

# City Swiss Club

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# NEWS FROM THE COLONY

## CITY SWISS CLUB A most interesting Evening

The Monthly Meeting of the City Swiss Club took place on Tuesday, 26th January 1965, at the Dorchester Hotel, Park Lane, W.1. Mr. M. A. Keller was in the Chair, and there were over a hundred members and guests present. The following members of the Embassy attended: Monsieur M. Heimo, First Counsellor of Embassy, Monsieur O. Bodmer, Secretary, Monsieur E. Tosio, Consul, and Monsieur Zellweger, Vice-Consul. Before dinner started the President paid a sincere tribute to the late Sir Winston Churchill, and the company rose in memory of one of the greatest Englishmen of all times.

After dinner Mr. Keller introduced the guest speaker of the evening, Mr. Armin Baltensweiler, Executive Vice-President of Swissair, who gave a highly interesting address on "Supersonic Transport".

As an introduction, Mr. Baltensweiler said that experts and laymen, politicians, citizens, informed and uninformed people talk a great deal about the future of Supersonic Transport these days. Some airlines do not need the SST, some do not want it, and many cannot afford it; but there is no doubt that it will come.

The speaker recalled that supersonic flight started in 1947, when an American X-1 rocket-powered research airplane flew slightly faster than the speed of sound. He said that quite a number of military planes already now fly at speeds of one to two thousand miles an hour, although the leading nations, like England, France, U.S.A. and the U.S.S.R., are turning more and more to the production of rockets and satellites.

"Some of my statements", he said, "will be better understood if we first consider the most important physical highlights that are characteristic for flights above the speed of sound. Under normal atmospheric conditions, close to the surface of the earth, the sound spreads with a speed of approximately 740 miles per hour. The ratio of aircraft speed to the speed of sound is called MACH-NUMBER, an honorary tribute to the late Austrian physicist Mach. A flying body, moving at twice the speed of sound, i.e. at 1,500 miles per hour, is therefore said to fly at MACH 2."

Mr. Baltensweiler said that the speed of sound was of extraordinary importance in aerodynamics, since the physical behaviour of the air around a moving body changes drastically as the flying object accelerates from subsonic to supersonic speed. He said that only thanks to the development of the jet engine with its much higher thrust output, combined with an ever widening insight into aerodynamics, was it possible to break through the so-called sound barrier and to make sustained supersonic flight a practical reality.

The speaker then went at some length on the subjects of air frictions, costs for titanium or steel alloys and aluminium.

Regarding the present SST projects, he said that the free world had the technical knowledge to build a Supersonic Transport. In Europe, the British Aircraft Corporation (B.A.C.) in England, and Sud Aviation in France, have — with the support of their governments — decided to build the Concorde. "Assuming that the review of the Anglo-French Concorde project by the new British Government will not slow down the planned rate of development", he said, "it seems possible to put the Concorde into com-

mercial service in the early 1970's, while the bigger and more sophisticated U.S. counterpart can hardly be expected before 1975."

As to PERFORMANCE he mentioned that to carry a given payload over a predetermined range in the shortest time possible sums up the job of a transport airplane. Since the North Atlantic is the most important and most competitive market, the performance of any proposed SST has to be measured against the U.S.—Switzerland route as a yardstick. Due to the high New York summer temperatures, the take-off in the U.S.A., and by the same token the east-bound leg, become the critical determining flight that establishes the maximum payload. The U.S. SST's seem to be able to carry a full payload of 22 tons from New York all the way to Switzerland, whilst the Concorde could carry a complete load of 12 tons only as far as Paris. Assuming that a non-stop SST will fly the route U.S.—Switzerland in somewhat less than three hours, we find that one aircraft should be able to make three round-trips a day, provided the turn-arounds in the U.S.A. and in Switzerland can be limited to one hour. Such a tight rotation flown by the same aircraft would, of course, be extremely vulnerable to delays and it could only be envisaged after two to three years of operational experiences have been accumulated. One aeroplane working at 50 per cent load factor, and making 14 weekly round trips would carry 3,300 passengers a week across the North Atlantic. This figure would be 20 per cent higher than the number of passengers carried by four Swissair DC-8s in 1964.

Regarding the economy of supersonic flights, the speaker asked "Can these heavy and extremely costly aircraft bring in enough revenue to justify the large investments and high operating costs?" The development, the manufacturing and the operation will swallow up enormous sums of money. He then gave the following figures:

Development cost for U.S. project:	£415-500 Mio.
Purchase price for four engines:	£ 3.5 Mio.
Purchase price for one aircraft:	£ 12.5 Mio.

The speaker, after going into the production costs of the various Douglas D.C. machines, the big SST, which will every hour burn up to £500 worth of fuel or approximately 32 tons of kerosene, asked, will it ever be possible to introduce the Supersonic Transport in spite of this unfavourable cost forecast?

As to SST noise, the so-called "supersonic bang", together with the unfriendly economic status, Mr. Baltensweiler said that these were the two main problems to be solved between now and the beginning of the supersonic era.

In conclusion the speaker said: "Just because the problems connected with the introduction of the SST have not as yet been clarified, because neither the specifications nor the manufacturer of the American project have been firmed up, and since the price is still largely unknown, Swissair — contrary to other airlines — has not as yet taken an option or a decision to buy."

This highly interesting and most efficient talk by the Executive Vice-President of Swissair was loudly cheered; it was in fact one of the best lectures given to the members of the City Swiss Club. The President, Mr. M. A. Keller, on behalf of the company, warmly thanked Mr. Baltensweiler for having come and having given so much pleasure.

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Press Reporter, City Swiss Club.