are dangerous against all sorts of pitching. Doljak, the new find, hits the pellet with force and is expected to bat well above the .300 mark. He can bat from either side of the plate.

The absence of southpaws in the Red and Blue ranks is a noticeable fact. Only two left-handers have reported as candidates for berths on the nine. These two are Potter, a center fielder, and Schantz, a pitcher.

In glancing at the schedule of games for this season one finds several Ohio Conference teams on it. Miami U., Cincinnati, Ohio Wesleyan, and Wittenberg are the members of the conference who will be seen in action against the Red and Blue. The University grounds will be the scene of three of these battles when Cincinnati, Ohio Wesleyan and Wittenberg will invade Dayton to afford opposition to the Red and Blue. Last year the Dayton aggregation played hosts to Miami U. and after a bitter struggle were defeated.

The University artists hope to engage in fifteen games during the coming two months. College nines will be the opposition in ten of the struggles while the remaining five will find teams in Dayton affording the competition. Antioch College and Wilmington College will be played twice by Coach Baujan's warriors. Only about four games will be played by the Red and Blue on foreign diamonds.

The completed schedule is as follows:

Apr. 5—Antioch at Dayton.
Apr. 12—Coffield at Dayton.
Apr. 15—Huntington at Dayton.
Apr. 26—Defiance at Dayton.
May 3—Wittenberg at Dayton.
May 10—Ohio Wesleyan at Dayton.
May 13—Antioch at Antioch
May 17—Wilmington at Dayton.
May 21—Miami at Miami
May 24—Muskingum at Muskingum.
May 30—Wilmington at Wilmington.
May 31—Cincinnati at Dayton.

TRACK

Track is once again a spring sport at the University of Dayton. Discarded several years ago from the roster of athletic activities at the University for various reasons, this spring pastime has been reinstated by the athletic authorities. Every effort will be made to make Track one of the Red and Blue's most successful sports.

Candidates for the cinderpath sport were first called out on March 24. About fifty aspirants reported to Coach John Bodie, S. M., and they were immediately introduced to the fundamentals of the sport. Several veterans of a few years back were among the reportees and around them the Dayton mentor expects to build his team.

Most of the runners have signed up for the sprints. In the middle distance runs, the most important ones for the development of a relay team, there is a noticeable lack of material. The milers

and two-milers are scarce also, while the men seeking to gain fame in the field events are quite plentiful.

Despite the handicap of the weather practice sessions have been undisturbed with the result that the runners are already developing in rapid fashion. The men have been particularly interested in learning the proper method of starting and quite a few of them are adept in this art of getting off with the gun.

A wealth of material has reported for the sprints. Among the numerous century dash men "Sneeze" Achieu, Weckesser and "Casey" Petkiewicz have shown the classiest form to date. Achieu, the star gridiron warrior, has been clocked for the 100 yards in the fast time of ten seconds flat. Before entering the University he was one of the greatest scholastic runners in Hawaii. He has had plenty of experience both in scholastic and club meets and will be a valuable man for this year's varsity team. Weckesser, a former track veteran, is also a fleet sprinter and runs Achieu an even battle in the century. The last of the trio, Petkiewicz, uses his spike shoes in clever fashion and in all probability will perform for the Red and Blue.

For the 440 and 880 yard runs the most prominent that have reported so far are "Willie" Quay, Walsh, Plato, George and Scales. Quay has long legs and a good stride and may develop into a classy quarter-miler. He has had considerable experience in high school ranks in Cleveland.

In the longer runs "Charlie" Pedersen, Fritz, H. Harn and Mehling are stepping out at a fast pace. Pedersen formerly represented St. Joseph's High School, in Japan, on the cinderpath and was considered a very classy miler.

The field events bring to light a number of former schoolboy stars. In pole vaulting and high jumping "Sam" Hipa, an Hawaiian chap, leads the pack. While in high school this lad cleared the bar in the pole vault at 11 feet 8 inches. His record for the high jump was 5 feet 10 inches. In the hurdling department "Joe" Deddens is about the best. For the shotput a number of beefy football players have reported and are expected to make a good showing.

The University track team is mainly preparing to enter open meets. However a number of dual meets will be staged. The principle meets that the Red and Blue will participate in are the intercollegiate indoor meet at Cleveland on April 12; the Ohio State Relays at Columbus on April 19, and either the Drake Relays in Iowa or the University of Pennsylvania Relays at Philadelphia. Dual meets are pending with Wilmington, Earlham and Antioch.

The University track at present is not in the best of shape. It is hoped that it will be put into the proper condition before the middle of April. If possible several dual meets will be held in Dayton during the month of May.

