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December 1961



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SAILPLANE AND GLIDING

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TITLE	AUTHOR	PAGE
From Past to Future	*P. A. Wills*	331
Golden Jubilee of Soaring	*A. E. Slater*	332
Kronfeld Club News	*Yvonne Bonham*	337
A Gold Front in New Zealand	*W. Denton*	338
Debate about a Subsidy	*A. E. Slater*	340
On Being a Wills	*M. C. Bird*	342
Goal Tyszowce	*Ann Welch*	345
National Glider Aerobatic Contest	*A. E. Slater*	349
Report of the Judges	*The Judges*	349
Gliding Wife's Tale	*M.A.B.*	351
British Gliding Association News		352
Pilor Rating for National Championships		352
Fourth Kronfeld Club Art Exhibition	*Rika Harwood*	354
Gliding Certificates		355
Training Two-seaters		357
The Wavelength of a Lee Wave	*J. V. Inglesby*	358
Exploring Bishop Wave by Cessna 182	*B. Masters*	360
Forty Years Ago	*A. E. Slater*	361
Flying in the Italian Championships	*P. A. Wills*	364
O.S.T.I.V. Papers		367
Soaring Across America	*Schweizer Aircraft Corp.*	368
Amazing Retrieve	*A. E. Slater*	370
Cockpit Illumination in Sailplanes	*D. B. James*	371
It's All Yours	*Ann Welch*	372
A Pupil's Comments on Instructors	*"Daisy"*	373
Ode to an Instructor	*Irene Bower*	375
Book Reviews—Where No Birds Fly	*W. A. H. Kahn*	377
Dying High	*Anthea Russell*	377
Correspondence	*E. Dommisse, F. Dawson, C. A. Hely-Hutchinson, M. C. Usherwood C. Perham, D. B. James, G. Barrett, P. O'Donald*	378
Albert Falderbaum (Obituary)		381
Club and Association News		382
Service News		391
Overseas News		395

Cover Photograph.—*Wave clouds to leeward of the Southern Alps, New Zealand, in a N.W. wind, photographed by Lucy Wills from Rakaia Forge, Canterbury.*

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On June 18th a Swallow flown by STEWART WALLER covered a distance in excess of 300 km. from the LONG MYND to YARMOUTH.

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From Past to Future

NINETEEN-SIXTY-ONE has been a year of expansion and consolidation. The big items have been: the Burns's pyrotechnical burst of World Records to open the year; the establishment of the S.B.A.C. Fund, to carry on the work of the old Kemsley Flying Trust, in liaison with our own Shaw Slingsby Trust; the 1961 Nationals at Lasham, where 92 competitors in 10 days' consecutive flying constituted the biggest and most successful gliding meeting ever seen; and finally—after some 10 years' gestation—security of tenure for the 'Ub. Lasham is really ours. We can hardly believe it. The *accoucheurs*, exhausted by their long struggles, lie panting in heaps around the perimeter. The child gives a long, hungry and querulous cry. It will not be its last. But it is there.

Other clubs have taken on substance. Just as after their thirty years in the wilderness, the Scottish Gliding Union has anchored finally at Portmoak, now the Newcastle Club has found a permanent home at Carlton Moor, a site with very great possibilities for both distance and wave soaring in the future. Indeed, to sniff once more the real atmosphere of our lusty youth, which nowadays makes our old eyes glisten with unshed tears, one must go to Portmoak or Carlton Moor, whose members are creating hangars, buildings, runways and everything else, using for cement the true, the traditional mixture of blood, sweat and tears on which all our best clubs have been built up.

Peering ahead through the forest of mistletoe and haze of brandy butter from which these lines may be read, one can see 1962 as another year of consolidation and development. Big plans are afoot for buildings at Lasham, Sutton Bank and Carlton Moor, and the development of a new site at last achieved by the gallant Kent Club, who have been rootless since the loss of Detling, but have obstinately refused to die.

In the air we expect to see our skies gradually filling with new shapes: the Olympia 460, the T-49 Capstan, and the Skylark 4. Good luck to them: may they give as much pleasure and bring us as many victories as their illustrious predecessors.

For the space of one page, once a year, we let slide our thousand natural cares—we look only on the bright side: 1962 thermals will be strong, Air Traffic Control will weaken, cables will not break, new airfields will fall into our lap like ripe plums, and our readers will have

A Very Merry Christmas and a Happy New Year

Golden Jubilee of Soaring

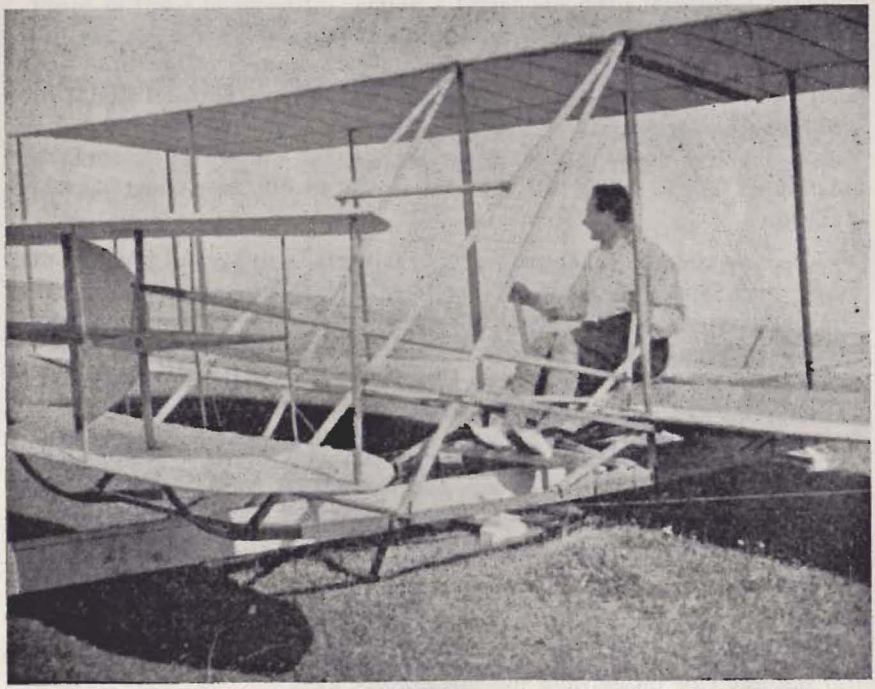
by A. E. Slater

WHAT was the first sustained soaring flight in history? Pioneers like Lilienthal and Pilcher sometimes hovered for a few seconds, and by the time the Wright brothers flew the first successful aeroplane in December 1903, they had already been soaring for periods of up to two minutes at the same spot—Kitty Hawk, on a narrow sand bar just off the coast of North Carolina.

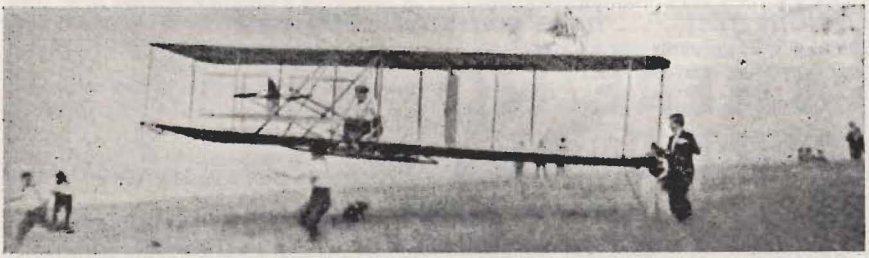
When the C certificate was instituted in Germany in the mid-1920's, five minutes' soaring was considered the minimum needed to establish that the pilot had really mastered the art and could continue doing it indefinitely.

There is a slight element of doubt about who first soared for five minutes, because the newspaper, *Le Petit Havre*, of 7th September 1909 reported a flight at Larcouet, on the Brittany coast, of a M. Raymond Hekking, who was said to have stayed at 25 metres in a motorless biplane glider "*pendant cinq minutes*". But there is no evidence that the flight was accurately timed; this was probably an estimate, either by a reporter, or by the pilot himself, to whom, in the then state of the art, every minute might well have seemed like ten. The evidence for this flight was published in GLIDING for Summer 1953, pp. 59-61.

At the Kitty Hawk site on 24th October 1911, Orville Wright soared for 9 mins. 45 secs. in a biplane glider with a rudder and elevator at the rear, a vertical surface just in front of the wings, and a pole sticking



In 1909 Colonel Ogilvie had acquired a Wright aeroplane, but was advised by his friends, the Wright brothers, to practise first with a glider of the same design. Here he is seen at the controls.



This is how Col. Ogilvie's 1909 Wright glider was launched in a wind. This and the previous photograph were taken at Friston, near the Southdown Club's site of 40 years later.

out in front with a bag of sand on the end.

It is not generally known that an Englishman, Alexander Ogilvie, was with Orville at the time, having been invited over from England to share Orville's "holiday", and did some soaring himself in the same machine.

A few years ago, Col. Ogilvie kindly invited me to call on him at his house in the New Forest to gather some first-hand information on these flights, and lent me a copy of his diary written at the time, and some photos of him gliding in a Wright machine in 1909 at Friston, inland from the present Southdown Gliding Club's former site.

Col. Ogilvie said that the soaring had to be done over one spot, as the sand dune was crescent-shaped (i.e., of "barchan" type), with the convex side to windward. It was therefore necessary to use a wind blowing strongly enough to hover in, and to mark the exact spot, which was done by people standing on it. The total height of the dune from bottom to top was 92 ft., of which the top 14 ft. had a slope of 19° and the rest an average slope of 7¾°. So the difficulty of this kind of soaring, compared with present-day soaring along a ridge, can be appreciated.

Col. Ogilvie's 1911 diary states that he left Southampton on 8th September and arrived on 17th September at 10.30 a.m. in New York, where he was met by Wilbur Wright. They lunched in Manhattan, caught the 6.34 train and arrived at noon next day at Dayton, where Orville met them.

At Dayton some aeroplane flights were made and work proceeded on the glider. Its area was 305 sq. ft., the same as that of the 1902 glider.

Then came the visit to Kitty Hawk, and here are some extracts from Alex Ogilvie's diary—it will be seen that he gives the record flight as 10 minutes. They are followed by extracts from Orville Wright's diary on the most interesting days when flights were made, reproduced from "The Papers of Wilbur and Orville Wright", Ed. by M. W. McFarland and published by McGraw-Hill Book Co.

From Alexander Ogilvie's diary

Oct. 7.—Glider 145 lbs. Crated and shipped 6.0 train for Kitty Hawk via Cincinatti, Norfolk, Elizabeth City with Orville, Lorin and Buster, on 9.30 Chesapeake and Ohio Pullman via Silverton . . . Richmond.

Oct. 8.—Arrived Newport News 5.30 p.m. By steamer to Norfolk. One hour. Dined at Monticello Hotel (good). Left Norfolk 9.0 p.m. Saw several buzzards soaring near track. Fine view crossing Hampton Roads by night, scene of battle. Arrived Elizabeth City 10.45. Stopped at Southern Hotel.

Oct. 9.—Shopped in morning. On board Hattie—Captain Johnson 12.45. Arrived Manteo 6.15 p.m. Stopped Tranquil House. Mrs. Evans. Harwood of the World called after dinner to see O.W.

Oct. 10.—By motor boat to Kill Devil Camp 1 hr. 5 mins. and then ½-hr. walk. Making latrine, shelves, pump trough, partitions. Rain in night. Warm.

Oct. 11.—Cloudy and warm. Making ladder, bath arrangements, fixing beds in roof. Opened up all 1905 and '08 machines in box. Lorin to Manteo in motor boat. 10-12 m. breeze in afternoon. Sally (reporter) and Harwood. Rain in night.

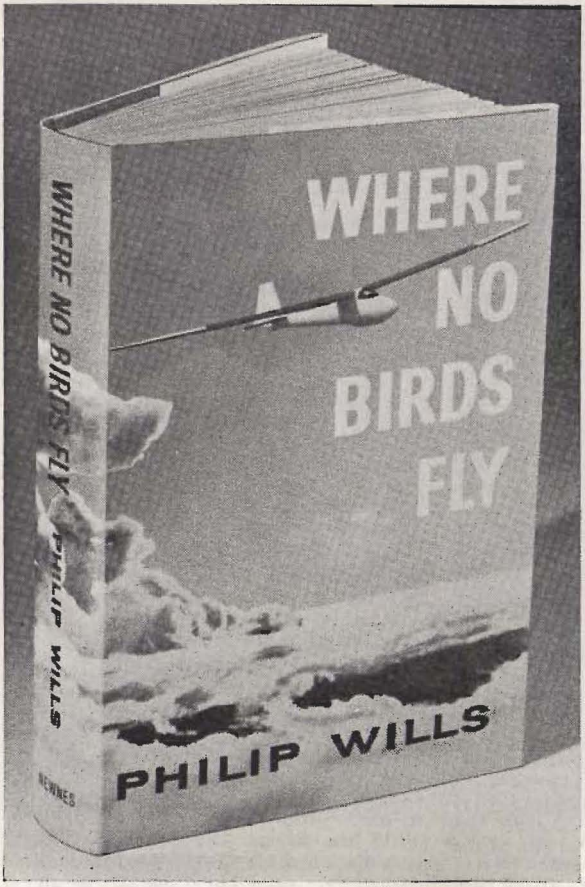
Oct. 12.—West hill. 500 sin. 9° 40'.—

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WHERE NO BIRDS FLY

by Philip Wills

It is acknowledged throughout the world that no man has done more for gliding than the author, and that no man can so well paint in words the picture of the air as seen through the eyes of the pilot of a sailplane. Philip Wills, after nearly thirty years' experience, including winning the World Championships in 1952, tells here with humour and modesty of many of his famous flights and records something of the history of the British gliding movement. He gives thoughtful and sound advice to those who are able to experience for themselves the fascination of silent flight. But those of us who may never learn to glide may here share with him the beauty of a new silent world under, within, and even above the clouds, where no birds fly.



CONTENTS

How and What to Learn - Club's Courses and Tests - Aircraft, Trailers and Retrieving - Instruments and Equipment - The Air - The Team - Cross-Channel - The Mud of Mazanoovka - Slingsby Sailplanes - Birth of an Industry - Competition Flying and Records - Introduction - Goal Flight (1956 World Championships, France) - Where No Birds Fly (1959 Nationals, U.K.) - Success in Texas (1960 Nationals, U.S.A.) - Appendix: British Gliding Organisations - Foreign Gliding Organisations - Gliding Records - Bibliography.

22 maps and diagrams
24 pages of photographs
Foreword by Peter Scott

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NEWNES

84 ft. Kill Devil Hill 655 sin 8°40′ = 103 ft. Angle of hills from building K.D. 12½° West 8½°. 18 m. breeze. 30 m. on top of Kill Devil. [Added subsequently: These data were measured by me with my pocket theodolite. A.O.]

Oct. 13.—20-25 m. N.W. Taking motor boat round to Kitty Hawk. Machine arrived in Van Duzen. Four reporters. . .

Oct. 14.—10 m. N. wind. Erecting machine in morning. Kitty Hawk in motor boat in afternoon. Buying fish and chickens. Made chicken coop.

Oct. 15.—3 to 4 m. N.E. wind . . .

Oct. 16.—12-14 m. wind (by Negretti) N.E. Had out glider. West Hill. Three glides by O.W. Rear elevator too small. One bad thump, bending back centre uprights. Vertical rudder not very effective, better after fixing vane in front. Took glider to Kill Devil Hill. Glide by O.W. Landed on hummock and was chucked out . . . Put on a new tail surface.

