Dr. August William Raspet †

That brilliant and constructive individualist, August Raspet, who did so much for OSTIV in its early days, crashed to his death in April this year in one of his aircraft equipped with boundary layer control. The causes are unknown, but the effect of this tragedy will be widespread. As Dezsö Györgyfalvy, one of Raspet's close associates, writes:

"Dr. Raspet's activities are well-known throughout the world wherever people are engaged in sailplane development. Whoever knew him personally recognized him as an enthusiast, a fighting progressive who firmly believed in himself, who never tired of his work and who was always full of new ideas."

His many friends, in U.S.A., Europe and the East will miss him sorely, as will his opponents. Any man as impatient of red tape as Gus Raspet, to whom all progress was too slow, and who never hesitated to criticise, had to have opponents, and they too have lost much by his passing.

Raspet was born in the U.S.A. in 1913 and was educated at the Carnegie Institute of Technology and the University of Maryland. At these institutions he received the degrees of B.S. (Physics) in 1935, M.S. (Physics) 1940 and PhD. in 1942. He first worked as a research physicist for Pratt, Read & Co., rising to the head of research for that firm. After work in physics for Specialities Inc. and as a consultant, during which he directed research for the Soaring Society of America, he joined State College, Mississippi, in 1949. At his death he was Head of the Aerophysics Department of Mississippi State University.

During these last eleven years Raspet produced an enormous amount of inspiring work, all of which in published form was concerned with problems of drag, improving performance and all aspects of the low speed aspects of flying, the really dangerous end of the speed range. He even extended his interest to bird flight, vegetable aerodynamics and man-powered flight. Some of the titles of interest to OSTIV are:

OSTIV Publication I:

The Air Flow over an Extended Ridge
Performance Measurements of a Soaring Bird
Comparison Flight Tests of Orao II and Weihe (with Boris Cijan)

OSTIV Publication II:

The Potential of Motorless Flight
Control of the Boundary Layer on Sailplanes

Unsolved: The Problem of Leonardo da Vinci, Human Muscle-Powered Flight—1952
The Private and Utility Airplane of the Future—1953
Flight Research on a Personal Type Airplane (with George Lambros)—1954
Application of Sailplane Performance Analysis to Airplanes—1954
The Low Drag Sailplane, Tiny Mite, Modification 1954 (with Raymond Parker)—1954
Aerodynamics of the Zanonia Macrocarpa—1955
Some Thoughts on New Approaches to Soaring—1959
Biophysics of Bird Flight—1960
Boundary Layer Studies on the Phoenix Sailplane (with Györgyfalvy)—1960

In doing all this original work, Györgyfalvy says that "to those who worked directly with him in his institute he was more than a boss, more than the Head of the Department. We respected him as the father of a family, its leading spirit."

Only a few months before his death, Raspet had succeeded in organizing his "Marvel" project, a very advanced STOL aircraft, the fruit of all those years of ideas, research and development. This project typified his technical daring. Instead of step-by-step progress, his design was revolutionary through and through. From the low drag wing with flexible laminar section, the high-lift boundary layer control, ducted propeller turbine to the fibreglass sandwich construction, everything was novel. Györgyfalvy quotes Raspet's philosophy:

"As long as man challenges the air and the sea, as long as he probes the secrets of the universe, as long as he participates in history and tries to determine human destiny, there always will be a chance of loss along with the gain. But what better way to die than in the quest of truth?"

Although Gus Raspet is gone, the results of his life work, his ideas, his research, his creative and untiring spirit will remain as encouragement to all of us in OSTIV and elsewhere who are working toward the unattainable perfection of aeronautics.

(Swiss Aero Review 1960/9)

Outlook for Standard Class Sailplanes

By Boris Cijan

The Standard Class came to maturity in the FAI World Championships which took place in Leszno and Butzweiler and can now stand by itself. Of a total of 61 sailplanes at Leszno 39% were Standard Class, and of a total of 55 sailplanes at Butzweiler 63% were Standard Class. At Leszno there were eleven different Standard Class designs and at Butzweiler twelve different designs, and of these five were sailplanes which had not hitherto been seen.

New designs are being built to the FAI Specification and efforts are being made to minimize the fuselage cross-section but still keep within the requirements. Even so, one still has to stuff a 1,9 metre man into such a super cockpit, assuming the normal cockpit as that in the Weihe. The "Draft Specification for FAI Standard Class Gliders" defines no limitations on cockpit dimensions and, for example, the Polish "Foka" was within its rights in competing in the Standard Class despite its low narrow cockpit. But the FAI Specification does recommend as follows:

"Design and construction to be cheap, safe and easy to maintain and repair, in an effort to encourage soaring throughout the world",

so here is some sort of technical inconsistency. To what extent should one try to improve the performance and produce a racing machine only for World Championship purposes? The "Foka" which appeared at Butzweiler can, in journalistic jargon, be considered to be a "Super-Kite", but from the technical point of view it is certainly a positive effort to see what one can actually achieve. This positive effort must be super-imposed upon the idea of the Standard Sailplane and one could develop from the "Super-Kite" an "FAI Kite" which would have a far better performance than, for example the "Olympia". The positive merits of all these super machines should have their applications to the simpler types.