TENNIS

The 1924 tennis team representing the University of Dayton will be totally lacking in veteran material. Not one of the first three court artists who wore the colors of the Red and Blue last year has returned to school. To fill the places left vacant by the stars of the past season about fifteen men have reported to the coach.

Frank Kronauge, the captain and first man on the Varsity tennis team during the past four years, has graduated but will return to his Alma Mater in the capacity of coach. Kronauge while performing for the Red and Blue rarely lost a match and was one of the classiest racquet wielders in Ohio. His knowledge of the game is bound to assist greatly this season's crop of ambitious tenniseers.

The other two veterans of last season, William Dorgan and George Pflaum, were both good men and would have performed superbly for the Red and Blue this year. Dorgan is now attending Notre Dame but due to the one-year rule there is ineligible to play for that school during 1924. Dorgan had the reputation of being one of the best players in Terre Haute, Indiana, where he hails from. George Pflaum who was the second best player on last year's squad left school to enter business. He was noted for his consistency of play and in a number of matches came from behind and downed his opponents.

With these men missing Coach Kronauge will have to build from the ground up. However, there are a number of men trying out for positions who have had previous experience in high school and club ranks and around these men the Dayton mentor will possibly build his team.

Most of the matches, if not all, will be played during the month of May. The courts, judging by their present condition, will not be in shape until the last month of school. There will be about eight matches. The most likely opponents of the Red and Blue will be Earlham, Antioch, Wilmington and Cincinnati. Each of these schools will be played twice. Last year Earlham won one match from the Varsity and dropped one; Antioch tied in the first encounter with Dayton and were victorious in the second engagement. Cincinnati only played the Varsity once and managed to win.

The aspirants for this year's team are "Lou" Mahrt, the star football and basketball player, Bushkull, Adrian Tsu, Pedersen, Ted Walsh, Wil-

son, Weckesser, R. Babb, "Rus" Plato, Conoboy, Holmes, Adams and Swensgaard.

"Charlie" Pedersen is one of the most promising candidates for a berth on the court team. He hails from Korea, Japan, and was a former star athlete at St. Joseph's High School there. His main asset is a hard forehand drive. Bushkull, a newcomer from St. Joseph's H. S., Indiana, has had previous experience at the court game and will make a bid for the team.

Thus far the practice sessions have been hampered by the weather. As soon as the courts dry up the aspirants will be put through some stiff practices in order to get ready for their first match which will probably be with Antioch College.

PREP BASEBALL

By Dick Hosler

Prospects continue to look bright for a very successful season in baseball for the Preps, who, under the tutorage of Coach Brother Nick, are fast developing into a top-notch squad of sluggers. Coach has cut his squad down to a very moderate number and believes he has the real "cream" of the candidates.

Hard practice every day has done its bit by way of rounding the Preps into form. Although hampered by the weather conditions the Preps have done almost everything, except hit the dust—and that for the simple reason that so far there is no dust. Instructions and baseballs have been flying thick and fast for some time and excellent skill is beginning to show itself on the surface.

All the positions have been claimed by one or more good players and there is an exceptionally good band of slab artists out for the team. O'Donnell, McMurtrie, Wellen, Marzluft, Ewalt and Thone have all been working steadily and there should be little trouble on the twirling end of the game. On the receiving end it appears that the position will have to be fought for by three good ones, who are Lukaswitz, Blum and Gerlach.

The infield squad is very promising and will undoubtedly turn out to be one of exceptional speed and ability. The first and third sacks are being held by Gallagher and Amarosi respectfully, and with little competition. Stein, Willhof and Happer are angling for second and shortstop and at this point there is going to be some mighty keen competition.

The meadow will bear some good material as such sluggers as Holland, Cholley, Hart and Tschudi are the strongest bidders for the honors.

The weather has prevented the twirling squad from opening up to any great extent, but fielding

and swatting have been the principle dishes on the Prep menu. Brother Nick has been drilling the idea of good hitting into his men every day and if results continue to come as they have been, the Preps will have a team of nine mighty good batters.

As far as games are concerned the Preps will not be wanting for opposition. They will, without a doubt, meet some of the best teams in this section of the state. The opening game will be played at the U. of D. on Thursday, April 10th, and will be played with St. Paris High School. This school is famous as a great sponsor of good athletics and

the Preps will probably find plenty of opposition. A return game will be played at St. Paris, Ohio, on May 1.

Two games will also be played with Middletown Public High School and will mark the opening of athletic relationships between these two schools. Miamisburg High School will also come to Dayton on May 21. This will also be the initial contest. Hamilton Public High School, Eaton and Urbana will probably be met although the contracts are as yet unsigned.