Oct. 17.—10 m.p.h. S.E. wind. West Hill glides . . .

Oct. 18.—Raining and blowing 20-25 m.p.h. Cleared up about 4. On Big Hill. O.W. soared three or four times, twice for 1¼ min. Vertical rudder 7½ sq. ft. at back, 10 ft. from C.P. not big enough. Front vane 9 sq. ft. at 4 ft. from C.P. Machine turned round by wind and drove into hill. O.W. thrown out unhurt. Left wings broken and rear surface. John Mitchell from station was present. Over 35 m.p.h. on crest.

Oct. 19.—Blowing 20 m.p.h. Repairing wings.

Oct. 20.—Lacing up wings. Extending tail frame 4½ ft. Kruckman and Vergers.

Oct. 21.—Almost calm. Making new rudder 5 ft. 2 in. high by 1 ft. 6 in. = 15½ sq. ft. at 14 ft. from C.P. Fixing old tail surface 14 sq. ft. and increasing range of action.

Oct. 22.—Very bright sun. Wind 10-15 m.p.h. West . . .

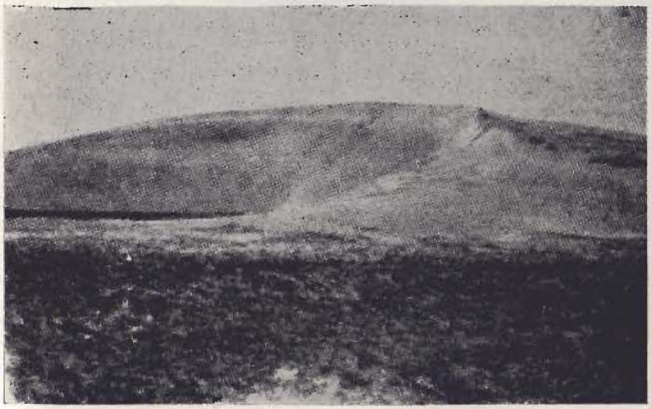
Oct. 23.—Blowing 20-25. Fine rain. On Kill Devil Hill in afternoon. O.W. turned over backward. Rudder wires crossed. Back horizontal rudder too small. Rudder broken. Made new horizontal rudder 27 sq. ft., 9 ft. by 3 ft. Put new sticks in rudder. [Added subsequently: Orville's account is a little different here. As I remember it this turnover was the first thing that happened!]

Oct. 24.—20-25 m. wind. Fine and sunny. 8 lbs. out at 7 ft. from front edge. Success-Successful soaring up to 10 min. by O.W. Others 7½ m. and 5½ m. aggregating nearly 1 hour. Only just enough control. Very difficult. I did a few glides late in afternoon. M/c travelled 40 yards without loss of speed on 6° slope. Wind condition. On crest 40 m.p.h. Kill Devil.

12 ft. up, 50 m.p.h.
Just below crest, 30-35 m.p.h.
12 ft. up, 40 m.p.h.

O.W. was sometimes 50 ft. above top of hill.

Oct. 25.—Wind 15-20 m.p.h. dying away



Kill Devil Hill, the sand dune over which the 1911 record was flown. The wind blew from the right, somewhat towards the camera.

(Courtesy Royal Aeronautical Society).

to 10-15 about midday. O.W. tried quartering. One sideways glide. I did some soaring glides, about 15. Longest 59 sec. Very difficult to stop m/c if sliding sideways. One stall and bump. Sometimes 40 ft. above hill.

Oct. 26.—Wind 15-20 decreasing after 1 p.m. Warm and sunny. On Big Hill wind 25 m.p.h. on top. Only just enough for soaring. Put front vane 6½ sq. ft. area, 5 ft. from front edge. Much better steering. Might be doubled in effect. Weight of 12 lbs. 8 ft. from front edge. 25 flights, longest 1 m. 5 s. [Added subsequently: Incorrect unless it referred to my longest glide]. O.W. soared 2½ min. and landed above start. Nearly over the crest. O.W. repaired my watch. Sand in escapement.

Oct. 27.—Calm and sunny . . .

Oct. 28.—Raining and blowing hard. Took down machine for fittings.

Oct. 29.—Left for Manteo.

Oct. 31.—Arrived Dayton.

Nov. 1—Left for New York.

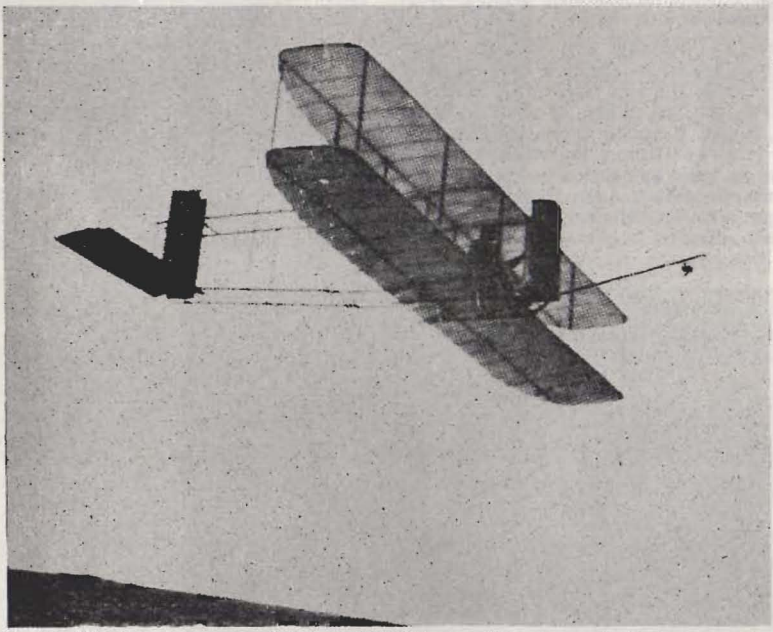
From Orville Wright's Diary

Oct 16.—[Wind] 12-14 miles from N.E. West Hill: three glides. Shot up at landing and dropped about 6 ft., bending rear centre uprights. Horizontal rudder too small. Vert. rudder too small (7½ ft. area, 7 ft. in rear of back edge of surface). Put on a vane on front upright. Vane was one of rear rudder planes of 1905 machine, 18 in. × 6 ft.

Kill Devil Hill: After one glide, in which I pitched forward out of machine, put on larger rudder, 38 in × 8 ft. 10 in., using center of 1905 rudder. Afterwards made glide of 637 ft. in curved line [plus] 586 ft. in straight line. Angle 7° 45′. Wind very light (4 mi.). Time 23 seconds.

Oct. 23.—Light drizzle. First flight, wires of vert. rudder crossed. In second flight, turned over backward when Ogilvie & Lorin let go. Cause of accident due to difference in velocity of wind on surface and 6 feet above. Broke vertical & horizontal rudders.

Oct. 24.—Sunshine. Wind 20-25 m.p.h.



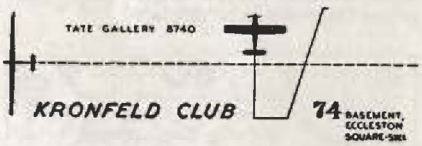
Orville Wright soaring over Kill Devil Hill in the 1911 glider in which the record was set up. Note front panel, pole and bag of sand. (Courtesy Royal Aeronautical Society.)

on ground. Wind at top [of] hill as high as 40 miles at 6 ft. [above ground], 50 miles [at] 12 ft. Just below top, 35 miles at height of 6 ft., 22 miles [at height of] 6 ft. at bottom and 30 miles at height of 12 ft. Made about 20 glides ranging from one [minute] to 9 min. 45 sec. [Two of] 7 m. 15 s. [and] 5 m. 29s. more than 50 ft. above top hill. Measured a space of about 40 yards over which machine seemed to glide without any loss of speed at an angle 6°. Hung 8 lbs. sand 7 ft. out.

Oct. 25.—Wind about 15-18 miles. Glides on West and Kill Devil [Hills]. 12 lbs. sand 8 ft. out. [There follows a list of glides: 11 on West Hill of up to 32 secs., 5 on Little Hill of up to 5 secs., then 15 on Kill Devil Hill of up to 59 secs.]

Oct. 26.—Wind at top of hill 20-25 miles. Gliding on Big Hill from 12 to 3. Vane put out 5 ft. in front of machine. Control much improved. [A list of 24 glides follows: the longest are of 2 min. 52 sec., and of 2 min. 25 sec.; in the latter, landing was higher than start.]

Oct. 27.—Went fishing and to Manteo. Machine weighs 170 lbs. in later glides, includ. 12 lbs. sand.



THE Club held a most successful Dinner and Dance on the 6th October at the Eccleston Hotel, which was attended by 118 members and friends. The guests of honour were Edward Bowyer, C.B.E., Director of the S.B.A.C., and Bill Bedford, O.B.E., A.F.C., Chief Test Pilot of Hawker Aircraft. The toast to the guests was proposed by John Furlong, M.B.E., D.F.C., a founder member of the Club, and Edward Bowyer replied. Bill Bedford proposed the toast to the Club and was replied to by Pat Anderson.

At the Annual General Meeting of the Club held on Wednesday, 23rd October, the Hon. Secretary, Hugo Trotter, reported a most successful year with a substantial increase in members.

The following appointments were made for 1961/62:

Club Chairman (new appointment): H. S. S. Trotter, D.F.C.; Hon. Club Secretary: Clifford Tippett; General Committee: Pat Anderson. Yvonne Bonham: Treasurer and Lecture Organiser; Mike Fenton: Editor News Letter; Jill Walker: Secretary to Committee and Organiser of Coffee Bar.; Ron Willbie: Chairman Wine Committee.

The Club's Annual Exhibition, a Competition of Aeronautical Paintings and Drawings, is reported fully elsewhere.

Following their success last year, another series of weekly lectures for ab-initio soaring pilots is planned for the new year and these will take place on Mondays at 8 p.m., starting the 22nd January. The opening lecture by Derek Piggott is entitled "The Art of Soaring". Other titles include "Navigation and Away Landings", "Meteorology", "Accident Prevention", etc. The fee for the full course will be £1 to members (non-members 25/-), single lectures 3/6 (non-members 4/-). There will be a special rate for married couples booking the whole course in advance. Further details and Registration Forms may be obtained from the Club or Mrs. Y. Bonham, 14 Little Brownings, S.E.23. Telephone Forest Hill 9390.

Y.C.B.

Diary of Lectures and Film Shows
Wednesday evenings at 8 p.m.

29th November	"Around England on Inland Waterways" by A. F. Gotch.
6th December	The wreck of Xlendi, by Frank Irving, with slides.
13th December	Films
20th December	Grand Christmas Party.
27th December	Club closed.
3rd January	Films: The early days of flight from Kitty Hawk to World War 1. Rise of the German Luftwaffe.
10th January	The aerial delivery of equipment and stores, by Maj. J. A. Evans.
17th January	Films: Pearl Harbour and The Battle of Britain.
24th January	"Controlling at London Airport."

A Gold Front in New Zealand

by Warren Denton

So many outstanding flights in New Zealand have been done in waves to leeward of the main mountain range that a Gold C Distance flight in a cold front comes as a novelty. This account by the pilot is reproduced from "The Gliding Kiwi."

TUESDAY, 21st February seemed like any other day at 6 a.m., as we had sheep in to be dipped; but interest was mainly in the North-West Wave which looked so inviting. Soon Gerald Westenra rang from Dunsandel to see what could be done about flying.

After turning the sheep out, my wife and I were soon on our way. As we reached Gerald's place, Dick Georgeson also arrived. Dick at this time was losing interest in the wave, as he thought a cold front was coming through to spoil his plans. Dick then rang the Met. Office to find his judgement was correct. The front was reported to be travelling very fast with plenty of vigour. Gerald had, only a few days previously, been soaring a similar front in his Tiger, with the motor off, so let's try it in a glider this time.

Off to Mr. L. Hopkin's Farm, about a mile away, to rig. Gerald then came over in his Tiger and reported the front about 60 miles south, possibly at Timaru. The Tiger was now ticking over on the end of the rope, so further brief planning, sealing of barograph by Dick, etc., then Gerald towed me off in the Weihe at 11.25 a.m.

In mild north-west conditions, we headed south, meeting the front three miles inland of Ashburton, releasing at 11.55 a.m., height 3,900 ft. Turning towards the cold front, height was lost very rapidly; so, turning away again and travelling about 2 miles before the front, strong lift was found. Soon the glider was riding at 6,500 ft., with a ground speed of 40 odd miles per hour. After release I saw that Gerald had shut the motor off, but I soon lost sight of him. He was able to soar for 40 minutes and only restarted the motor to land back at the take-off field.

Air speed was pushed up to 60 m.p.h. in an attempt to pass over the take-off field, but the front beat me by several minutes, and in coming too close to the squall line we fell into the downdraught. Quickly recovering from this position by moving well out before the front again, I found we were flying in calm air, so took the opportunity to explore and study the conditions. Reached North Canterbury, about 5 miles inland of Amberley and about 10 miles ahead of the squall line. Here, at 4,000 ft., flying in calm air, when suddenly a weak thermal (wind shadow) was felt, so decided to explore this low hilly country for more thermal to keep us airborne till the front caught up a little.

The lift improved with height, and at 7,800 ft. the highest point of the flight was reached. At this stage there was no sign of the front along the coast, north of Christchurch, and yet inland the cloud was really going up, possibly reaching 10,000 ft.

Fortunately I stayed where we were, just east of Waikari, because suddenly traces of cloud appeared along the coast, as far north as Motunau Island. It would seem that Banks Peninsula had halted the progress of the front temporarily and that it was now proceeding up the coast with renewed vigour. The air in the Waikari Valley towards Scargill became very rough as the thermals were displaced.



The Seaward Kaikoura Range runs close to the coast and it was then urgent to reach there before the cloud closed in and cut us off. Now a race was on. The next 60 miles were to be the fastest ever for the Weihe. We were indicating 60 m.p.h. with about a 35 m.p.h. wind behind our starboard wing. Gliding along in this manner, we covered the 60 miles in about 45 minutes, maintaining approximately 5,500 ft.

The country between Waiau and Kaikoura is some of the wildest I have ever passed over in a glider; to make it so quickly and easily was very gratifying indeed. Actually, the front did beat me by 10 minutes or so, as the last few miles were in the downdraught, just behind the front. Cloud was forming at 6,000 ft. on the south face of the Seaward Kaikouras (8,500 ft.), so I turned and flew straight towards the lower slopes of the mountain, as we were then down to a low point of 2,800 ft. The expected lift was there and just about stood the glider on its tail; just one turn along the face of this mountain put 2,000 ft. on the clock in less than one mile. The lift at this point on the barograph shows as almost a vertical line. I have been in strong lift before, but never before pulled out to get a less rate of climb. Those mountains look what they are!

As we were still behind the front, we had to press on round the next ridge, going up and down in rapid succession. This took the flight to a critical position 5 miles or so inland, up the Hapuka River. There seemed to be no roads, no landing areas and no lift. To make progress to the coast was impossible against such a wind. After the previous experience in against the mountains, I waited to get a clue before venturing any further north through this area. A careful look below at the river bed disclosed a track and smallholding paddock which could be used as a landing field in an emergency, and gave me enough confidence to press on into what appeared to be a large area of down. It was 5 or 6 miles to Clarence River, so we made a dash for it and caught up the leading part of the front again. As we now flew near the coast, the air once again became wave-smooth and made very pleasant flying for the next 25 miles.

