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THE UPPER SLEPACE OF HYDRO-CURVES.

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December 9. 1908: When Baldwin's hydro-surfaces come to the surface of the water so that they progress on the top of the mater instead of beneath a great disturbance of the surface water results or, as Baldwin expresses it they make considorable "fuss".

I am very much inclined to think that the form of the upper surface of the blade is as important, if not more important, than that of the lower surface. We are too much inclined, both in the case of hydro-surfaces and acro-surfaces to consider the lifting effect as due to the impact of a current of fluid on the under surface of our blades, practically ignoring the effect of the upper surface. Now the fluid impinging upon the convex upper surface near its front edge tends to be deflected away from the surface at the middle part of the blade, and at the rear, thus creating a partial vacuum over these parts, inducing a lift from statical pressure below quite independently of any dynamicul offect produced by the impact of the fluid below. I should expect that this action would be more marked in the case of hydro-curves than acro-curves on account of the incompressible nature of the fluid employed.

If the vacuum effect has a sensible influence upon the lift, the lift would be diminished when the hydro-curves come above the water, so that there is only air above them. Baldwin's hydro-curves lift the beat clear of the water until they come to the top of the water. This is followed by a dive.