Up in the Air

With Varley P. Young

LATELY I have been the center of some irregular gossip. I have been vigorously accused of many discrepancies. I use the word advisedly because, after all, they are minor discrepancies and not to be catalogued either as indiscretions or failings. To be curt, I have been accused of neglecting some of the more (so-called) necessary things in life in favor of the beautiful. In other terms, my enemies, of whom I can lay claim to a host, yea! a legion, say that my interests are centered around entirely the wrong elements in life.

So far no one has leaped to my defense—so I am forced to pen these few sentences in the hope that the Editors of The Exponent will be enjoying an off day when they read them through and consequently send them to the printer with little or no changes. Should there be detected any **errata**, however minute, any inconsistencies, however trivial, please, subscribers, blame it on the Editors!

My legion of enemies have left no pastures untouched, no ground unturned, upon which to vent their irreverent spleen. Athletics, food, statistics, editorials, cigarettes, literature in general and Exponent literature in particular have alike been thrust under my nose in a highly colored attempt to prove me worthless, less than the dust. Must I stand idly by and laugh—as I have been doing—or should I grab the nearest table leg and lambast them right and left? Have no idea that it was a hasty decision to which I came, this plan of mine to write at least one paper in my own defense. No! It took hours of thinking, cups of coffee and seidels of

Have I decided to prepare a long and trustworthy opus in defense of my wholly correct stand on athletics? Am I to wear out a typewriter ribbon in a vain attempt to prove that it takes at least two

hours to plan and eat, to say nothing of enjoy, an ordinary meal? I have not. Carl Crane, that strange mixture of prosaic engineer and poetic composer of platitudes, has been placed in charge of this issue which is devoted to the merits—and, I suppose, deficiencies—of the airplane. He has been kind enough to request from my altogether unworthy hands, and less fit brain, an appreciation of this airplane. Do I know anything about the airplane as an airplane—that is to say an airplane considered objectively? Again I am ashamed to answer negatively. I do not! But I know several things about the airplane as I regard it, as it should be regarded—subjectively. A thing of beauty!

II

To begin with I must state, in justification of the confidence reposed in me by the editors, that I have been in an airplane—once! That occasion I shall never forget. The locale was Wilbur Wright Field. The airplane belonged to—No! I cannot mention his name. Should I do so the Washington job-holder placed over me at the time would be the immediate recipient of a dishonorable discharge from his bosses and, being fired, seek a much better job. Thus I would be doing him a favor in my rashness—and I have no intention of doing this. He fired me and I'm glad! I was fired, not because I was inefficient. As a matter of fact I did better in my particular job than almost anyone else would have done. But I did not please this fellow, nor do I ever expect to do so. This was the sole reason. The air-service lost a faithful employee—the Exponent gained an editor!

The gentleman who took me into the clouds for my first and thus far last sail into the ozone was a civilian pilot. I shall call him Fearless Jimmy—he had a much worse name. He had arrived from

the South and sought gasoline and succor at this depot. I was employed in Hangar 5, if my memory is not unusually tricky, and this fellow wanted to house his ship in Hangar 23, a good mile away. He complained that his propeller was not working very well, that the engine was full of carbon and that he was a bit fearful of one wing's resistance—whatever that meant. My boss, whom he invited first, declined his kind invitation and pointed to me. I still do not think the phoney propeller, the carbonated engine nor the shaky wing had anything to do with his declination. Still....

Fearless Jimmy was a funny little person. He weighed less than a hundred pounds and had a peculiar penchant for suspending himself by the knees from the starboard wing of the ship a thousand or so feet in the air. This proof that man was descended from a monkey I freely donate to the evolutionists. Jimmy and I shook hands at Hangar 5, he looking at me with a sardonic grin and I glaring at him with a semi-dazed gape. Remember, please, that I had never been in the air. My what a chance. At his earnest solicitation I rushed into the center of the landing field, gleefully clamored into the cockpit of the ship, and proudly donned my goggles. I can assure you that my heart beat faster even than it did during my freshman year in engineering when I affected my first "steady." Really, I could scarcely contain myself!

After a dozen or more yanks at the balky propeller the old engine began to cough and sputter in such un-rhythmical succession as to remind me for the moment of portions of Holtvoigt's poetry. But it ran, that was the important thing. Not so many minutes passed until Jimmy hiked his slight self into the pilot's seat and in but a moment more we were skimming along the potential wheatfield under our—our tires. I do not remember when we left the ground; it was like the calm after a storm. The bumps ceased and that inimitable sense of smoothness overcame me. Looking out it appeared as if the ground was dropping from me—I recalled with gusto the pork chops which I had eaten for luncheon. To this day I remember those pork chops....

