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Now let that machine drop, it will tend to dive more speedily with this tail on. With a bow control it tends to check the dive.

Dr. Bell:- You think the pressure is on the under surface of the tail, Gardiner Bell thinks it is on the upper surface.

Gardiner Bell:- You take both cases, one machine with a tail, and the other without; you can turn the machine without the tail quicker than the one with the tail. The resisting pressure will be on the upper surface of the tail the moment the machine turns, that is if the tail is fixed or stationary.

Mr. Baldwin:- According to Dr. Bell's proposition the thing with a tail let free to fall will tend to do the weather vane act and drop with its head vertically downwards.

Dr. Bell:- I think we are all agreed upon the point that the principal danger to the aviator is in loss of headway. Now in all machines so far made the center of gravity is in front of the center of surface so that when we lose headway the machine dives and the front control by its resistance tends to check that dive. It is equally obvious that if the center of gravity was behind the center of surface then the rear tail would check the stern dive which would result? But the question comes in my mind why do we have ^{to have} that center of gravity in front of the center of surface, why would it not be safer, without headway, to have it directly under the center of surface. Suppose the reason to be, and I think it is right, that when headway is gained the center of pressure moves forward and we have to have the center of gravity under the