

Mr. Baldwin:- Well, because as a machine travels at an increasing speed and a less angle of incidence, the center of pressure does move forward, we know that. Take any of our machines and balance them up, put your center of gravity underneath the center of surface of the machine. Now propel that at any small angle of incidence, and it won't balance. The bow goes up. With the surfaces we have used the center of pressure moves forward almost to the front edge of the machine. About 8 inches back was a fairly good balance for the center of gravity. Now the planes are 6 feet deep so that we know that the center of gravity must be well forward on the machine to balance it when in motion. Now when the machine hasn't any headway with that balance, if you suspend the machine, and let it suddenly drop it will take a very bad dive, and then recover headway. Just like the little gliders it would go along and dive, then go along and dive again etc. etc. Now you can have the center of gravity further back in the machine if you have a front control at a negative angle.

Suppose you have a tail and lose headway. Then under the influence of downway the action of the tail turns the stern up increasing the tendency to dive.

Mr. Gardiner Bell:- That tail isn't going to make your action any worse, on account of pressure on the upper surface of the tail resisting turning action.

Mr. Baldwin:- You don't get pressure on the upper surface until you have headway, and you don't get headway until you have downway.