Reaching Benmore (4,080 ft.) at a height of 6,500 ft., with a turn towards Omaka (home of the Marlborough Gliding Club), a final glide of 25 miles seemed possible. By

Rika and Godfrey Harwood
send Best Wishes for a Merry Christmas and a Lucky New Year to all their Gliding Friends in every part of the World

the time we were over Seddon the altimeter was showing 3,300 ft., which made Omaka and the Dashwood Pass less attractive than before. So a look at the map showed very little advantage in distance by pressing on to Omaka. There were several good landing areas near to Seddon Township, so I chose one and reached for the brake, then changed my mind, deciding to watch the progress of the front for a few more minutes. It gave the impression of weakening, and this was later confirmed, as it didn't reach Seddon with any force behind it.

Landing at 16.40 hrs. on a paddock, which turned out to be the local air-strip, I found myself surrounded by the usual crowd of small boys and the village mongrel, which proceeded to irrigate the parachute which I had placed on the wing tip!

Among the first to arrive was Peter Francis from the Marlborough Gliding Club, with John Tombs and others. A dash to the Post Office and 10 minutes later my wife was rather pleased to hear from me.

Peter and John organised a truck, and very soon we had the Weihe stored for the night in John's shed. John and his wife invited me to stay the night, and we had a very pleasant evening talking Gliding.

Next morning my wife arose at 4 a.m. and left at 5 a.m. for the 222-mile journey with the trailer, reaching Seddon 7 hours later. This brought to a close our first experience of soaring on a cold front and concluded with my possible gain of a Gold C badge (we hope).

An interesting flight, covering 193 miles in 4 hrs. 45 mins., and utilizing three of the four types of lift, namely, Cold Front, Thermal, and Hill.

Debate about a Subsidy

"THAT Gliding should be Government-subsidized" was the motion before the Kronfeld Club on 4th October, when David Carrow took the chair for a stimulating debate and introduced the leading speakers.

For the motion was Derek Piggott, C.F.I. at Lasham; against it was Philip Wills. The seconders were both from the legal profession: Lionel Alexander of Cambridge Club, for the motion, works in a Government Department; and Mike Riddell, of London Club, against the motion, is in private practice.

DEREK PIGGOTT opened by saying he could not quite understand why they were debating this motion at all, as gliding is already subsidized—"Which of you would like to give back the petrol rebate?" So he proposed an amendment: "That the Government subsidy should be increased to such an amount that gliding in this country will be really efficient."

How can a subsidy be justified? While in the Air Training Corps he had noticed a tremendous change in character and confidence in the boys he was instructing, and thus the A.T.C. achieved what the Outward Bound School sets out to achieve. But he believed in giving small subsidies to existing gliding centres rather than setting up a new organisation on the lines of the Outward Bound School, since those who attend it have no opportunity for continuing the same activities afterwards. A party of boys from an Approved School, who came to Lasham for a gliding course, gave no trouble at all; this was an example of the sort of thing which could be done if a Government subsidy was available. In addition, there was a strong argument for giving subsidies to University Gliding Clubs especially to enable people like aerodynamicists to take a gliding course.

A strong argument which, Derek Piggott thought, would appeal to his audience was: "What's in it for us?" The days of a gliding movement solely for small clubs were over, and it was unrealistic to suppose that we could ever go back to those days. Only a large centre could provide the facilities needed now, and the Government could with advantage subsidize one or two large centres run on business lines; these large centres would require considerable capital to make them effective. Money would be wanted for gliders, winches and other equipment, a clubhouse, and, last but not least, those who work so hard for little pay—the Instructors!

You might say, he continued, that you've got to have money, but it must not be Government money, for fear that it would lead to Government control. But we already had Government control, for instance, in the matter of Airways and the demands of the Ministry of Agriculture for airfields. So why not make them pay? We have reached a stage in the history of gliding when we've *got* to have one or two large centres.

PHILIP WILLS took up first the point about the petrol tax rebate, saying that gliders were not being "given" anything; they were merely being let off an impost—their petrol tax was less of an exaction than it would otherwise be.

As an example of a country with subsidized gliding, he mentioned France, where the subsidy is about £1,000,000 a year. Half the cost of gliding then goes to the

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State to pay for the large organisation of Government servants needed to run the subsidy—and this is, of course, what happens with *any* subsidy. Consequently an Olympia, for instance, costs double what it does in England, and there is little or no private ownership of gliders in such a country. Moreover, it is not the Government who pay, but the public at large. Without a subsidy, we are in a very much better position to resist State Control—in fact, we are freer than any other country in the world.

LIONEL ALEXANDER reiterated that British gliding is in fact subsidized already, and mentioned, as examples, the "uneconomic" price of Lasham airfield, the buyers of furniture whose money goes towards cheapening gliders, and a Government surplus 5-ton lorry with Rolls Royce engine which the Cambridge Club got for only £100. Where, he asked, do private sources get the money to give us gifts from? The Inland Revenue! As to the fear that we might lose our independence, the Judiciary are independent in spite of being Government servants, and Universities remain independent in spite of Government subsidies.

MIKE RIDDELL denied that the advantages mentioned could be described as Government subsidies. A subsidy was bound to lead to some form of control. Sports which have had subsidies have got nowhere—light aircraft flying is an example. Gliding, on the contrary, has come a long way. A good export market for our glider manufacturers is better than any subsidy.

WALLY KAHN described as nonsense the idea that youngsters can't pay for their gliding. As an example of what happens when they don't, one firm paid for its gliding club members to go to Lasham for training, and within a year the club packed up. If people didn't earn what they wanted to spend, we would become a race of bigger morons than we were already.

DAVID ROBSON (London) said that gliding is primarily a sport, and any "character building" that resulted from it is incidental. As to delinquents, if you let your convict fly an Olympia 2B, his warder must fly an Olympia 419 so as to keep up with him. He thought there was a good case for subsidies in the indirect form described by Lionel Alexander.

BILL CREASE (Cambridge) claimed that the aforementioned £100 lorry destroyed

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JOHN MURRAY

the case for a subsidy, for it was the biggest White Elephant . . . (A voice: "C.U.G.C. should not wash their dirty linen in public").

GODFREY HARWOOD (Crown Agents) suggested that a Government subsidy would put us in the case of a man who is dancing to the piper. (Philip Wills: "Which piper?").

MURRAY HAYES (Royal Naval G.S.A.), supporting the motion, said that everyone makes sacrifices, so the gliding movement should make the sacrifice of accepting a subsidy.

MAX BACON (Bannerdown R.A.F.) had not found it a hindrance to be in a subsidized organisation.

WALLY KAHN was afraid that, if the Government were going to subsidize us, they would want an end product, and if this was to be Youth, we would be in the position of the Iron Curtain countries where all those below a certain age get free flying and the others find it extremely difficult to fly at all.

BRENNIG JAMES (Surrey) related his experience of a Service Club where many members just did one or two hours in the air and then gave it up; a £1,000,000 subsidy might go towards paying for that sort of thing. It is no use using money to put people into gliding who can't afford to carry on when the money is switched off.

On this another speaker commented that there are people who put so much money into gliding that they want to give it up but can't.

BETSY WOODWARD (U.S.A.) asked: "Why do we want all these young people coming in? As the years go by, I want to see *older* people."

After PHILIP WILLS and DEREK PIGGOTT had summed up for their respective sides, the motion was put to the House, and there voted—

For the Motion, 27.

Against the Motion, 35.

The Motion "That gliding should be Government-subsidized" was therefore lost.

A.E.S.

On Being a Wills

by Mike Bird

GOOD flights are easier done than said. Of all the "howidunits" that we hear or read, how many convey the excitement and beauty of the flight itself? And how many are dead as mutton?

A typical extract might run: " . . . then I got a good thermal at 7 f.p.s. over Luton to 4,300 ft. and set off on track at 60 kts., and then I got rather low near Hitchin and scratched around for ten minutes at 1,100 ft., and then I got away again at 3 f.p.s. up to 4,900 ft. over Letchworth, and then I set off again . . . "

To reverse the Chinese proverb, ten thousand words do the work of a little picture—a barograph trace and a line on a map.

In fact one suspects this is how such "howidunits" get written. The Editor of the Club Newsletter, or whatever it is, about a month after Fred Fumble got a Diamond, says he must, of course, have an article on it. Fred only dimly remembers the details of the flight, so he digs out his maps and barograph trace as a guide and conscientiously flogs himself to chronicle the whole business. People who have difficulty in starting an article have equal difficulty in stopping. So on it grinds, thermal by thermal. One club magazine a few years back devoted eight pages to two uneventful flights of 40-50 miles because the writers didn't know when to stop.

The top author/pilot avoids the deadening effects of time-lag by getting down to his typewriter immediately he is back on the ground. Perhaps even, as he lops from cloud to cloud, with a Dalton computer strapped to one knee and a Roget's Thesaurus strapped to the other, he is balancing "ivory-capped towers of altocumulus castellatus" against "sun-dappled meadow and tulgey woodlands sprawling toy-like below . . ." However, no amount of golden prose excuses an unwillingness to part with factual information. Unless you are well known in the movement, the phrase "good old Skylark" will simply madden us if we do not know whether it is a 2 or a 3. Again, the distance covered and times of take-off and landing might as well be mentioned: knock out a few adjectives and you can fit them in.

To be fair, the editor must help the writer

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with a standard of production equal to the writing. The story may open promisingly—"... the first leg of the task was going to be fairly straightforward. Once one got away from the zero-wind bungey-launch into the rock-strewn valley of Pradjwzk and soared S.S.W. for 35 miles to the northern spur of the Krajcownje *massif* only a few versts west of the Ruritania—U.S.S.R. frontier, then hill-soared in cloud on a course of 185° for 40 kilometers to the Blwlj river, a quick dash E.S.E. from here would bring one to the notorious rotor-clouds of the central Malwcyzk plateau. The next leg would be more tricky, unless the rain had stopped by then . . . "

Only there are no maps. Accordingly, the article is only more successful than Fred Fumble's by virtue of its vivid descriptions of prangery and on account of a sojourn with the Immigration Commissar in the Popovnograd People's Palace of Torture while awaiting the retrieve crew, which, like the reader, got completely lost after Pradjwzk.

Indignant protests from the "Howidunit" Writers' Union: "You are asking us to write only of record flights in exotic surroundings with lavish illustrations, described with the skill of Wills himself, who can make a high hop sound thrilling. Well, we can't do it, mate."

No, but what you can do is tell us about the most fascinating thing of all—the *decisions* which make the difference between success and failure. Instead of talking as though the flight was a series of things that happened to you, talk as though it was a series of things that you did. Top pilots are supposed to be the masters, not the victims, of fortune. They play bridge, not bingo. We want the master tacticians to spill their secrets.

Unfortunately they are often too modest: "Shucks, I was just very lucky," or, "Well, it was due to my crew/the Cookwell vario/my mother, etc." They are not only modest but, in many cases, are unaware of why they are better than the rest of us.

The solution may be to dispense with accounts of single flights and to go in for detailed de-briefing of pilots after task flights. The most interesting "howidunits" are to be heard in the bar from half-a-dozen chaps who tried the same task on the same day. You know the sort of discussion: " . . . big mistake was leaving so late . . . working all right on the sunny side . . . kept over hilly country . . . not worth going into cloud before 3 o'clock . . . paid to wind round at 45° early on . . . impatience did for me . . . was worth a gamble, I thought . . ."

A few free pints and a tape recorder, together with met. notes and barographs, would provide the basic material which could later be organized into a first-class "howidunit".

From this we would all learn something, whatever our level of experience. And for readability—well, you would probably find that in his natural surroundings Fred Fumble is a lot more entertaining than he is in cold print.

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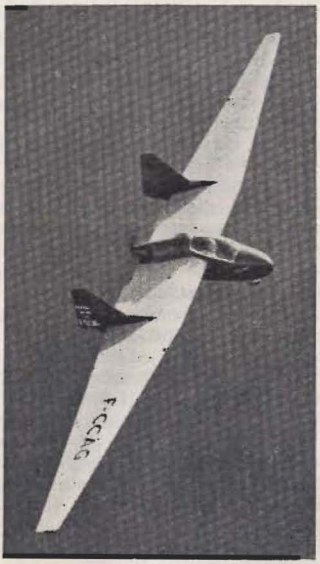
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Goal Tyszowce

by Ann Welch

ON 20th June I was lucky enough to have the opportunity for a 500-km. flight. But I very nearly did not take it because, having spent the previous three days missing out on meals and sleep as a result of the last trip, I did not feel enthusiastic about eight hours of concentration with a probable landing in yet another remote place. However, I was driven into the air at 09.50 in a Jaskolka, unknown to me until three minutes before take-off, clutching a mile of map and a bottle of cold tea. Eight hours and five minutes later it was at my pre-declared goal of Tyszowce (pronounced Tisofshe) 525 kms. distant, and eight miles short of the Russian border.

I propose to describe the flight in terms of what I learnt from it, because, owing to the lack of instruction in soaring, it seems only possible to learn from mistakes and experience. The pundits are those who learn quickly and effectively, and I am certainly no pundit, having taken 25 years to get this far.

The best preparation that I had for this flight was, in fact, the thing which nearly caused me not to start at all—the flight of 3 days before. This was on the occasion of the last task of the Polish Nationals, the 500-km. race to Hrubieszow. At 11 a.m. the competitors started to take off, clearing away fairly quickly, and at 12.15 I left in a Jaskolka to attempt the same flight. Nearly all of us landed between 6.30 and 6.45. Twenty pilots flew over 500 kms., and 50 over 350 kms. I went 380 kms. This meant that, at the speed I was flying, even if I had taken off first, and had the extra hour in the air, I would still have made only about 450 kms. Others had flown fast enough to succeed; why had I been so slow?

When considering 500-km. flights, it has to be accepted that the weather is excellent. It is not simply a matter of being lucky or clever. If the weather is not good enough, the flight is impossible, even for pundits, and that is all there is to it. If, however, the forecast gives indications of 500-km. possibilities, and an attempt is to be made, the pilot must devote all his energies to using the weather to the limit, and forget, in general, about mundane things like having to land prematurely.

It did not require much thought to realise that on the 380-km. flight I had wasted time (1) dithering about at the moment of going away, (2) not finding the strongest part of the thermals quickly enough, (3) hanging on to some thermals too long in weaker lift at the top, (4) failing to discard feeble thermals quickly enough, and (5) flying too slowly between thermals. I do not reckon that I wasted any time navigationally, and remained in the air as late as anyone else, but it was obvious that unless I could very quickly learn to fly much faster, I was not capable of doing 500 kms. even if the weather was good enough. It was a depressing thought.

Then came 20th June and I found myself airborne with opportunity, but doubtful ability.

At that time, 10 a.m., there was about 2/8 cumulus at 800 metres, rather ragged and short-lived. The thermals were very weak but with strong cores, which were narrow and hard to discover. The wind was light N.W. (track E.S.E.). By midday the wind had increased to 25 k.p.h. at 1,000 metres. Almost at once I found myself committing fault 1 again. I dithered about, finding scraps of lift, losing them, drifting away from Leszno, getting worried about the forest a few miles downwind which, if I glided across failing to find lift, would probably result in my landing and being too late for a second go. Determined to finish the flight there and then, rather than at 490 kms., I turned downwind at 700 metres and went.

There were some ragged clouds ahead, with weak lift, but under one I located a

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Meteorological briefing at the Polish National Championships at Leszno.

narrow, stronger core and reached cloud base at 850 metres, where the lift died away. Again I turned straight on course, making for some more and better cumulus. Steadily the sky developed a more organised appearance and an hour after starting I was grateful for a cloud base which had hoisted itself to 1,000 metres. I was extremely depressed about my prospects, however, when I crossed the 100-km. mark, because it had taken me 2¼ hours, and a simple multiplication sum indicated that I would still need to be soaring after dark! It was difficult to decide in this weaker lift of the early day where I could save time without unnecessarily increasing the risk of premature landing. In spite of my resolutions about cutting away from thermals when the lift deteriorated, it was difficult to be brave enough to do this when the strongest part of the lift was only 1 metre/sec. and began to weaken at less than 1,000 metres.