The deviation which the designers of the "Foka" made in connection with the fuselage cross-section as far as the FAI Specification is concerned must be rated as "Super". Where is the border between the design of a "Super-Kite" and a normal Standard Class Sailplane? The answer is simply a more precise definition in the FAI/OSTIV Specification, but there is another question. Should one rush in with administrative rules and immediately make limitations on the fuselage cross section instead of recommendations? People believe that the Open Class should be used for unlimited technical developments in new aircraft and one tends to forget that there is no reason why such freedom of development should not be given to the Standard Class, and for this reason we should not rush in with modifications of the specification in order to clarify the differences between the Super and the normal types. Today we have in many countries very superior Standard Class Sailplanes which are in every way consistent with the Standard Class idea. The Ka-6 and the Standard Austria which have gained design prizes, and the Breguet 905 "Fauvette", the "Zugvogel IV", "Skylark II", the "Pik-3C", the Italian aircraft M.100S and E/C 39, the Mucha Standard and American SGS 1-23 and many other 15 m aircraft are already not only outstanding all-round club aircraft for high performance flying and training, but also outstanding contest aircraft. If one considers that in the case of all these aircraft, there are still many improvements that can be made in performance, then the CVSM and OSTIV have achieved what was desired. The technical development must be encouraged and a few "Super-Kites" will stimulate and influence this development.

During the OSTIV General Conference in Cologne, a proposal for a monotype (one-design) sailplane was made by the Polish Aero Club. The idea was that everybody would fly under the same technical conditions in order that one could evaluate purely sporting performances. This well-known Olympic idea will come to pass one of these days. The introduction of a One-design Class would mean, however, the immediate end of the Open Class. In Cologne we had several illustrative examples. Two outstanding Standard Class sailplanes—the Ka-6 flown by Jensen (Denmark) and Tandefelt (Finland) operated in the Open Class and Jensen actually came 7th. This does give some indication that from the purely sporting standpoint, the Open Class has lost importance. If in addition we take, for example, Witek with the "Foka" as if he were flying in the Open Class, to which nobody could object, he could have been the absolute World Champion (Hossinger gained 5102,9 points and Witek 5201,9 points, although they were in different racing categories), but according to the FAI requirements, the "Foka" was entirely within the requirements for the Standard Class.

In "The Sailplane and Glider", April 1960, R.E.Schreder (USA) proposed that during the World Contests all competing sailplanes should be evaluated under the same points system, and that there should be only one World Champion who would have the highest number of points, quite regardless of class of aircraft he flew. This suggestion is basically sound, not only from the technical but also from the sporting point of view, and it would be wise for the CVSM to give careful consideration to the suggestion for the next World Championships. If they accepted it, it would be a further step forward in the direction of preparation for a One-Design Class. If we could gather a background of statistical information, it would ease the problem for the selection of the best design for a One-Design Class.

This automatically raises the question: When should the decision on a One-Design Class be expected? We know that the optimum aircraft is a function of the state of technical and meteorological development. If in the year 1938 the "DFS-MEISE" (Olympia) with 15 m span had a gliding angle of about 1:25, we now find that a present-day aircraft of the same span has a gliding angle of 1:35. One must therefore realise that a given optimum is only valid over a certain time interval. In the year 1957 it was publicly suggested by a number of people that it was too early for the first Standard Class World Championships to be held in 1958, but in fact it was not too early. Even in the year 1958, suitable new designs were at the starting line, and proved themselves as worthy performers in the World Championships.

In the year 1962 the percentage of Standard Class Sailplanes will be at least as great as that at Butzweiler. We must not forget that designers of the existing successful Standard Class sailplanes can make many improvements and achieve much better performance without a great deal of effort or cost. Development will advance and new prototypes will be built, and all of this of course will result in greater approximations to the optimum solution and provide a wider choice for the future One-Design aircraft. It is far too soon for us to put any stop on development. Until we reach the final selection of a One-Design aircraft, we need a lot of time, a lot of preparation and a lot of hard work. It is hardly likely that it will be possible before the year 1968 to organize a successful and properly developed One-Design sailplane.

It would be a good thing if CVSM and OSTIV were to form a permanent committee which would study this whole problem for the future and at the same time would form an international jury for the Standard Class sailplane. OSTIV has already formed a permanent committee of international experts on airworthiness of Standard Class Sailplanes and has completed with success the first work on the subject. Only the closest collaboration by the best experts from various countries in the area of interest of CVSM and OSTIV can solve this problem and all its ancillary aspects. By such work one will be able to devise the optimum conditions for world-wide soaring and that means a lot of work and clear thinking and careful analysis and collection of the widest possible views and ideas. This new concept would then be quite easily agreed administratively, if it is worked on, on two fronts—scientific and sporting.