When I recovered I took solemn oath—which is unbroken as yet—never to enter another airplane. I was not exactly sick; nor was I well. I was just "Up in the Air."

III

It was right here, right here in the air, that the idea which I am trying to bring out in this bit of an article came to me. To be blunt, it was the idea of the beauty of an airplane. It appears to me that so far, at least to my knowledge, this idea has been sadly neglected. I wonder why? My goodness, it

has a much wider appeal than the many other arguments brought into the case. How many people are interested in the airplane as a fighting machine? Let us say the standing army of the United States and their immediate families—with the possible addition of the joint Secretaries of the Army and Navy previous to their oil exploits. How many people are interested in the airplane as a mail carrying vehicle? Let us say the business men who are anxious to get their letters across the continent overnight. But how many in round numbers does this embrace? How many people are interested in the airplane as a passenger ship? Not me and "there's a hundred million others like me!" The first two questions I merely suggest. It lays open a wide field—for those interested in statistics....

Ah! How about the "beauty" appeal talk. Now we are getting warm. How many people are interested in beauty? I say timidly everyone—with the exception of Daugherty, Doheny et al. Now here is a question that may prove of immense value some day, some day when America grows fond of *belles aeroplanes*. Why not "sell" the airplane to America as a work of art—not as a commercial or belligerent necessity. Forget the excellent killing proclivities of the thing and preach its form, its grace, its loveliness. For it IS a thing of loveliness. Who is there allied to the side holding that it is not?

Think for a moment, please, of an airplane in flight. See it rise gracefully from the ground. Vision to your mind's eye the first few moments in the air. The dust—the binding link between sky and earth—has hardly settled. You see this man-made bird rise slowly, hesitate a bit as if the task assigned to it was a bit too much, then you see it triumphantly ascend, foot by foot, yard by yard, rod by rod into the blue heavens. You see it disappear in the distance. My! it's but a speck now in that wondrous expanse of etherial color. It is gone! No! It returns. See, it comes back. Larger and larger it appears. Finally it comes swooping down, down, down, until it seems sure to brush your hair. You crouch on the spot, listening to the grim hum of this monster who has no feelings for mere mortals....

