

center of pressure in order to balance. Then the faster the machine moves and the slighter the angle of the main planes with the line of advance the more the center of pressure moves forwards, which would mean that the center of gravity also has to move forward to balance the machine.

Now are we not going on the wrong principle altogether to balance an instability that results from a change in the center of pressure, by making a change in the center of gravity I think the Wright Brothers introduced an enormous improvement over the acrobatic method of Lilienthal when they proposed to counterbalance such changes by the action of moveable surfaces. Why would it not be better in this case also to have the center of gravity under the center of surface, the safest position without headway, and counterbalance the effect of the movement of the center of pressure by means of moveable surfaces.

We have hitherto been considering the front control versus the tail. Why not have both together? They can co-operate with one another in steering under headway and would not both be safer than either alone in coming down without headway?

Mr. Baldwin:- I think that is all right. That is exactly what I mean by carrying the bow control at a negative angle to leave your center of gravity somewhere near the center of surface, although in advance of it so that if you do lose headway you are in a better position to control the dive.

Dr. Bell:- There is a great deal in Gardiner Bell's idea. Under a vertical drop the pressure of the air acting on