By about 12.15 the sky was full of cumulus, and a study of the shadows on the ground showed that nowhere was there any sign of over-convection and the distribution had a pleasantly ordered look about it. Throughout the flight, from now on, spending much of the time at cloud base, I was influenced in my selection of next cloud to a large extent by the shape of its shadow sometimes more than by the cloud itself, which through the grey fringe of my own one could not, of course, be clearly seen.

The second hundred kilometres was done in 1½ hours, and the third in 1¼ hours; cloud base rose steadily to 1,600 metres and thermal cores were now giving me good bits up to 3 metres/sec.

The problem of staying in the air, unless one made a very stupid mistake, now did not seriously exist, although occasionally an excellent-looking cloud somehow simply lacked any sort of lift; and since I was, in general, using clouds about five miles apart, I hoped I would not run into a sequence of such useless things. In such cases, or where the lift did not seem up to standard, I did not waste time doing more than the one exploratory circle, but went straight on at whatever speed the MacCready ring on my variometer demanded—at this stage of the flight, about 100 k.p.h., although later I was travelling between thermals at up to 115 k.p.h., which is the fastest speed indicated for the Jaskolka.

So far I had managed to keep within five kms. of my map line, working mostly on the downwind side of it, and not worrying about this until I spotted a really good cumulus ahead and upwind of the line when, provided the sky further ahead still looked reasonable, I would make up my leeway.

Navigation was no real problem, as the air was clear and the maps good; but, nevertheless, so that I would not be fiddling about with navigational problems when there were other more important things to do, I divided out the work into a clear-cut

order. The three essentials when flying cross-country are (a) finding a good thermal, (b) centering in it, and (c) flying in the right direction. All these three demand (from me anyway) full concentration, and to try to do two at once would have increased enormously the risk of a wrong decision.

Obviously, the first essential was to find the next thermal and to make as certain as possible, in advance, that it would be the right one. This takes time, as it is a matter of studying the development of the sky ahead—not only the nearer cumulus, but far ahead as well, as, in the case of an alternative choice of next clouds, it is the further sky which may well dictate the selection.

Having got properly centred in the current thermal, I transferred my entire attention, other than if needing drastically to re-centre, to deciding which cloud I was going to use next and, on nearing cloud base, noting some mark on the ground which would remain in view unless I let myself get fully enveloped in cloud. As the ground faded I straightened up precisely on this mark, increasing speed really hard so as to follow the cloud base. On clearing the lift area I transferred (after slowing down) to my best cross-country speed and went to the next cloud.

Since the decision as to which this was to be had already been taken, I could use the straight glide spells to concentrate on the navigation, average speeds and any drift problems. Since the visibility was good I found that I made little use of the compass (I had no Cook), and worked almost entirely on map-reading The visibility was 15-20 miles, and I was therefore able to determine features that I ought to cross or go between equivalent to two thermals ahead, and select ground features from which I could obtain the appropriate angle to fly. As the next cloud was approached I had my navigational progress planned, and could be single-minded about locating, and centering in, the best part of the thermal. This I found most difficult of all, particularly if the lift did not come up to expectations. The temptation to waste time trying to work the lift up into something better when one clearly ought to ruthlessly cut one's losses and go on was considerable. Having, however, got properly into the thermal, then the whole cycle would begin again (now including a re-positioning of myself on the most excruciatingly uncomfortable seat I have ever sat on).

I make no apologies for going into this rather arbitrary separation of work at some length, as I am sure that many wrong decisions and, therefore, premature landings are made because the flight develops into a series of minor crises in avoiding getting lost or dithering over a choice of clouds because insufficient time has been devoted to the particular problem in time. All this comes naturally to real pundits and there are, of course, occasions on a flight when all one's attention has to be devoted to something desperate like just staying airborne. In general, however, I am sure it pays to separate out the work to be done, so that full concentration can be devoted to each important decision.



Helpers beside Ann Welch's Jaskolka.

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At exactly 3 p.m. I reached the 300-km. line. Cloud base was now nearly 2,000 metres and the thermals strong. This was the time to really push as, unless I was very stupid, there was a spell of weather ahead out of which it would be difficult to drop. For some time I had been discarding all lift under 2 metres/sec., provided that I was about 1,000 metres, which I regarded as my tactic-changing height. Now I stepped this up to 3 metres/sec., which meant that I rarely circled at all, merely slowing up in lift and speeding up again as soon as it faded. It was with pleasure that I crossed the 400-km. line at 4 p.m., 100 kms. in the hour. I now knew that I could reach my goal, 125 kms. further on, provided that I did not make a silly mistake.

Shortly afterwards I crossed the Vistula at 1,500 metres and entered that part of Poland which has a reputation for being poor soaring country. I did not see any apparent reason for believing this, but decided to go carefully and to make every allowance for the declining day. Quite arbitrarily, although the lift was still strong, I decided to accept anything over 1 metre/sec. unless there was anything else close by which looked much better. I realised this would reduce my average speed appreciably, but I was not now unduly pushed for time unless I got low and lost a lot of time having to scramble about in really feeble lift.

The country below was a mixture of large, dark forests and the green, low-lying and very empty plains. Villages and towns were remote. By 5 p.m. the clouds had lost their crispness and had that faded, yellow and sagging look, but I was still managing to keep above 3,000 ft., although with impatience at my reduced ground speed. I probably slowed down a bit earlier than was necessary, but was determined to make as sure as I could of the elusive last few kilometres.

At 5.30 I saw another Jaskolka circling a little distance away. We joined each other as first one found a better core, and then the other, and to my delight I realised that he was obviously going for the same goal. This was a relief, as I had no further details about my destination except that it was "a landing field to the east of the village". Slowly we worked our way along until, suddenly, the other Jaskolka peeled off, and nose-down went for the goal. I did a few more circles in no sink, watching him to check that his intentions were the same as mine, and then went after him, but flying slowly in order to get there with enough height to properly locate the field. In due course I saw the sun glint on his wings as he turned into the field, and then saw a coloured blob of parked gliders. Crumpling the mile of map under my left elbow I dived after him and went into the place where he had landed and was being pushed out of the way by hundreds of children. At five to six I arrived on the "field", which consisted of about 150 yards of very hard grass-covered mole hills and sloped firmly downhill into a duck pond, which I missed by six feet.

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National Glider Aerobatic Contest

THE fifth aerobatic contest at Dunstable, and the fourth to be designated National, began on 24th September with a long wait for the cloud base to lift. So lunch was put forward and flights began at 1.30 p.m., though even then the intended release height of 2,500 ft. was not possible. The (official) lower limit for aerobatics was 500 ft. above ground.

The Judges were, as before, the Lockheed International Aerobatic Trophy Panel, though their Chairman, Maj. Oliver Stewart, was unfortunately prevented from coming. A. W. "Bill" Bedford joined them as Gliding Adviser. Their report is given below.

Fifteen competitors entered with nine sailplanes; Godfrey Harwood's Swallow, with its smoke producer, was shared by four pilots. The five to score highest were, in order:—

1. A. D. Piggott
2. Flt. Lt. B. B. Sharman (1959 winner)
3. D. A. Smith (1957 winner)
4. Flt. Lt. L. Kurylowicz
5. G. W. Scarborough



Derek Piggott (above) and B. B. Sharman. (Photo by Tony Marshall, courtesy "Daily Telegraph").

Everyone was automatically in a spot-landing competition, the shortest distances from the target being:—

B. B. Sharman, 3 ft. 11 in.
G. W. Scarborough, 4 ft. 0 in.
A. S. Loveland, 6 ft. 0 in.

A height judging contest and a long-distance toy balloon competition were among the entertainments. Visitors included the Mayor and Mayoress of Dunstable.

Air Chief Marshal Sir Theodore McEvoy, President of the R.A.F. Gliding and Soaring Association, presented the prizes, which included the Jack Hanks Trophy for the winner.

A cross-country race to Henlow and back proved too difficult in the poor conditions; John Williamson got furthest to Sharpenhoe, and other participants were Mike Fairman, Roger Mann, Geoffrey Stephenson, George Burton and Alfred Warminger.

REPORT OF THE JUDGES

DUE to low cloud it was agreed that the maximum height for release would be set at 1,600 ft. It was appreciated that this would seriously restrict the scope of the competitors, particularly those using gliders of lower efficiency. Although the weather slowly cleared towards the end of the competition, the height limitation had to be adhered to. The wind was from the south-west with a strength of 6 to 8 knots. Visibility was good.

Several competitors lost marks owing to poor positioning, tending to get too far overhead and particularly to the left of the judges and into the sun. An innovation by three competitors was the use of smoke, and in one or two cases this was cleverly used during the looping manoeuvres to indicate the figure achieved. The standard generally was high in spite of the height handicap. There were few cases of competitors coming marginally low, but one competitor (Bridson) denied himself any chance of success by finishing his performance well below the mimimum height allowed. Only two competitors really achieved a convincingly co-ordinated and concentrated demonstra-



The Lockheed International Aerobatic Trophy Panel, plus "Bill" Bedford, judging the Competition.
(Photo by Tony Marshall, courtesy "Daily Telegraph".)

tion with a definite "sign off" at the termination of it. This may have been partly due to the height limitation which forced the competitors to hurry their act.

Individual Performances

D. A. SMITH, London G.C. (Swallow). PLACED 3RD. Did a well co-ordinated act which was slightly misplaced to the south. He showed skill and accuracy in his manoeuvres. His landing finished 43 ft. from the mark.

H. E. K. POOLE, R.A.F. Windrushers (Olympia 2B). Was appreciably misplaced to the south and lacked scope and originality. He was clearly handicapped by the height limitation. His landing error was only 8 ft. 6 in.

J. R. JEFFERIES, London G.C. (Skylark 2). Cleverly seemed to find a thermal and gained some height before starting his act, but he also was too far to the south. He also lacked scope, perhaps for the same reason as the others—lack of height. Landing error: 57 ft.

J. ARGENT, London G.C. (Olympia 2B). Was better placed, generally well in front of the judges, and started off well with a spin. This, however, lost him altitude which seemed to reduce his chances of developing a full act. Landing error: 32 ft. 10 in.

J. E. G. HARWOOD, Crown Agents G.C. (Swallow). Was generally well placed but strayed to the south on one occasion. He used smoke and with it cleverly indicated the path of a loop with a neat kink in it on the dive out. Landing error: 16 ft.

D. S. BRIDSON, R.A.F. Cranwell (Skylark 2). Was misplaced appreciably to the south. His repertoire was commendably varied but he continued it when at a very low altitude, which lost him any chance of success in the competition. Landing error: 10 ft.

A. DOUGHTY, London G.C. (Kite 2). Was very well placed in the centre of the display area. He included a spin in his act which was well co-ordinated and concentrated. Landing error: 25 ft. 10 in.

A. S. LOVELAND, R.A.F. Windrushers (Olympia 2B). Was well placed only slightly off centre (south) of the area. He included a spin in his act which tended to inhibit further scope. Landing error: 6 ft.

R. A. C. KENDALL, R.A.F. Andover (Olympia 2B). Started too far south of the display area and did not succeed in positioning himself more accurately during his act. He also came too far overhead of the judges. At the end of his show he also came marginally low. His act, however, was promising. Landing error: 43 ft. 2 in.

H. DIMOCK, Portsmouth Naval G.C. (Swallow). Started well in the centre of the area and, except for one minor lapse towards the north, maintained an excellent position. He used smoke to emphasise his manoeuvres, which were well done, but he ended his act marginally low in altitude. Landing error: 21 ft. 5 in.

L. KURYLOWICZ, R.A.F. Benson (Olympia

2B). PLACED 4TH. He started well in position and maintained his position throughout a smooth and well co-ordinated act which included a spin. He showed good artistry in finishing his act with a definite "sign off" in front of the judges. Landing error: 45 ft. 8 in.

A. D. PIGGOTT, Lasham G.C. (Olympia 403). WINNER OF COMPETITION. He exploited the potentialities of his Olympia 403 well, particularly with his inverted flying and a square loop, which was well done. Except for one very minor lapse to the south, his positioning was excellent. Landing error: 25 ft. 8 in.

G. W. SCARBOROUGH, London G.C. (Skylark 2). PLACED 5TH. He produced a well co-ordinated and accurate performance with wide but good positioning. Landing error: 4 ft.

F. D. CRETNEY, R.A.F. Wessex (Olympia 2B). Positioned himself well, although slightly south of the centre of the area. He lacked variation in his act. Landing error: 10 ft.

B. B. SHARMAN, R.A.F. Wessex (Swallow). PLACED 2ND. His inverted flying was most commendable and accurate and he frequently finished a manoeuvre in the inverted position. It was particularly noticeable that he carefully corrected his position in the display area on completing each manoeuvre. He cleverly used his smoke to the best advantage for manoeuvres, such as loops, where it is most impressive. Landing error: 3 ft. 11 in.

Gliding Wife's Tale

IT happens to us all, especially to that entirely "separate" and long-suffering female, the gliding wife!

Apart from the usual discussions of last week-end's achievements (if any) and next week-end's aspirations, there was now a more urgent note in his voice. He spent the whole week with his chin tilted skywards, watched every weather forecast on the telly, scanned the newspapers and became breathless with excitement! As Saturday approached there were supplies to buy, provisions laid in, goods of nutritious value—health-giving, life-giving, life-saving! Sultanas, fruit, nuts (no, too dry—chocolate), and something to fortify in easy sandwiches, "'cos I'll have me hands full."

Yes, of course, the first cross-country!

More poring over maps, discussions with a continuous stream of mates, both on and off the telephone. Has there ever been so much advice so freely given? Each one anxious to make his contribution by advice and tales of their own experiences—each one contrary to the other! Detailed arrangements for information, choice of base telephone (this was a private syndicate), is the car in good running order? Make sure the tank is full, don't take chances. Check the trailer—it might mean a journey home through the night, so we must be sure of the lights; take torches, the big lamp, just in case! Thermos full of hot soup for the weary but triumphant pilot.

After a very long and arduous week, the day dawned. Conditions good. Much excitement. Rush to get to the site—have we got everything? Who has the maps? Where's the parachute? It was on the breakfast table a minute ago; somebody removed it to the bedroom.

Out to the field and more elaborate checks, our hearts aflutter, butterflies in the tum as I wonder will he be all right? Will he go on for ever? Will he land in the sea? (A close friend had recently lost his way and had to come down as the sea-shore hove into sight!)

Strap the man in, complete his trip with sunglasses, food, drink—what else might he need? Isn't it the Japanese who see their loved ones into the Land of Eternity with all the goods for a future life? Was a journey into space like this?

At last a launch and away. The Oly disappearing into a gorgeous blue sky and heading into the afore-planned direction. We jump into the car as he glides away, away to—where?

To an airfield, practically a neighbour, usually something with noisy jets . . . four miles away, and was promptly arrested!

'Nuf said . . .

M.A.B.

British Gliding Association News

B.G.A. Secretary

Miss Frances Leighton took over as Secretary of the Association from Miss Anthea Russell on 13th November.

A.G.M. and Ball

The Annual General Meeting of the B.G.A. will be held on Saturday, 10th March 1962. The Annual Ball will be held during the same week-end; details will be announced later.

