CORRESPONDENCE

The Editor of "Flight" does not hold himself responsible for the views expressed by correspondents in these columns. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters.

H.P.42 History

REGARDING recent information published in *Flight* about the H.P.42, I am able to supplement one of the facts mentioned. *Horsa* G-AAUC and *Hadrian* G-AAUE were both seen in their war paint at Doncaster Airport during 1942. One of these machines, picketed in the open, was blown adrift and completely wrecked by a gale in that year. In view of Captain Brown's letter in *Flight* of October 5th, I conclude the wrecked machine would have been *Hadrian.*

Doncaster. L. A. CLARK.

Airline Comfort

WITH reference to Mr. I. Scott-Buccleuch's letter on "Airline Comfort" in your issue of November 16th, the aim of all scheduled airline operators is to fit their aircraft to the routes in the most profitable manner compatible with the operational performance of the type on the one hand and the length and physical nature of the journeys from the passenger's angle on the other.

B.O.A.C. is no exception in this and, as your correspondent would seem to suggest, the examples of our passenger seating quoted by him are primarily due to the range and payload characteristics of the particular types.

The increase in seating capacity of the Solents was a typical case where, after initial operating experience, a higher take-off weight along the routes became possible, and performance generally was progressively improved. This commonly occurs during the initial operation of a new type as the result of upward revisions of engine power, and so on. For example, the Hermes IV has now had its all-up weight increased from 82,000 to 86,000lb, and this is in process of implementation.

Sometimes, as the result of having to operate a particular type of aircraft on route sectors above the optimum distance for best payload, greater passenger comfort (or "luxury") can be offered, because payload then becomes weight-limited, and greater space per passenger is automatically available. Examples of this are frequently seen where operators are using sleeperette-type seats which otherwise could not be provided. The carriage of considerable quantities of mail or freight on passenger services, as is common on B.O.A.C.'s overseas routes, is another factor contributing to what otherwise might appear to be an extravagant spacing of passenger seats.

It was naturally our aim to establish an interior layout which gives the most profitable volumetric payload in relation to the average sector fuel weights estimated to give an acceptable degree of operational regularity.

London, W.1. F. C. GILLMAN,
British Overseas Airways Corporation.

Sidewash and Stability

WITH reference to Mr. Wreford-Bush's letter in *Flight* of August 24th, criticizing my article of the above title published in *Flight* of July 27th, I should like to apologize for the delay in making this reply, but I received the appropriate copy of *Flight* only a few days ago.

Whilst agreeing with my critic that the figures quoted in my article for the Hawker P.1040 and P.1052 are, perhaps, incorrect (they were obtained from miniature three-view G.A. drawings) I do not think that the real figures are as high as Mr. Wreford-Bush quotes. I should not be at all surprised if the aircraft in question did not show some oscillatory tendencies. Perhaps Mr. Wreford-Bush did not quite see what I meant by the fin area *above the fuselage* (SFR) in my approximate formula relating the fin size required to the fuselage size.

This formula forms a departure from the well-established method of estimating n_v according to R.A.E. and R.Ae.S. data sheets, where the fin area is represented as "the gross area" *including* a part formed by the fin and fuselage *beneath the tailplane*. However, the fin p/q tests that I have seen in flight and in wind tunnels have convinced me that the theoretical indicated inefficiency of that part of the fin under the tailplane is a fact. The reason for it can easily be explained when one considers the fuselage top sidewash annihilated locally by the tailplane frontal downwash due to its own lifting line, this being especially apparent when the tailplane is mounted above a circular fuselage. One should try to separate the fin from the tailplane, and if the tailplane must be mounted away from the high-speed wake of the wing, then it should be put either right on top of the fin or right below it, even if it means using anhedral. For further studies of the subject, I would recommend *Aerodynamics of the Fuselage*, by H. Multhopp. This is available as an M.O.S. translation (R.T.P. No. 1220).

I agree with Mr. Wreford-Bush that my formula is approximate, but then, so is the R.Ae.S. method. By the latter, one can make practically every modern aircraft look stable or unstable on paper—depending, for example, on how much one allows for, say, canopy height. Furthermore, the R.Ae.S. method of estimating n_v does not lend itself easily to project work, where one has to relate stability with performance and weight in a hundred and one variants. The old rule of tail volume also fails when one starts changing the wing loading and aspect ratio. Such is the "exact" science of aerodynamics. Nevertheless, one has to find some method of quick comparison for project work, and my formula gave me the best approximation so far available. I think it worth mentioning that most aircraft which show low values in the tables published in my original article have had stability troubles. I should be pleased to hear if Mr. Wreford-Bush has anything better to offer as a rough recipe for project work.

Further to other points raised by my critic, I agree that the paragraph concerning stability effects of the fuselage nose shape does not specifically state that the fuselage discussed *is* in the presence of the wing: that much I took to be assumed. I must, however, disagree with Mr. Wreford-Bush when he claims that my formula does not take the fuselage nose shape into account. It is, in fact, the very thing that the formula does take into account, containing, in effect, the term of fuselage volume and mean width in front of the c.g. H. K. MILLICER.

Melbourne, Australia.

An Expert on Veterans

I HAVE been most interested in the correspondence concerning veteran aircraft which has appeared in recent issues of *Flight*, and I believe I might be able to assist in clearing up some of the points raised.

Firstly. One of your very rare caption mistakes occurred in your R.A.F. Display report, when the photo of the Shuttleworth 1909 Bleriot XI was depicted as the Gordon Bennett Bleriot. This slip undoubtedly occurred owing to the fact that my 1911 Gordon Bennett Cup Bleriot XXVII was displayed in the static park.

I believe the points raised in other letters had better be generally covered by referring to the Bleriot types, as correspondents appear to have mixed up the Bleriot XI and XII in connection with Gordon Bennett events. Mr. Curtis also mentions that the Shuttleworth Bleriot had a "Cross-Channel type" rudder before the war. This latter point can be cleared up by my mentioning that my No. 5 Bleriot XI, which comprised No. 5 fuselage and engine and the remainder rebuilt from original Bleriot works drawings, was fitted with the Cross-Channel type rudder for film purposes and was also fitted with the Cross-Channel wings, which gave a span about 18in less than the production type XI. The Shuttleworth Bleriot attained at least 200ft altitude and my No. 5 short-span flyer about 100ft, before the war (1939-45); my No. 5 was probably very slightly faster. These altitudes were often accomplished in the period 1909-10 and, in fact, M. Molon on my Type XI No. 54 accomplished 600ft towards the end of 1909.

The actual Cross-Channel Bleriot XI had a rudder with a single balanced portion above the fuselage and this general appearance (not necessarily exact design) also applied to the 1911 type XIbis and the 1912 type XXI. The Bleriot types IV, IX, XI and XIa all had rudders of practically identical appearance, there being a balanced portion above and below the fuselage, similar to two horns.

There is mention of a Bleriot which was flown at Rheims other than the types XI and which housed the pilot inside the fuselage. This was the Type XII Bleriot high-wing monoplane and was brought out in 1910. It had type XI wings and various motors were fitted, including an eight-cylinder E.N.V., Green, and Darracq of about 35 h.p., water-cooled. I believe a Gnome was also fitted. Bleriot first flew this type at Pau and it was also flown by Grahame-White. Speeds of 45 to 60 m.p.h. were attained.

The Gordon Bennett Bleriots were of types XI and XIa design, fitted with Gnome 50 and 100 h.p. motors for 1910-11 and Type XXVII fitted with 50, 70 and 100 h.p. Gnomes for