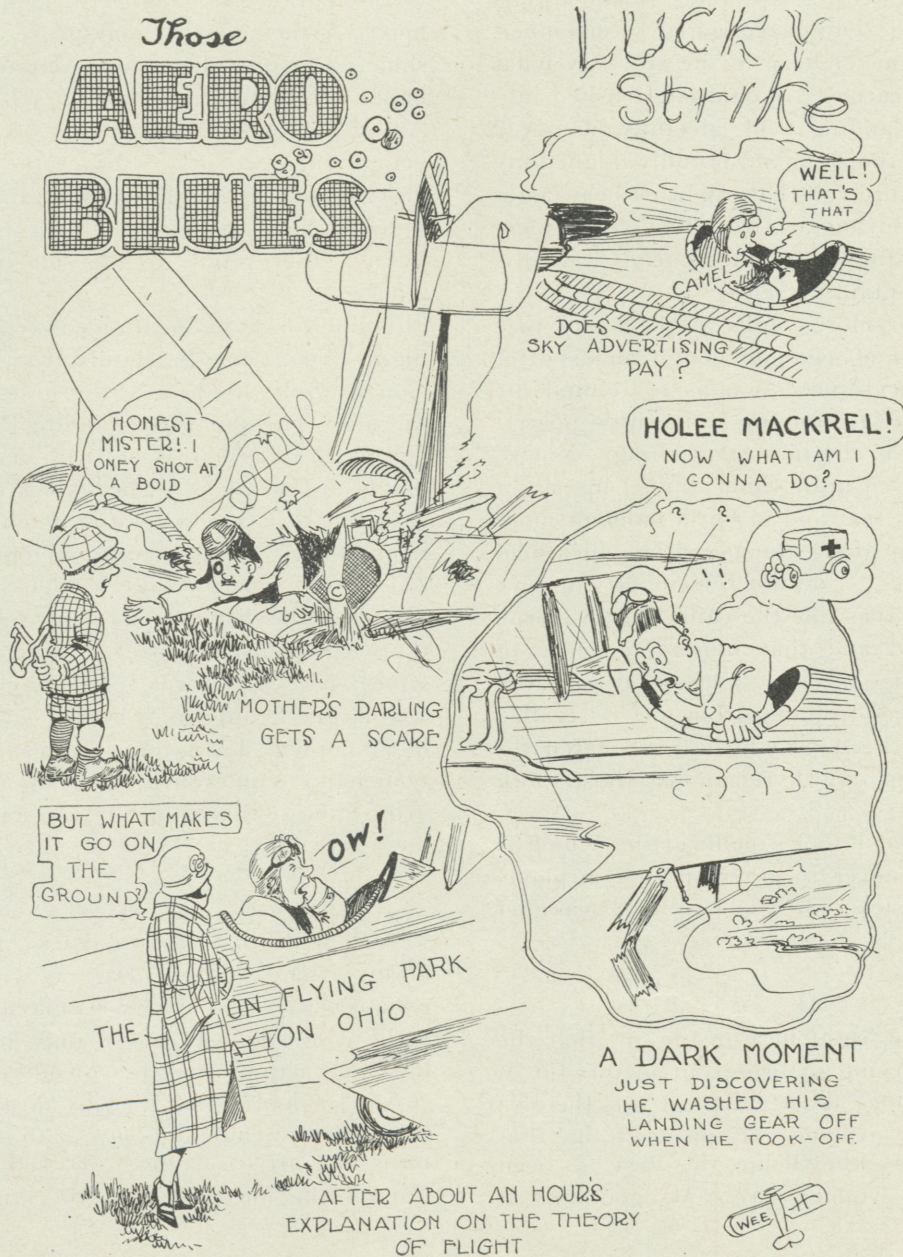
IV

Well, I begin to rhapsodize. And, in the words of my friend, Marie, "I grow scientific, therefore exhaustive." I do not wish to lay down laws—even make cold suggestions. I only indicate one way in which a thing may be considered.

Am I a fool? If I am why do they decorate the faces of government bonds with symmetrical patterns and artistic ladies? To sell them, of course. Cannot the identical thing be done with the air-

plane? I do not mean to daub a coat of paint on the fusilage or plaster the cowlings with absurd stripes. I mean to take the innate beauty of the thing in se and exploit it—much as a political candidate, around August primaries, exploits the poor and apologetic feats of his mediocre life. He paints them in lurid colors, he eulogizes them, he transforms them into pretty gargoyles for the better mastication of the “voting folks.” First, however, he must convince himself of his qualifications for let us say a collector of customs. He must begin at the beginning and show how, *primus*, he was an industrial insurance collector; then he rose to be office manager and collector. After which he was transferred to the district office as collector. He follows his various collectorial jobs through the years, showing how he became and how it is that he is presently somewhat of a super-collector, a Gargantuan taker-in.

Now shift this system to the airplane. Talk to the people of the Wright boys' first attempt. The funny little thing with the engine behind and the tail first. Tell them about the first flight at Kitty Hawk. Tell them how the American people gave this wondrous pair the polite nevertheless firm “razz.” Then take them through the various stages of the airplane; follow the ship through its designings and into the evolution of this 20th Century bird as it now flies. Draw the conclusion of beauty—sell it to them, make them eat and sleep, and sleep and eat, the affair. What will happen? Congress will meet—after a recess—and vote more money for the development of the airplane and less for the development of leather couches in congressmen's private offices. In no time, I predict, we will have an airplane loving nation, a plentitude of devotees to the *Venus de cieux*. And this is what we need. Am I right, Crane?



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Anderton & Anderton
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Dayton Daily News
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EMIL EDMONDSON, '13
Wall Street Journal
New York City

HENRY FARRELL, '12
Sport Editor
United Press Associations
World Building New York City

FRANCIS J. POWERS, '12
Sport Writer
Cleveland Plain Dealer
Cleveland, Ohio

HARRY KENNEDY, '16
Sport Writer
Dayton Journal and Herald
Dayton, Ohio

THOMAS HOOK, '21
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Dayton Daily News
Dayton, Ohio

PHYSICIANS

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Covington, Ky.

DR. G. A. HOCHWALT, '89
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DR. A. J. MOORMAN, '00
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TABLE OF CONTENTS

Springtide	
Birdlife in Spring	29
The Romance of Mr. and Mrs. Bob White.	45
Home Building in the Bog	56
The Domestic Affairs of the Sora Rails.....	63
Bob Whites at Home	70
The Mallard's Rendezvous	78
Summertime	
Rambles of a Bird Lover.....	89
The Robin's Menu	95
The Robin as an Insect Destroyer.....	99
The Bluebird's Repast	101
Autumnal Days	
Autumn	109
Afield in October	111
Old Head Hunter	118
Winter Months	
Our Feathered Winter Residents	127
A Winter's Walk in Highwood.....	140

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