Standards for Private Owners

A new minimum standard has been agreed by Council for Private Owner Members/Groups. All members of a group who are to fly as pilot-in-charge must hold a C certificate and have at least 10 hours' flying as first pilot unless one member of the group holds a B.G.A. Instructor's Category.

Census of Civil Air Traffic

To obtain statistical information on air traffic, the Ministry of Aviation is planning to take a weekly census at six-month intervals. The B.G.A. has agreed to co-operate by forwarding sets of cards, produced by the Ministry, to the owners of gliders. Every aircraft airborne over the U.K. is being asked to state its position, height, and route every hour, on the hour, during the census week. For the first census from 4th-10th December it will be possible to fill in the cards from flying log sheets, those machines which are not airborne on the hour giving a *nil* return.

Aero-Towing Service

The Tiger Club offer a glider-towing service. It is equipped with Tiger Moths for this purpose and has over ten pilots who have all completed a minimum of 12 tows. They would be prepared to come to any member-club's field, subject only to the aerodrome owner's permission, on the following terms:—

Ferry time from Redhill, to and from field, 30s. per hour.

Tow to 1,500 ft., 12s. 6d.

Tow to 2,000 ft., 15s.

Beyond 2,000 ft., an additional 1/3d. per minute.

Contact (giving if possible 7-10 days' notice) K. S. Smith, Esq., Glider Towing Secretary, The Tiger Club, Redhill Aerodrome, Nutfield, Surrey.

Whitbread Bursaries

Instructors are reminded that impecunious beginners can apply for a bursary to help with their flying fees. Forms are obtainable from the B.G.A. Office.

Fenland Gliding Club

This club now operates from R.A.F. Swanton Morley with the Norfolk and Norwich Aero Club. Landing at R.A.F. Marham in anticipation of help could prove very embarrassing now, as the airfield has intense powered R.A.F. traffic. In other words, *keep out.*

Pilot Rating for National Championships

THE B.G.A. Council have approved the Rating System given below, which was prepared by the Flying Committee from an original idea put forward by Ann Welch. Since then many, many hours have been spent moulding and trimming it to its present form.

It does not pretend to be perfect, but it is hoped that in the light of experience this list will become more acceptable each year.

Objects

1. To produce a list of pilots in order of their competition flying performance from which the entries for the British National Championships will be selected.

   It will be also a criterion in connection with permission or selection for foreign events.

Considerations

1. The rating to be based on competition performance only.
2. The method of obtaining rating to be based on a formula, and not on opinion or ballot.
3. The rating system must be easily understood so that pilots are able to work out their own rating, and understand how they can advance themselves.
4. The only pilots to be permitted to fly in Nationals without a rating are those of current World Championships standard who have been unable to compete in recent events owing to circumstances

British Gliding Association
LONDONDERRY HOUSE,
19 PARK LANE, LONDON, W.1

Christmas Cards

Four-Colour Photograph of the Southern Alps, New Zealand

Photograph by Guy Mannering
(June issue 1961)
Size 5½ in. x 5½ in. 9d. each

Prices to Clubs, Home and Overseas, for re-sale 7s. 6d. per dozen for orders of 3 dozen or more

Postage extra

beyond their control.

5. Rating to be obtained only in B.G.A. Approved Competitions.

Method

1. The rating for a pilot will be obtained by adding together his best six daily results obtained during the appropriate period. Zero scores may be included. Maximum possible: 600.
2. A daily result is the percentage of the winner's marks obtained by the pilot on that day.
3. All eligible competitions will be valued during the current period in relation to the Nationals League 1 as follows:—
   League 2 .. .. 80%
   Other Approved Competitions according to top rated pilot flying *on that day*:
   If top pilot rated 480 (80%) or more, the value of that day equals 70%
   If top pilot rated 420 (70%) or more, the value of that day equals 60%
   If top pilot rated less than 420 (70%), the value of that day equals 50%
4. The Nationals entry will be composed of applicants who have a rating of 120 (20%) or over, taken in their rating order starting from the top.
5. When the marks have been used by the Rating Committee for two years, they will be devalued by 20% and then annually by 10%; i.e., marks obtained in 1959 after devaluation as in paragraph 3 will account for 1960 and 1961 and then lose 20% for 1962 and a further 10% for 1963 and so on.
6. After the initial period, the list will be prepared annually in November-December for publication in January. The rating will remain in force for 12 months.
7. In order that as many pilots as possible may have six days' marks available for the initial list, it is proposed to take the 1959 Nationals devalued to 80% for League 1 and to 64% for League 2. If possible, any Approved Contests up to April 1962, suitably devalued, will be included, depending on time of selection for the 1962 Nationals, if any.

   For pilots who still cannot make up six days' marks (including zero scores), it is proposed to use other competitions held in 1960 and 1961 suitably devalued, or make up the missing days with 50% of the average of what they have. For example, if a pilot has 60, 50, 40, 30, —, —, the average score is 45; then his score would be 60, 50, 40, 30, 22, 22, equals 224/600. Maximum addition is limited to two days.
8. In the light of experience it will probably be necessary to alter the valuation percentages for 1963.
9. Team entries shall go into the League of the highest rated pilot, provided that no pilot may fly in Nationals with a rating of less than 120.
10. If an eligible event, due solely to bad weather, fails to achieve the minimum number of three contest days to make it a Competition, successful individual contest days may be used for rating purposes.

An amended provisional list of pilots and their rating has been circulated to all Clubs and Private Owners. Further copies can be obtained from the B.G.A.

Correspondence regarding pilots' ratings should be addressed to: E. J. Furlong, Greet, Mottingham Lane, London, S.E.9.

Fourth Kronfeld Club Art Exhibition

It is a pleasant surprise on entering the Club to see the renovations done to the premises, prior to the hanging of the pictures. Thanks are especially due to Margaret Kahn, who was responsible for the hanging of the exhibits—by no means an easy task, and Yvonne Bonham who organised this excellent show. Again there is an increase in the number of artists, while the standard achieved is higher than ever.

A layman can only give a few impressions, and I feel sure that the judges, Roy Nockolds and Keith Shackleton, will face an even more difficult task than last year.

In the oil section Nicholas Price has a lovely "Aeronautical Composition", and I do feel that this artist is showing great promise; he won a prize at the first exhibition at the age of 13. "The Planners" and the "Finishing Line" by Ann Welch are most attractive. Harry Cooper's pictures are of the usual high standard. "Goal Flight", a first exhibit by T. W. Shreeves, and "Gliding Week-end", by V. H. Veevers, are also noteworthy. But something could be said about them all.

In the water-colours John Blake shows a lovely set of four, and Ferelyth Wills has some rather striking drawings.

In addition to those eligible for prizes, there were some excellent exhibits by professional painters: J. Young, K. McDonough, G. Horner, A. Bowbeer, R. Nockolds and K. Shackleton.

The Exhibition was opened by Peter Scott. The prizewinners were:

OILS, *Gliding*.—1st, Ann Welch, "Bungie launch"; 2nd, V. H. Veevers, "Gliding week-end"; commendations: Margaret Kahn, "In the clouds"; Ann Welch, "The planners".

OILS, *Power*.—1st, Harry Cooper, "Mossy Preston's B.E.2E over Brooklands"; 2nd, Ron Willbie, "In the stream"; commendation: Nicholas Price, "Aeronautical composition".

WATER COLOUR and other media.—1st, Ken Tilson, "Night attack"; 2nd, John Blake, "R.E.8 and Martinsyde of 63 Sqn."; commendations: Ferelyth Wills, "Powered flight" and "Tow-car trouble".

The photograph, for which we are indebted to *The Aeroplane & Astronautics*, shows paintings by (L. to R.): top row—R. Lennard and Kenneth McDonough; middle row—Ann Welch, Harry Cooper, V. H. Veevers, H. Cooper; bottom row—H. Cooper, A. Welch, Anthea Russell, Margaret Kahn.



Gliding Certificates

COMPLETE DIAMOND BADGE

No.	*Name*	*Club*	*Completed*
6	J. S. Williamson	Army Gliding Club	7.8.61

DIAMONDS FOR DISTANCE

No.	*Name*	*Club*	*Date*
1/09	J. S. Williamson	Army Gliding Club	7.8.61
1/10	Ann C. Welch	Surrey Gliding Club	26.6.61

DIAMONDS FOR ALTITUDE

No.	*Name*	*Club*	*Date*
3/25	C. P. A. Jefferey	London Gliding Club	23.2.61
3/26	H. Hilditch	Surrey Gliding Club	15.7.61

DIAMONDS FOR GOAL FLIGHT

No.	*Name*	*Club*	*Date*
2/82	A. D. Purnell	Surrey Gliding Club	14.5.61
2/83	C. W. Bentson	London Gliding Club	16.5.61
2/84	D. D. Carrow	Surrey Gliding Club	16.5.61
2/85	A. Coulson	Newcastle Gliding Club	16.5.61
2/86	H. R. Dimock	Surrey Gliding Club	16.5.61
2/87	A. L. L. Alexander	Cambridge University Gliding Club	17.5.61
2/88	G. F. Fisher	Bristol Gliding Club	17.5.61
2/89	D. C. Snodgrass	Surrey Gliding Club	28.5.61
2/90	I. W. Strachan	Fenland R.A.F. Gliding Club	9.6.61
2/91	E. E. Reeves	Moonrakers R.A.F. Gliding Club	30.7.61
2/92	S. M. Morison	Army Gliding Club	2.8.61
2/93	J. Delafield	East Anglian R.A.F. Gliding Club	7.8.61
2/94	R. Hooper	Army Gliding Club	6.7.61
2/95	M. V. Laurie	Oxford Gliding Club	30.8.61

GOLD C CERTIFICATES

No.	*Name*	*Club*	*Completed*
88	E. T. Ware	White Rose R.A.F. Gliding Club	17.5.61
89	I. W. Strachan	Fenland R.A.F. Gliding Club	9.6.61
90	S. M. Morison	Army Gliding Club	6.8.61
91	J. C. Riddell	Yorkshire Cliding Club	3.8.61

GOLD C HEIGHT LEGS

Name	*Club*	*Date*
L. A. Boyer	Suffolk R.A.F. Gliding Club	27.5.61
D. R. Austin	Swinderby R.A.F. Gliding Club	30.5.61

GOLD C DISTANCE LEGS

Name	*Club*	*Date*
A. D. Purnell	Surrey Gliding Club	14.5.61
E. E. Reeves	Moonrakers R.A.F. Gliding Club	30.7.61
R. S. Waller	Cambridge University Gliding Club	18.7.61
D. A. Hooper	Surrey Gliding Club	6.7.61
M. V. Laurie	Oxford Gliding Club	30.8.61

SILVER C CERTIFICATES

No.	*Name*	*Club*	*Completed*
1040	R. B. Stratton	Moonrakers R.A.F. Gliding Club	9.7.61
1041	Patricia Holmes	London Gliding Club	10.7.61
1042	J. E. S. Temple	Oxford Gliding Club	9.7.61
1043	D. Lowe	Oxford Gliding Club	6.7.61
1044	A. J. Lapham	Devon & Somerset Gliding Club	22.7.61

SILVER C CERTIFICATES

1045	H. C. N. Mitchell	Cambridge University Gliding Club	30.7.61
1046	R. W. B. Hewall	Windrushers R.A.F. Gliding Club	4.7.61
1047	J. K. Przewlocki	Polish Air Force Gliding Club	4.7.61
1048	A. F. Seviour	Derbyshire & Lancashire Gliding Club	27.6.61
1049	L. E. N. Tanner	Windrushers R.A.F. Gliding Club	29.6.61
1050	J. Tarr	Doncaster & District Gliding Club	7.7.61
1051	F. A. Wills	Surrey Gliding Club	30.7.61
1052	D. W. Wilks	Surrey Gliding Club	5.7.61
1053	R. Griffiths	London Gliding Club	7.5.61
1054	N. A. Wilkinson	R.A.F. Germany Gliding Association	4.6.61
1055	W. D. Barrett	Oxford Gliding Club	30.7.61
1056	N. A. Groucutt	Midland Gliding Club	18.6.61
1057	M. G. R. Thomson	Cambridge University Gliding Club	27.7.61
1058	S. F. Beck	London Gliding Club	7.3.61
1059	R. McLuckie	Clevelands R.A.F. Gliding Club	28.6.61
1060	D. F. Parry	Windrushers R.A.F. Gliding Club	30.7.61
1061	R. P. Saundby	Windrushers R.A.F. Gliding Club	7.8.61
1062	J. E. New	Surrey Gliding Club	20.5.61
1063	H. Greig	Windrushers R.A.F. Gliding Club	30.7.61
1064	W. Mc. Cooper	Derbyshire & Lancashire Gliding Club	23.7.61
1065	D. W. Pearl	Wessex R.A.F. Gliding Club	29.7.61
1066	E. A. Hull	London Gliding Club	7.8.61
1067	P. M. Selby	Cambridge University Gliding Club	4.8.61
1068	J. Pickett Heap	Cambridge University Gliding Club	13.8.61
1069	G. W. Camp	London Gliding Club	2.8.61
1070	C. B. Sutherland	Scottish Gliding Union	20.6.61
1071	R. Q. Barrett	London Gliding Club	30.7.61
1072	B. M. Baker	Oxford Gliding Club	30.7.61
1073	S. G. Norsted	Northampton Gliding Club	7.8.61
1074	G. H. Martin	Home Counties R.A.F. Gliding Club	12.8.61
1075	K. Elizabeth Fairman	London Gliding Club	14.8.61
1076	J. M. Phillips	Surrey Gliding Club	17.8.61
1077	J. M. Firth	Bristol Gliding Club	19.6.61
1078	R. P. Hubble	Kent Gliding Club	22.8.61
1079	G. P. Whitehead	Aberdeen Gliding Club	28.8.61
1080	W. E. Goldstraw	Windrushers R.A.F. Gliding Club	9.9.61
1081	D. H. Stubbings	Moonrakers R.A.F. Gliding Club	12.8.61
1082	C. W. Petch	Northamptonshire Gliding Club	22.6.61
1083	C. S. Wallis	Phoenix (Germany) R.A.F. Gliding Club	2.7.61
1084	R. G. James	Cambridge University Gliding Club	30.7.61
1085	J. T. Prince	R.A.F. Ballykelly	30.8.61
1086	E. E. Pollard	Surrey Gliding Club	30.7.61
1087	D. V. Sadler	Coventry Gliding Club	20.8.61
1088	F. Horridge	Surrey Gliding Club	26.8.61
1089	Jean C. Letch	Wessex R.A.F. Gliding Club	11.9.61
1090	D. A. Stangroom	Windrushers R.A.F. Gliding Club	7.8.61
1091	P. M. Vaughan	Midland Gliding Club	22.8.61
1092	V. R. Collins	Coventry Gliding Club	19.8.61
1093	M. W. Johnson	R.A.F. Cranwell	29.8.61
1094	N. Spencer	Midland Gliding Club	10.9.61

C CERTIFICATES

Name	*Gliding Club or A.T.C. School*	*Name*	*Gliding Club or A.T.C. School*	*Name*	*Gliding Club or A.T.C. School*
J. R. W. Kronfeld	Imperial Coll.	P. G. H. Purdie	Moonrakers	E. W. Dodd	Lasham
B. Turner	Norfolk	J. R. Miller	Scottish	J. R. J. Prouse	Four Counties
A. P. Millar	Chilterns	S. C. Churchman	Home Counties	M. Roland	Newcastle
J. A. Martin	Wessex			J. H. Wheeler	Clevelands

