

## Serpent Senses

Zoology

RAYMOND L. DITMARS, in *Reptiles of the World* (Macmillan): Another ophidian character is the absence of eyelids. Thus, the eyes of a snake are always open and a sleeping serpent may be awakened by *seeing* a sudden movement. The eye is covered with a transparent cap which is shed at each casting of the skin; under this glassy cap the eye is capable of considerable movement. Yet another difference between snakes and most lizards is the absence, among all of the former, of any trace of an external ear. Internally, the serpent's ear consists of a thread-like bone and crude accessories. The ear seems to be in a state of degeneracy, but an ear is unnecessary, *for snakes hear with their tongues*. The delicate, nerve-supplied tips of this wonderfully specialized organ are highly sensitive to vibrations from even slight sounds. Besides, the tongue serves many purposes; vulgarly speaking, it is a "feeler" and of enormous value to the reptile.

Science News-Letter, March 10, 1928

## The Original Wright Biplane

Aeronautics

C. G. G., in *The Aeroplane*, English aeronautical weekly:

The announcement in many papers that Mr. Orville Wright—the first man who ever flew—is sending to the South Kensington Museum the original biplane on which he made his first flight, revives an old controversy which ought long since to have been settled on a common-sense basis.

Mr. Wright has a standing grievance against the Smithsonian institution at Washington, the Capital of the United States, because that institution, while admitting that the Wright biplane of 1906 was the first machine which ever flew, demonstrated during the War, with the help of Mr. Glenn Curtiss, that the machine built by Professor Langley, Chief of the Smithsonian, at the same time as the original Wright, was a practicable flying machine.

The facts were that though the Wright machine did fly, it could only be kept in the air by a pilot who had

the skill of a tight-rope walker. Except for the wing section it was aerodynamically wrong in every direction. It was of the "tail first" type, and soon proved itself to be a dead-end design, which could be developed no further, as was proved by Voisin, Cody, and others—besides being a death-trap. Its side areas were entirely misplaced. And its method of manual control was hopelessly unpractical.

It held together in spite of its flimsy construction because, owing to its uncontrollability in anything other than the simplest turns and ascents and descents, and, in almost calm air, it was never subjected to any severe strains. Pilots who attempted any more spectacular manoeuvres killed themselves. The truth of these statements is proved by the fact that within a year after flying really began in 1909, the Wrights themselves abandoned their own design and took to the "tail-behind" type with approximately correct side-areas and humanly possible controls.

Professor Langley's machine, which he called an "aerodrome" (or air-runner), was a monoplane designed on proper aerodynamic principles, stable fore-and-aft and sideways. But the construction was bad, it was broken in its first attempt to fly, and Professor Langley could never afford to rebuild it.

Years afterwards it was reconstructed, strengthened where necessary, and was flown on floats, with its original engine, over Lake Keuka, by Mr. Curtiss, far enough to prove that it was a practicable flying machine.

Thus the true position was that the Wright machine was the first aeroplane to fly, but it was not a practicable flying machine. The Langley was the first practicable flying machine but it did not fly at first because of errors in construction.

Why the two parties cannot agree on that basis is difficult to understand,—except by anybody who knows Dayton, Ohio, which in some ways is as elemental as Dayton, Tennessee.

In any case, Mr. Wright has now shaken the dust of the Smithsonian off his original planes (re-covered), and is confiding his machine during his majestic pleasure to South Kensington, where it will cause considerable interest, some amusement and a good deal of ungrudging admiration for those gallant fellows who survived taking the air in such a contraction.

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