has discovered that model aircraft when properly weighted could be made to glide underwater in the bathtub. Gus encouraged David to make a series of experiments in the college swimming pool, progressively improving the glide angle.

Gilbert Hoffman, an honor undergraduate student, was also an excelent model builder. With encouragement from Dr. Raspet he embarked on a program to develop methods for accurate determination of model airplane performance. A launching rail with a falling weight to accelerate the model to flying speed provided consistant launches at proper glide path angle and speed such that porpoising was avoided. In the final experiments the models were launched at night in a darkened auditorium. A camera with lens held open recorded the flight path as a series of dashed lines by shooting through an interrupter disk at a small light carried in the model. Thus flight speed and glide angle were accurately determined.

His work in determining the performance of birds by comparison in flight with a sailplane of known performance captured the imagination of all who heard of it. Of all his fields of interest, flight in nature was perhaps his pet, but one for which support was most difficult to obtain.

For soaring enthusiasts, Dr. Raspet's work in the measurement, analysis, and improvement of sailplane performance is well-known and fully appreciated. The influence of Dr. Raspet on sailplane design is felt today all over the world. Even more important is his contribution to the lives and accomplishments of such soaring notables as Dick Johnson, Ray Parker, Al Backstrom and Dick Schreder. His interest in meteorology rivaled his interest in the high-performance sailplane and he accomplished and encouraged much worthwhile work in this realm.

It was only natural that his sailplane improvment work should lead to similar studies with powered planes. Using the glide test techniques in cooperation with George Lambros he examined the performance of a few existing lightplanes and used the information gained to project superior designs for the future. Perhaps the largest airplane treated to the glide test analysis was the executive Lear Star. Going up another step in the Reynolds number scale, Gus and his staff were conducting flight tests with Navy blimps in recent years. His curiosity about all flight phenomena was insatiable.

Dr. Raspet's interest in the airplane of minimum power (with such interesting adaptations as human muscle-powered and solar-powered aircraft) are often mentioned together with his nature flight studies to illustrate the broad range of his interests. His primary goal, however, remained the practical personal aircraft. Wherever possible he applied the results of his various researches to the evolution of the concept of a safe, practical, efficient aerial transportation device.

Gus's most extensive studies and technical contributions to aeronautics lay in the field of boundary layer control. He was firmly convinced that proper applications of this principle would constitute a large step forward in the utility of aircraft. In my estimation, one of the most notable aerodynamic experiments of our time was his first study in this field. He tackled the formidable problem of maintaining a laminar boundary layer to the trailing edge of a sailplane wing. Any number of wrong decisions would have spelled defeat, but through ingenuity, intuition and enthusiasm, together with the practical know-how and fine craftsmanship of Mel Swartzberg, they achieved their goal. A hair dryer blower was used as the suction pump. Rows of fine holes took the place of suction slots. Size of hole was set by the smallest needles available since Gus reasoned that many small holes would disturb the sentitive boundary layer less than fewer larger holes. A piece of window screen served Mel as the punching jig. In the absence of theory to determine the chordwise row spacing which in turn would control the suction quantity Gus proceeded in steps observing how far the b.l. coasted behind the last rows punched in planning the requirement for the next step. After this success Gus sighted down the laminar friction curve and was on fire with the dream of an order of magnitude improvement in flight economy. Extensions of this work were subsequently awarded to Dr. Pfenninger's group and Gus went into the high lift phases of boundary layer control.

The same combination of aerodynamic optimization and practical design that marked the laminar work is found in the high lift work. Every effort was made to obtain the largest increment in lift coefficient for the least cost in suction power. At the same time a careful control of weight was kept so that the gains would not be lost. The sailplane again was used in the early phases of the work followed by modifications to existing liaison aircraft. In this work, Gus was ably assisted by Joe Cornish on the aerodynamics and by Glenn Bryant whose design genius provided simple dependable solutions to the problems raised by these new aerodynamic concepts.

Concurrently with the high lift developments, studies were progressing on ducted propeller concepts. With these two building blocks plus the advent of the gas turbine in small sizes, and the new sandwich construction methods, the concept of a really advanced personal airplane was rapidly taking shape. This airplane, which will appear first as an Army liaison craft, will continue its development under the able staff which Gus has developed through the years. The modern flight laboratory for which Gus worked for so many years against local indifferences and downright opposition has just been approved by the State Legislature. This laboratory, his excellent staff and the certain progress of the work toward his vision of the future constitute an immortality not achieved by many men. In addition, he will live in the memories of scores of people, meteorologists, aerodynamicists, sailplane designers and pilots, ornithologists, light aircraft enthusiasts and all students of flight. For this brotherhood whose lives were raised above the normal level through contact with the dynamic enthusiasm, imagination and encouragement that Gus gave without limit, there can never be another to take his place.

AN EXCERPT FROM AN EDITORIAL BY McHANEY IN "THE REFLECTOR," PUBLICATION OF MISSISSIPPI STATE UNIVERSITY

What must be done is to consider in all reality the ideal that was the man and at the same time the man's aim. We must know that life is less easy for the great than for the simple and that there are battles to be fought and won in the progress of the devoted. Barriers do not fall without a challenge.

August Raspet was a fighter, as accustomed to disappointment as he was unaccustomed to despair. His most recent victory was the culmination of some three years' effort: an aerophysics laboratory and research center at the Oktibbeha Airport,

(*Concluded on page* 20)