C CERTIFICATES

Name	*Gliding Club or A.T.C. School*
P. D. Simmons	Bristol
S. B. Mead	RAF Germany
D. C. Pentecost	Cornish
N. R. Duncan	645 G.S.
J. E. Heesom	Southdown
M. J. Coram	Bristol
B. Rumsby	Yorkshire
E. W. Durbin	Bristol
J. B. Carruthers	Wessex
J. P. Shea	RAF Germany
P. Feneion	Chilterns
W. S. Keay	Windrushers
R. W. G. Simpson	Windrushers
M. S. Herring	RAF College
A. J. Dodds	Newcastle
J. L. Riley	RAF Germany
G. B. Warwick	Bristol
R. A. Tarling	Midland
P. J. Henderson	Southdown
J. Jeanmonod	Home Counties
E. R. West	Norfolk
A. Quartly	Bristol
G. W. H. Wright	671 G.S.
G. T. Catterall	635 G.S.
N. W. Smith	Wessex
Elsie D. May	Coventry
G. P. Lanyon	Cornish
T. E. D. Dodds	633 G.S.
A. Levers	Midland
W. P. D. Beeton	644 G.S.
J. Bower	Doncaster
J. H. Price	Midland
T. G. Brigden	Coventry
J. R. Holliday	Four Counties
B. Normington	Windrushers
A. E. Prime	Midland
M. Farrow	643 G.S.
A. S. Morris	Moonrakers
J. Argent	London
Jane Austin	East Midlands RAF
G. Conway	Halifax
J. G. Chinchen	622 G.S.
M. A. Radmore	RAF Halton
A. J. B. Perris	Southdown
N. T. Reilly	Coventry
H. G. Morris	631 G.S.
K. J. McCready	644 G.S.
C. J. Morris	Silver Wing
G. O. Tourlamain	622 G.S.
J. D. Bird	644 G.S.
R. A. Palmer	644 G.S.
B. E. Walls	RAF Germany
R. R. Trott	Devon & Somerset
A. M. Wray	Devon & Somerset
J. Groves	Devon & Somerset
E. A. Hales	Four Counties
B. T. Collins	Bannerdown
L. H. Esser	Home Counties
D. E. Davies	Windrushers
W. J. Taylor	RAF Germany
W. J. B. Houston	Scottish
J. V. Firth	Doncaster
A. B. Crease	Cambridge
Beatrice Hodgson	Midland
B. C. Vaughan	Midland
T. Smallwood	Yorkshire
K. A. Stevens	Midland
H. J. Tipton	East Anglian RAF
Delphine Gray-Fisk	London
R. S. Ireland	Midland
R. A. Witham	Doncaster
L. C. Rees	631 G.S.
H. T. Boal	Cambridge
G. W. Mulligan	Bristol
F. E. T. Pratt	Midland
H. A. Maslowski	Midland
A. C. H. W. White	Bristol
C. D. Hill	611 G.S.
L. G. Frakes	Handley Page
B. A. Barry	634 G.S.
G. C. Weeks	Oxford
P. L. Kirk	616 G. S.
G. Appleyard	Doncaster
J. D. J. Glossop	East Anglian
M. E. Cole	613 G.S.
T. P. Clarke	633 G.S.
B. N. O'Brien	Bristol
J. S. S. Hay	East Anglian
G. Tilley	Kent
R. R. McGregor	Aberdeen
J. Dearden	633 Abbotsinch G.S.
G. E. Tuson	Cornish
E. S. R. Burke	613 G.S.
J. E. Thomas	Devon & Somerset
C. G. Wilson	London
B. B. Lawrence	Derbyshire & Lancashire
A. P. Carter	Cambridge
H. S. Tee	Wessex
R. J. Maclagan	RAF Germany
P. Kevan	RAF Laarbruch
M. J. Fairclough	Devon & Somerset
R. W. Langhorne	Cornish
E. G. Mann	Cornish
K. R. Welbourn	642 G.S.
R. L. Broughton	643 G.S.
D. M. Bolton	Cornish
J. B. G. Campbell	Aberdeen
P. H. Robinson	Midland
C. D. Weston	Midland
A. H. Gill	642 G.S.
G. Williams	643 G.S.
R. V. Turner	644 G.S.
L. J. Seymour	London
C. E. Vary	642 G.S.
G. F. Bawden	Cornish
R. V. Stevens	London
M. A. Sutton	Fenland
T. A. Adams	Bristol
G. L. Bartle	642 G.S.
A. R. Moore	Doncaster
B. W. Carter	BEA Silver Wing
F. J. Birch	Chilterns
G. A. M. Moffat	Midland
G. W. Royner	Cornish
L. E. Batchelor	White Rose
C. M. Greaves	Akrotiri, Cyprus
M. J. F. Bagnell	Midland
B. C. Pratt	Bristol
D. J. Parkinson	East Midlands
A. Handley	RAF Geilenkirchen
G. Carr	Newcastle
J. Lewis	Phoenix
J. A. Woodrow	East Anglian
W. M. L. Edwards	West Wales
D. P. Ponting	Wessex
J. V. Harris	Fulmar
T. J. Reynolds	Doncaster
C. A. H. C. Ogilvie	Crown Agents
F. W. Bainbridge	Yorkshire
H. M. Fincher	634 G.S.
Miss J. Warter	Bristol
D. A. Cameron	Bristol
E. Richards	Cornish
R. Cousins	Kent
Miss P. J. Simpson	Yorkshire
W. Alexander	London
B. Holmes	Derbyshire & Lancashire

TRAINING TWO-SEATERS

Mr. G. Sunderland writes from Murrumbeena, Victoria, Australia, regarding Ann Welch's suggestion of the need for a new British training two-seater and Charles Ellis's letter asking why it has to be British (June and August, 1960). Mr. Sunderland claims that the Kookaburra produced by Edmund Schneider, Ltd., of South Australia, on which he has made some 70 flights as an instructor, should suit the purpose well. The seating is side-by-side, staggered. There are two versions, with spans of 15 m. and 11.7 m., and the price in Australia is £1,360 and £960 (Sterling) respectively.

A photograph of the Kookaburra appeared in our last issue (October 1961) under "Overseas News" on page 327.

The Wavelength of a Lee Wave

by John Inglesby

THESE sums on the wavelength of a lee wave may be of some interest to those engaged in the exploration of lee waves.

A stable atmosphere is an elastic thing. If a particle if it be displaced vertically, a restoring force acts on it, and it tends to spring back; it has a natural frequency which it should be possible to calculate. Given the natural frequency and the wind speed, there is no difficulty in deducing the wavelength.

It would seem that any stable atmosphere is capable of producing a wave, provided, of course, there is a wind and an obstacle to deflect it.

The results are shown in Tables 1-3; they speak for themselves. The effect on the wavelength of varying the various parameters, one at a time, is summarised below.

(1) LAPSE RATE.—An increase in the difference between lapse rate and adiabatic lapse rate gives a decrease in wavelength.

(2) WIND SPEED.—The wavelength is proportional to the wind speed.

(3) HEIGHT.—There is a small decrease in wavelength with increase in height.

(4) AMPLITUDE.—The wavelength is independent of the amplitude of the wave.

Assumptions

(1) Laminar flow.

(2) Dry air.

(3) Constant static pressure along a streamline. (The weight of air above a streamline is constant.)

(4) Constant potential temperature along a streamline.

(5) Constant wind speed along a streamline. (This follows from Bernoulli's Equation and (3) and (4).)

(6) The restoring force on a particle of air, displaced from its equilibrium position, is that given by the natural stability of the atmosphere, as measured up-wind of the wave.

Choice of units

The basic figures and formulae for the Standard Atmosphere given in R. & M. 1891 (Ref. 1) are in metric units, and it was found convenient to use these units in determining the natural frequency. Hence the height is in kilometres, and the lapse rate in °C./km. For wind speed and wavelength, the more conventional units of knots and nautical miles are used.

Nomenclature

f	restoring force
g	acceleration due to gravity (=9.8062 m/.sec.^{2})
m	mass
n	natural frequency
t	time
T	temperature (=268.5°K. at 3 km.)
U	wind speed
v	volume
z	height
Γ	adiabatic lapse rate (= —9.8136°C./km.)
λ	wavelength
ρ	density

Analysis

Consider an elemental volume of air δv with mass δm.

$$\delta m = \frac{\rho}{g}\,\delta v$$

Let it be displaced δz from its equilibrium position.

$$\delta f = \left(\frac{d\rho}{dz}_{\text{actual}} - \frac{d\rho}{dz}_{\text{adiabatic}}\right)\delta v \delta z$$

$$= \frac{\rho}{T}\left(\Gamma - \frac{dT}{dz}\right)\delta v \delta z$$

For simple harmonic motion, at maximum displacement,

$$\frac{d^2z}{dt^2} = -4\pi^2 n^2 \delta z$$

$$= \delta f/\delta m.$$

Substituting for δf and δm,

$$n^2 = \frac{g\left(\frac{dT}{dz} - \Gamma\right)}{4\pi^2 T}$$

Whence $\lambda = U/n$

Results

Table 1. Variation of lapse rate

Height .. .. 3 km.
Wind speed .. .. .. 30 knots

Lapse rate (°C./km.)	*Wavelength* (n.m.)
−8	6.43
−6.5*	4.76
−4	3.59
−2	3.10
0†	2.77

*Standard Atmosphere
†Isothermal

Table 2. Variation of wind speed

Height .. .. 3 km.
Lapse rate .. .. − 6.5°C./km.

Wind speed (knots)	*Wavelength* (n.m.)
20	3.17
30	4.76
40	6.35
50	7.93
60	9.52

Table 3. Variation of height

Wind speed .. .. .. 30 knots
Lapse rate .. .. 6.5°C./km.

Height (km.)	*Wavelength* (n.m.)
1	4.87
3	4.76
5	4.64
7	4.52
9	4.40
11*	4.27

*Tropopause

Conclusion

An idealised wavelength has been obtained from the atmosphere's "natural" frequency, but this may well be modified by secondary effects, such as intervening topographical features, or an uneven wind gradient. Nevertheless, brief observations of the St. Auban wave showed these figures to be of the right order, and it is hoped that they may serve as a rough and ready guide to those making wave flights.

Acknowledgment

I am indebted to "Wally" Wallington for taking such an active interest in these simple sums of mine. Those who want to follow up the subject should read his papers, some of which are listed below.

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A wave over El Mirage Airport, photographed by Gus Briegleb. See article on next page.

Exploring Bishop Wave by Cessna 182

by Brian Masters

On 2nd May 1961 I made a flight in a Cessna 182 for the study of wave conditions from El Mirage Field to Bishop 200 miles north. No. 1 photo I took at El Mirage Field on the evening of 1st May, there being very good waves produced just west of the field; wind N.W., 40 m.p.h.

I felt one could leave El Mirage Field on a N.W. wind in wave conditions, and fly cross-country in a glider to Bishop by using the wave. It could be possible to do an out-and-return of 400 miles.

So on the morning of the 2nd May at 07.00 hrs. Gordon Wheeler, Phil Troutman and myself set out in the 182 to explore these waves, and study the course for landing spots, as most of the flight is over desert and mountains in wild country.

The wind on leaving El Mirage had dropped to about 10 m.p.h., but the forecast for winds further north was given as 40-50 m.p.h. N.W. At 07.45, just north of China Lake, we ran into weak thermal; at 07.55 over Little Lake came our first feel of wave lift as we flew over the deep valley with the Sierra Mountains towering each side, our height 8,500 ft.—our first wave contact, and 100 miles to go to reach Bishop. A few miles north of Little Lake we ran into strong lift; at 40 per cent power we climb at 1,200 f.p.m. at 125 m.p.h., climbing steadily to 18,500 ft. with rate of climb of 1,500 f.p.m.

On approaching Owen dry lake we saw a sight that very few glider pilots have seen: the edge of the wave bouncing on the lake, and lifting the sand dust up to 12,000 ft. or more. Photo No. 2 will show you the wonderful sight. At Lone Pine we flew along the edge of the rotor cloud, the base being at 16,500 ft. We moved in close to the edge of this cloud and found severe turbulence. We could see 100 miles or more of mountains and desert; flying over the mountain snow-clad tops was well worth the trip.

At 08.45 we were over Bishop, still in lift. We turned 180 deg. and flew back towards El Mirage, south. We had to move a little to the west side of the wave, to reduce



Sunset waves at El Mirage the evening before the flight.



The wave bouncing on the sand of Owens Dry Lake, photographed from 15,000 ft.

height from 18,500 ft. to 15,000 ft., as we had no oxygen in the aircraft, and it is not good for one to stay at this height without oxygen.

We found the wind at Bishop to be 60 m.p.h. west. Still in wave and with very little engine power, we continued south; at Little Lake we felt the wave. We had just covered 200 miles in wave lift. Over the lower desert towards El Mirage the wind was still light, but there were good thermal conditions. Landed 10.15 hrs. and ready for our breakfast. We used 28 gallons of fuel—should have been 43 gallons!

FORTY YEARS AGO

ALTHOUGH the series of gliding competitions on the Wasserkuppe, in Central Germany, began in 1920, no actual soaring was done till 1921, when the best flight of the competition was 13 min. 3 sec. by Wolfgang Klemperer on 30th August. He flew a monoplane with two skids at the bottom of "trousered" legs, designed by him and built at Aachen University. After six minutes he had gained 330 ft. above take-off point, and he then turned along the ridge and eventually landed at Gersfeld at the bottom of its south end.

Dr. Klemperer emigrated to the U.S.A., where his daughter and son now glide.

Soon afterwards, on 13th September, this world record was beaten in an unusual type of flight by Friedrich Harth, who had been practising in secret a few miles away on the Heidelstein. He could alter the angle of incidence of his wing in flight, and used this feature to gain height in gusts; and as he kept up for 21 minutes over a slope of 1 in 16, he is assumed to have soared mainly by using gust energy, reaching nearly 500 ft. above ground with the help of successive gusts. He crashed and broke his thigh, but the records disagree on whether this happened at the end of the same flight or a subsequent one. The wind was 25 m.p.h., gusting up to 40 m.p.h. or more. Harth, born in 1880, first brought a glider to the Wasserkuppe in 1914 in company with his assistant, Willi Messerschmitt, then aged 15. In 1916 they came up again to the Heidelstein and Harth soared for 3½ minutes.

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P.6326

Flying in the Italian Championships

by Philip Wills

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THE "leg" of Italy consists, as everyone knows, of a mountain chain—the Apennines—running N.W./S.E. for around 500 miles, shading down to the sea on each side; the distance from coast to coast is only around 100 miles. As a piece of geography, this is very similar to the lay-out of New Zealand, but the effect on the circumambient air bears no relation at all.

Whereas the behaviour of New Zealdnd air is dominated by the fact that the island lies athwart a prevailing wind coming over a thousand miles of unrestricted sea, Italian air is profoundly affected by the fact that the peninsula is walled off to the north by the 600-mile-long chain of the Alps, towering up to 10,000 feet and more, obstructing the drift of weather from the north.

After a month in Italy in August, I am in no position to generalise, but at least for that time we lived in a relatively stagnant pool of warm, descending, anticyclonic air, so that instead of the predominantly wave conditions of New Zealand, we had air which in the ordinary way would have been most reluctant to rise. But the clue to the extraordinarily interesting flying we actually got lay in the fact that the peninsula is almost a perfect machine for the production of sea-breezes. As the mountains heat up each day, these build up and blow inland from either coast, and the mountain slopes facing the sun produce variations of heating which, as the critical surface temperature is reached, force the most reluctantly stable air to rise in glorious thermals, blue at first then high enough for cumulus to form over the mountains; and eventually over the highest mountains on several days we had splendid cumulo-nimbus, base safely above the mountain tops, lift inside smooth and fast and wide, icing level perhaps 15,000 ft., tops on one occasion over 25,000 ft.

