

SOARING, SCIENCE AND TECHNOLOGY

The outstanding success of the technical symposium held by SSA in Los Angeles last month, and reported in this issue of *SOARING*, highlights the important relationship between soaring, science and technology. It seems to us that this could stand considerably more emphasis than it has received in the past several years.

The history of aviation is replete with examples of progress made as a result of experiments made with gliders. In Europe there was Lilienthal, and in this country there were the experiments of Montgomery, Chanute and the Wright brothers. While the latter built and used wind tunnels in originating their designs, they were perfected by full-scale tests of gliders in the field. To the casual glance, the successful powered biplane flown at Kitty Hawk in 1903 resembles exactly the gliders tested there by the Wrights the year before, with only the engine added.

As aviation progressed, the powered plane designers began to lean less and less on information from motorless plane developments. However, in the twenties and early thirties they were still progressing along much the same paths of technology. For example, airplanes were still flying and landing relatively slowly, and the aerodynamic data from wind tunnels was still of value to the sailplane designer, since much of it was in a speed range where he could use it.

But then came high speeds for military and commercial aircraft, not to mention missiles, and then what was the poor sailplane designer going to do? Mostly dig back in the dusty archives of wind tunnel tests made 20 or 30 years ago. And some very fine nuggets were found here once in a while. Recently things have looked a little brighter. Laminar flow airfoils have important application for soaring ships, and the intense interest all over the world in Vertical Take-off and Landing (VTOL) and Short Take-off and Landing (STOL) aircraft has revived interest in low-speed aerodynamics among our wealthy relations, the military aviation designers. Boundary layer control of all types is receiving active attention, which can only result in our good.

But what are we doing to take advantage of these developments of modern science and technology? When our national soaring competition is won in a ship designed 20 years ago, even though flown by a manifestly superb pilot, is this progress? Obviously we need to do more research and engineering on soaring problems. But equally importantly, we need to increase many fold the exchange of technical information between soaring people in this country and abroad. And not only soaring people, but airplane designers and researchers as well.

SSA does not have the resources to start or sponsor research work, but we surely can render a very worthwhile service in providing a forum for the wider dissemination of technical and scientific information in our field.

Some years ago, SSA regularly held joint sessions with the Institute of the Aeronautical Sciences at its winter meeting in New York. Papers of interest to both groups were presented in a formal technical session. These joint meetings have not been held now for five or six years. Various reasons have been given for this, including lack of interest on the part of SSA members, and a lack of high quality papers submitted for presentation. We are confident this series could be resumed if the interest and papers are forthcoming. The cost to SSA would be negligible, and the rewards would be great.

In a conversation in the corridor between sessions at the Los Angeles meeting someone stated that technical interest in soaring seemed to follow an eight-year cycle and that we were on the upturn right now. What does this mean to the average SSA member? It is of utmost importance to him, whether he realizes it or not. He may have not the slightest interest in wing profiles or dynamic stability, but these are some of the things that make it possible for him to fly, even if it is only around the airport on a sunny week-end. We are rapidly using up our store of technical knowledge from the past, and it must be replenished if we are going to progress and give the pilot better tools with which to do his job. It's not so important to make his task easier, altho technical advances will surely accomplish that. The vital fact is that it will give him increased scope for accomplishment of things undreamed of at present.

SOARING magazine stands ready, as in the past, to publish good scientific and technical articles, realizing full well that they will not be of interest to all of our readers, but we firmly believe that it will eventually be of benefit to all. SSA is going to encourage in every way possible the holding of technical forums and symposia whenever a few good papers can be obtained, and we urge local clubs to do likewise. A high caliber technical discussion, even though attended by only 10 or 15 people, may do more good for soaring in the long run than any number of slide-showing social sessions. We strongly urge that these SSA members whose interests and talents lie along the scientific and technical lines give more attention to communicating the results of their work to their colleagues in both oral and written form. It will sharpen their ideas, improve their professional standing, and help further the progress of soaring. —H. S.