Gliding championships in Italy present not only the most fascinating and beautiful flying for the pilot, but also the most arduous test for retrieving teams and equipment. For road distances are up to *double* air distances, and average speeds of around 25 m.p.h. with the trailer are as much as can be achieved. Thus a flight of 100 miles may involve 400 miles for the retrieving team, in great heat by day, and it will be at least 16 hours, if all goes well, before the pilot and crew will reach home.

The longest flights of the meeting took place on 7th August, when we were given the task to fly as far as we could along a line to the south-east. We were told at briefing that if two pilots flew further than 200 kms. (120 miles) the following day would be a "rest" day, and if two flew more than 300 kms. (190 miles) the following two days would be rest days. At the time I was surprised, but in the event two of us exceeded the greater distance, and indeed it was the morning of the third day before we were ready to fly again, with over 750 miles added to the milometer in the Vanguard.

How to describe Italy through the eyes of a glider pilot? It is a country of valleys, some wide and some mere clefts, and tumbled hills and mountains. The wider valleys are more of less densely cultivated, some so densely that a landing is literally impossible. In the whole valley of the Arno from the coast to Florence, some 50 miles,

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A. Pronzati, Italian National Champion (in cockpit), with Adele and Giorgio Orsi.

and for a radius of 30 miles round Naples, although the ground is flat there is literally not one single open field in which one can land. But although elsewhere the fields look, from ground level, too small and overgrown with olives and vines and maize, from the air one can see a fair number of possible areas. On the lower hills and mountains there are frequently much larger fields, but Heaven knows how one's trailer would reach the aircraft if you landed there. The high mountains to the east, rising up to 9,000 ft. in the Gran Sasso, are not, of course, landing country, but as long as one keeps sufficient altitude in hand to get away from them in case of need, they don't have to be.

The valleys are olive green and brown, the mountains dark green and brown and grey. The summer air is hazy with brown dust, the sky overhead a dusty blue. The ground is dry and hard, and a field which looks smooth and friendly from the air will, on contact with your skid, give you and your glider's frame a severe test. After each day's flying, the repair hangar would be full of the inverted fish-like hulls of gliders, holes being patched after minor landing mishaps. It is not a country for advanced aircraft of the "orchid" type, and I thanked heaven for the rugged Slingsby qualities of my Skylark.

The airfield of Santa Egidia is in the valley half way between the hill-top town of Perugia to the west and Assisi to the east, itself perched on a steep outlying spur of the 4,000 ft. Monte Subasio. Little could St. Francis have dreamed that his Monastery and the adjacent town would in the 20th Century provide the ideal starting point for Icarus in real life, for, baking in the sun, Assisi produced a permanent thermal in which each morning we were launched by aero-tow. Each morning thirty beautiful man-made birds would circle and climb over Assisi, fly onto the vast slopes of Subasio, weave and rise above it, and then set off on the flight of the day. But his famed sympathy for flying things may have been called into play the first day, when two circling gliders overhead collided and plunged to destruction: for both pilots miraculously escaped by parachute, and the machines—the Spillo and a Canguro—missed the town and littered themselves harmlessly amongst the trees on the mountainside beyond.

This gave us all, at briefing on the second day, a somewhat uneasy ten-little-nigger-boys feeling, but turned out to be the only serious accident of the meeting. There were one or two lucky escapes, notably when one pilot took off without connecting his elevator controls. This is the accident which neither man nor God can usually forgive, and is often fatal, but on this occasion God at least relented and the pilot—though not the unfortunate aircraft — escaped unscathed.

It would take too long to describe in detail each of the eight tasks we flew, for although each had its own interests and glories, they were basically in the same conditions. I won the first, a 100-mile

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out-and-return race to Rieti and back. On the second, a race across the mountains to the Adriatic coast, I lost myself in the high mountains and flew out east to safety but a low placing. This gave me a lot of leeway to make up, which I did laboriously but successfully, winning the fourth, fifth and seventh tasks, emerging at the top, and holding it easily on the last day. So I will confine myself to the longest task we were set, on 7th August, to fly as far as possible along a line south-east amongst the mountains, from Assisi through Potenza to the southern coast beyond.

(To be continued)

ITALIAN CHAMPIONSHIPS 1961

Leading Final Positions

	Pilot	*Sailplane*	*Pts.*
1.	P. A. Wills (Gt. Br.)	Skylark 3F	7429
2.	A. Pronzati	Mucha Std.	6683
3.	A. Vitelli	M-100-S	6680
4.	R. Biagi (France)	Breg. 901	6563
5.	R. Hachler (Switz.)	Ka-6	6553
6.	G. A. Ferrari	Skylark 3B	6267
7.	G. Rinaldi	Canguro	5887
8.	W. Vergani	M-100-S	5852
9.	R. Schmidt (Ger.)	Ka-6	5841
10.	L. Brigliadori	Uribel	5767
11.	F. Lamera	Passero	5508
12.	D. B. James (Gt. Br.)	Skylark 3F	5454
13.	U. Mantica	C.V.V.8	5320
14.	P. Majewska (Pol.)	M-100-S	4112
15.	L. Peccolo	M-100-S	4094

Here and There

British altitude in Austria.—At Zell am See gliding centre in the Austrian Alps on 28th October, Wing Comdr. Joe Croshaw set up a local height record of 31,700 ft. In a previous attempt he had reached 21,000 ft. when his oxygen supply failed.

South African record.—Pat Beatty, flying his new BJ-2, of his own design, has raised the South African 100-km. triangle record to 104.8 km. (65.1 miles) per hour. The National Championships will be held at Kimberley aerodrome from 28th December 1961 to 7th January 1962.

Feminine altitude in N.Z.—The New Zealand height record for women has been raised to 18,000 ft. by Mrs. Helen Georgeson, flying a Skylark 3F.

— V. G. —

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O.S.T.I.V. Papers

THE following papers have appeared in the OSTIV Section of the *Swiss Aero Revue* since those listed in our October issue (p. 311). The text is in English unless otherwise stated. The descriptions of sailplane types give comprehensive data such as are shown in the OSTIV publication, "The World's Sailplanes".

July 1961

C. E. Wallington (Gt. Britain): "An introduction to the sea breeze front". This is mainly the substance of the author's "Sea Breezes" chapter in his book, "Meteorology for Glider Pilots".

Robin: description of a nacelled trainer developed from the Polish pre-war Salamandra, designed by W. Czerwinski.

Harbinger: two-seater design by W. Czerwinski and B. S. Shenstone. Span 18.3 m.

P. B. MacCready (U.S.A.): "Improving thermal soaring flight techniques". The author of this comprehensive paper discusses, among many other ideas, possible instruments for registering changes of humidity on entering thermals, and for detecting them at a distance by the electrostatic field, or by detecting differences of temperature on the ground below with a simplified radiometer; also the best manoeuvres for centering in a thermal. Summing up, he says: "In a typical flight the gains from these techniques might greatly exceed the performance differences between typical contest sailplanes."

August 1961

Loudon: Canadian single-seater trainer suitable for cross-countries, designed by B. S. Shenstone and W. Czerwinski. Span 13.72 m.

SZD-22 Mucha Standard: Polish Standard Class sailplane designed by Nowakowski and Grzywacz.

J. Sandauer (Poland): Die Belastungen des Höhenleitwerks des Segelflugzeuges bei brutaler Ruderbetätigung (Loadings on the elevator unit of a sailplane caused by violent elevator movements). (In German.)

September 1961

P. Morelli (Italy): On the dynamic longitudinal stability of sailplanes with fixed and free controls. Calculations apply to a Standard Class sailplane built to OSTIV-F.A.I. specifications, and include results for airbrakes retracted and extended.

M. Wiesemann (Germany): "Ueber die zeitliche Ausbildung von Ringzellen (On the time-scale of development of ring-cells). (In German.) Deals with toroid motions in a thermal, such as Betsy Woodward has described, except that the author has produced many concentric toroid cells by heating the bottom of a 1-cm. layer of paraffin containing aluminium particles to show the motions; the faster the heating, the sooner additional rings appear.

SZD-25 Lis: a development of the Polish Mucha Standard; the twist of the wing has been altered and a new metal fuselage designed. Greater safety for the pilot, longer life for the machine, and reduced cost are claimed.

SZD-16 Gil: Polish single-seater trainer of pod-and-boom type; designed by Zbigniew Badura. Span 13.5 m.

October 1961

E. R. Reiter (Austria): "The mesostructure of jet streams". The author has analysed jet-stream fluctuations with wavelengths of 20-100 km., and states that vertical motions of 0.6 m./sec. (2 ft./sec.) have been found in some instances. Vertical motions of 1 or 2 m./sec. are found in waves set up in jet streams in the lee of mountains.

F. X. Wortmann and D. Althaus (Germany): Messungen an drei Flügelprofilen des Segelflugzeuges Ka-6 (Measurements on three wing-sections of the Ka-6). (In German.) The profiles are at the root, middle and tip. Forward thickening of the leading edge at the root was found to give a higher lift coefficient in slow flight and to extend the laminar-flow region; the same treatment at the tip extended the laminar region at high speed with a small lift coefficient. The designer recommends making the extensions of balsa or other material strengthened with fibreglass.

SZD-24 Foka: Polish Standard Class single-seater designed by Okarmus and Mynarski.

SZD-19-2 Zefir 2: A development of the Zefir 1 designed by Bogumil Szuba. The performance, construction and handling have been improved.

SXD-20X Wampir: Polish experimental tailless sailplane designed by Jan Dyres. Span 15 m.; sweepback at ¼-chord, 18.28°; dihedral 2°; aerodynamic twist 4°; taper ratio 0.33; fins and rudders at about 60% span; minimum sink 0.84 m./sec.; best gliding angle, 1 in 24.4 at 82 km. p.h.

Soaring Across America

From the Schweizer Aircraft Corporation

AN aviation "first" was accomplished when a transcontinental trip was made entirely via sailplane. Robert (Bob) Fisher, a 46-year-old farmer of Moses Lake, Washington, flew his Schweizer 1-23 sailplane 2,813 miles from the Pacific to the Atlantic, landing at Zahn's Airport, Amityville, Long Island, New York, on 27th August—59 days after taking off from Seattle, Wash., on 30th June.

Fisher had hoped to beat the record made in an "Ex" powered biplane 50 years ago by Calbraith Rodgers, who was the first person to fly across the country. Rodgers flew from the Atlantic to the Pacific in 49 days. Bad weather bothered the soaring pilot, however, and his lapsed time exeeeded that of the 1911 powered plane flight by 10 days. Fisher flew on only 29 days in traversing the continent without an engine.

Fisher was always towed to a position from one mile to 11 miles *behind* his landing point, so that he would surely make every inch of the trip in free flight. In other words, none of his forward progress was made on aeroplane tow.

Fisher's longest non-stop flight was 345





Above: Bob Fisher climbs out after the last hop.

Left: soaring over Elmira on the way home.

Opposite page: Bob Fisher and his family, who followed by road.



miles—from Minidoka, Idaho, to Rawlins, Wyoming, and took 8 hours. In it he reached his highest altitude of the 59 days—16,200 ft. above sea level, as he crossed the continental divide. His shortest flight was 23 miles. Because of unfavourable weather, it took Bob two weeks to cross Nebraska, and one week to cross Iowa. Finally reaching Stroudsburg, Pa., 22nd August, Fisher was delayed there five days before making his 31st and final hop to Long Island.

The Ellensburg, Wash. Civil Air Patrol Squadron furnished a Piper Super-Cub for the tow-plane which launched Fisher's motorless craft after each landing. The tow-plane was flown by David Hensel, a Boeing Aircraft Corp. engineer. Fisher's wife and two young sons and a nephew—who helped with the driving—accompanied him via station wagon on highways across the continent.

The Fishers returned home, towing their sailplane on a trailer behind the car.

Statistics of Robert Fisher's historic sailplane journey from salt water to salt water include the following:—

Total flying time, 109 hrs. 45 mins.

Landings made at airports, 16.

Landings made in fields, etc., off airports, 15. After 10 of these off-airport landings the tow-plane was able to launch the sailplane from its landing place. On five occasions the ship had to be dismantled, loaded onto the trailer and hauled to an airport for launching after being re-assembled.

He flew over 12 states: Washington, Oregon, Idaho, Wyoming, Nebraska, Iowa, Illinois, Indiana, Ohio, Pennsylvania, New Jersey and New York.

Longest stopover was at Hastings, Neb., —7 days; second longest stopover was at Stroudsburg, Pa.,—5 days.

Fisher has been flying gliders for 15 years, during which he has attained many championships in Northwest soaring contests. In 1950 he made the first 300-km. flight in the Northwest and became Washington State's first Gold C pilot. On his cross-country trek, Bob became the second pilot to soar over the Cascades—one of the most hazardous parts of his journey. The previous sailplane flight across those mountains was made from east to west—a much easier accomplishment.

ADMIRAL BEAUFORT—HIS SCALE

Club Met. man: "Musically speaking, gentlemen, the Beaufort Scale is only suitable for wind instruments—excluding the bagpipes which, of course, utilises downcurrents, force 8!"

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Amazing Retrieve

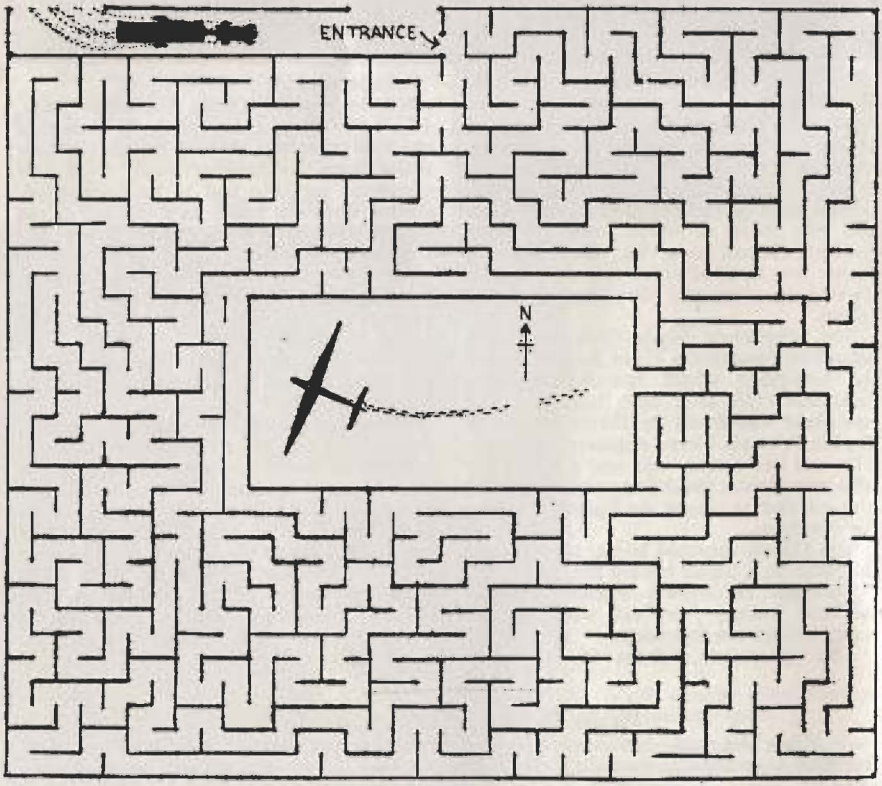
by A. E. Slater

A CROSS-COUNTRY pilot, caught out by an unexpected downcurrent, had to put down in the nearest available space, which was a clear grass patch in the middle of (so I am informed) a field of tomatoes. Fortunately he had been in touch by radio with his crew, who soon turned up at the entrance to the field; and he anticipated a quick retrieve, except that the dismantled sections of his machine would have to be carried out between the lines of plants.

But a complication arose. The farmer turned out to be an eccentric, who had laid out his crop in the form of a maze; the plants were too high to step over, though fortunately not too high for the sailplane sections to be lifted over them when turning the corners. By a further misfortune, the farmer came along to see fair play; he would neither disclose the shortest route from the gate to the middle or *vice versa*, nor, of course, would he allow his plants to be knocked down by surreptitious attempts at short cuts.

The map shows the rows of tomato plants as black lines, which may not be crossed. What route should the retrievers take?

A rather more subtle problem also arises. The retrieving team numbered only two, and the farmer would not help. Bearing this in mind, did all the sailplane components have to follow the same route as they were carried out of the field, or was some by-passing feasible?



Cockpit Illumination in Sailplanes

by D. Brennig James

FIGURE 1 is the view in the cockpit of a Weihe; note that none of the instruments are visible, due to lack of illumination.

Fig. 2 shows a photograph taken with the same camera and film under the same conditions of lighting in my own Skylark 3F. Note that all the instruments are clearly visible because the canopy is larger, the cockpit is painted white inside, and the fibreglass on the upper surface of the nose of the aircraft has been clear-doped to let the light in (Fig. 3).

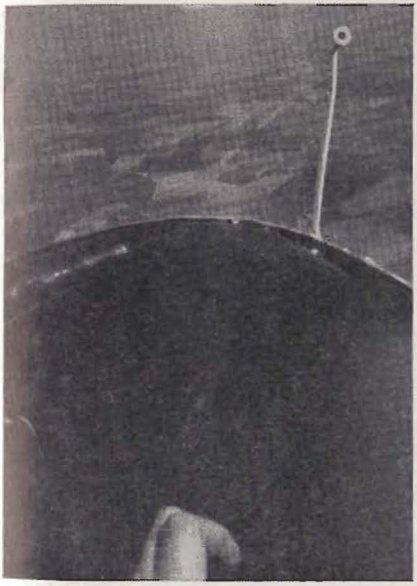


Fig. 1

Instrument presentation in current practice is designed for maximum visibility when flying at night; however, for sailplane purposes there is obviously not much point in this arrangement. In Fig. 1 the relative brightness of panel and landscape is about 1 to 1,000. Each time one glances in at one's instruments, one's pupils must enlarge to accommodate for the change in illumination, and after a long flight they must have done the equivalent exercise of several

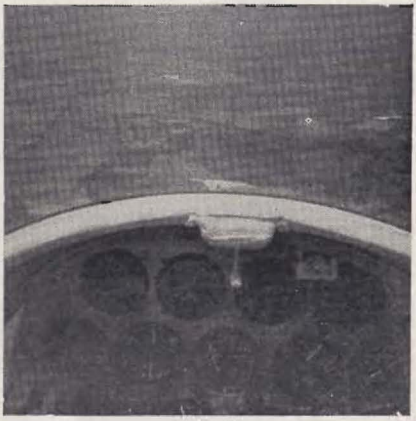


Fig. 2

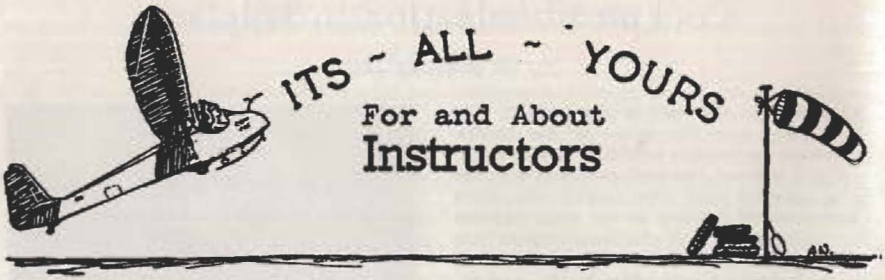
thousand press-ups; no wonder they feel tired!

Apart from the photographic and visual fatigue advantages, Ken Fripp states that it is very useful for maintenance work since a car's headlights trained on the nose illiminate the insides very effectively at night.

The two views, which I'm sure have been recognised by all readers, were Lasham and Basingstoke (Park Prewitt in the background).



Fig. 3



THE CAPSTAN

BY next spring, all being well, a T-49 Capstan two-seater will be available to the British Gliding Association for the primary purpose of teaching and testing instructors. Details are at present being worked out as to how to obtain the greatest benefit from this valuable aircraft; the full scheme will be circulated to all C.F.I.'s, who will be invited to comment.

It is expected that the Capstan will spend most of its time visiting all parts of the country and as many clubs as possible, as well as roosting for about three months in one place for a series of instructor courses. It is hoped also to run a few cross-country soaring courses for instructors who have not the facilities to get this sort of flying in their own clubs.

TWIN LAUNCHING

HERE is an account I have received of an accident in which two club members were launched by a disused cable which was crossed with the live one:—

"The dead cable was lying to one side of the one in use with its end behind the glider being launched. Its position was known to the signaller and the other injured party who had given it, as they thought, sufficient clearance. When the glider took off, the other cable went with it as well. No-one noticed this except one young lad who shouted, 'look out,' or words to that effect, but he was too far away to be heard.

"Unfortunately the spare cable drifted sideways over the ground towards the two people (this drift was away from the glider) who were struck by the opened parachute, which caused them both injuries needing hospital attention. (The signaller was launched from four feet and then dropped on his head.)

"The cables were crossed because they were towed out on a slightly curving path, and when the slack was taken up, the cable on the outside of the curve straightened, thus crossing the inner one. The retrieve car driver did in fact drive down the length of the cables before the launch took place, and found that before the launch they were not crossed.

"Points to be learned from this unhappy incident are:—

"1. Make sure that the cable retriever knows he must follow an absolutely straight track between winches and glider.

"2. If the cable retriever suspects all is not well the cables must be towed apart and the pilot informed so that he can climb away from the other cable.

"3. Always keep well away from disused cables and watch them when a launch is taking place. It is interesting to note that in this case the cable drifted *away* from the launch line although the wind was calm. This drift was probably caused by the parachute and needs to be borne in mind when standing near by.

"4. It is essential to teach people that anyone can stop a launch by shouting 'STOP' as loudly as possible, if he is not satisfied with its progress. The rule should be, shout first and ask questions afterwards."

Comment: surely the vital thing is never to tow out one cable further than the other.

THOSE AILERONS

TWO cases have now occurred when gliders have taken off with their ailerons disconnected. In both the gliders were broken, and it was due only to considerable good fortune that disaster did not result.

The alarming aspect of both accidents was that, due to the aileron push rod getting hooked up with the forked lever, nothing wrong showed up on control check.

Both gliders were aero-towed, and the push rod did not become free until 200 ft. in one case, and nearly 1,500 in the other—aileron control existing up to these heights.

Mistakes in rigging are most likely to happen when this is done in a hurry, and as a consequence the jobs of rigging and inspection are combined. A safer method is to rig the whole aircraft and then become an inspector, systematically checking all the rigging points by pushing and pulling as well as looking. Each glider could well possess a permanent rigging card, which is used as a check to complete rigging *before* the normal D.I. is carried out.

Finally, control checks should always be made to ensure that *full* and free movement in the correct sense exists for each control surface separately, the pilot making a conscious effort to prove that the controls are not merely temporarily hooked up on each other.

ANN WELCH.

A Pupil's Comments on Instructors

by "Daisy"

(It's All Yours is for and ABOUT instructors. In the following article a pupil produces a few home truths. Is anyone's face red?)

A GREAT deal of amusement is derived from the misdeeds and misfortunes of ab-initio pupils, whose early flying days seem to consist largely of speed-dropping, wing-dropping and clanger-dropping.

Being one of these unfortunate individuals myself, I would like to make a plea that all is not quite as it should be on the instructors' side either. I have no real qualifications for writing this article; but I consider myself to be a very experienced two-seater pilot, having taken longer to go solo than anyone else I know. Thus I have been passed from instructor to instructor, and have been the trial and tribulation of them all.

There is no particular order in this article; I have just written down, as they came into my mind, some of the unfortunate characteristics of a few sub-standard instructors I have met.

I will begin with a type of instructor who infuriates me above all others, and that is the menace who cannot bear to let the stick out of his hand for a moment. This is not the complaint of a pupil who resents his instructor doing some of the flying. There are many good reasons for his taking over control, and on these occasions no pupil in his right mind would object. Maybe the instructor wants to demonstrate a particular manoeuvre, or he wishes to take full advantage of a thermal so that the pupil will have more height to learn with afterwards; or it may be an emergency. But once he has said, "She's all yours," yours she should be. There should never be any doubt as to who is in control.

At the same time there is no harm in the instructor "following his pupil through" on the controls, if that gives him a better idea of how they are being handled. The important thing is that he should not interfere with his pupil's flying. We fly with our senses—sight, hearing and touch (and sometimes smell!)—and if any of these senses is impaired in any way, our flying is bound to suffer. Through the stick we feel the reactions between the glider and the air. The stick should tell the pupil what the aircraft is doing, *not* what the man in the next seat is doing. If the pupil is flying badly, but there is no immediate danger, the instructor should make verbal criticism of the flying. If the pupil is flying unnecessarily fast, for instance, the instructor must tell him so. He will do no good by pulling back on the stick and saying nothing.

The instructor who persists, out of sheer bloody-mindedness or what-you-will, in hanging on to the controls, is doing his pupil no good whatever, and is wasting his money into the bargain.

I have often wondered why an instructor should be so reluctant to let go of the stick. Maybe he just hasn't flown for a long time, and he feels hard done by as a passenger. This is a very sad state of affairs, but it is a sacrifice which many instructors have to make. They can't be flying and instructing at the same time.

There is, however, one way of making this kind of man see reason. A fellow-pupil

PEACE ON EARTH



Christmas Eve—and a child dreams of the excitement to come. Gaily wrapped parcels, cheerful crackers the tinsel-strewn tree. Won't you help us to make that dream a reality for all the children in our care? At this the season of goodwill we ask you to be especially generous so that they, too, will enjoy a Happy Christmas. Don't let us disappoint them.

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DR. BARNARDO'S HOMES

150 Barnardo House, Stepney Causeway, London, E.1.

1856

of mine told his instructor that by all means he could do all the flying if he wanted to, but he could pay for it as well.

The more likely explanation of the "stick-hanger-on-er" is that he is scared stiff. Here I sympathise very deeply. I should be very scared myself of being flown around by a two-seater pupil; but, after all, instructors should be made of sterner stuff. It is their business to know just what liberties a pupil may take with a glider before the situation becomes critical. If an instructor is nervous *all* the time, he not only lacks confidence in his pupil, but also confidence in himself.

A third possible explanation of this worthless type of individual is that he feels he could fly the thing so much better himself. No doubt he could! But if that is his attitude he has no right to be sitting in the other seat.

When a pupil finds himself flying with a "stick-hanger-on-er" there are two courses of action open to him. If he likes, he can let go of the controls completely, and see if the instructor notices. If he doesn't, the pupil will get a very favourable write-up in his log book.

The other alternative is to fight the instructor. Towards the end of my dual training I flew with one of these characters. Although he made no verbal criticism of my flying, we had been having arguments with the stick throughout the flight, which was very irritating. Then as I was preparing for the final approach, the stick became held in a vice. This made me really mad, and throughout the approach until just before touch-down I was shaking the stick about violently, to try and throw the instructor's hand off it. This reckless performance raised no comment at all from the next seat. The remarks put in my log book read simply: "hill-soaring O.K., approach and landing fairly good." My own comments read: "My first flight with Blank; and my last. A complete and utter waste of time."

Before leaving this subject, I would like to say how much I admire the instructor who leaves his pupil to deal with minor emergencies unaided. This must take considerable restraint at times, and is a challenge to the instructor's ability to assess a situation quickly. If the instructor leaves it to the pupil for as long as he thinks safe he will gain invaluable knowledge about the pupil's reactions to nasty surprises. If the emergency was brought about by bad airmanship on the part of the pupil, this is

also a way of teaching him a memorable lesson. When all is said and done, experience is the only real instructor. But better by far to have one's first bad experiences while there is still somebody near by to help if necessary.

I will now turn to my next topic, which is centred around the fact that the many circuits required of a pupil in his dual training have a purpose, and that is to develop his judgment. I was therefore very surprised to come across an instructor who taught his pupils to fly their circuits entirely by the altimeter even at low altitudes, and he never thought to suggest that visual comparisons could be made at the same time. This is no way to develop good judgment, although some concentrated instrument-watching might succeed in developing sore eyes.

I have always understood that a perfect circuit is one so judged that the aircraft arrives on its approach path with the right amount of speed and height to make a good landing. But I have never heard any rules about the shape of a perfect circuit, except that if one turns left at the top of the launch one should continue to make a left-handed circuit. And yet the unhappy instructor of whom I am writing believes that a perfect circuit should be perfectly and geometrically square. Furthermore, he believed that it should always be of the same size, and that the four corners of the circuit should always occur at the same height, above his favourite landmarks. Faced with the impossible, you might expect this instructor to be a bundle of nerves. But his calm expressionless face dispels any such belief. Probably he hasn't got any nerves to lose.

This man can easily be identified on the flying field, for he will be seen to take his pupil aside and ask him to watch a short demonstration. He will then break into an odd little dance. He begins by counting out so many paces forward, coming to a halt, and then declaring his height. After a pause he will incline his head to the left, turn through 90° and once more start counting out paces. When he has repeated this four times he will declare that he has no height left.

You may catch him still counting out his paces as he walks into the bar, and if you watch closely while he drinks that pint of beer, you may notice that his neck has a decided left-hand kink in it. Here I will leave our poor unfortunate, and turn my attention to a character about whom it is much easier to be rude.

This is the man who is rude to everybody else. He steams around the sky, leaving behind him a slip-stream of bad language. When he is instructing he swears at his pupils with such vigour that the people on the ground hear every word. His methods of intimidation are not to be recommended; my message to any such instructor is: "If you've got a big mouth, shut it."

I have a small grumble about instructors who never stop talking, although their pupils are trying hard to concentrate on their flying. Perhaps this is a subtle test, to see how easily a pupil can be distracted! I once spent half-an-hour hill-soaring with an instructor who talked the whole time about circuit-planning. His advice would have been very useful had it been given on some more suitable occasion, but hill-soaring is a full-time occupation, especially on busy days.

A pupil cannot have all his training given him in the air: he must have verbal instruction on the ground. For this reason I would like to commend the thoughtfulness of the instructor who takes aside one or two pupils, perhaps over tea, and tests them on the things they ought to know and understand. This will unearth a great many difficulties.

My remarks in this article have on the whole been harsh, unkind and rude. I must therefore stress the fact that my adverse comments are directed at a very small minority of instructors. By far the greater number of them are good chaps, who deserve every encouragement. In fact, my one request to them is that they should never despair of us, their pupils, however hard a trial we may be.

Ode to an Instructor

Dear Instructor, make yourself to me
An oracle of great clarity.
In the T-21 make your vision keen
To the other kites I've never seen.
Always near, always nigh,
Or under the earth we're likely to lie.
For, O Instructor, I'm so mad;
It will be the jolliest flight you've ever had.
So, dear Instructor, be always near,
Then you and I need never fear.

IRENE BOWER, W.R.A.F.,
East Midlands G.C.

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BOOK REVIEWS

Where No Birds Fly, by PHILIP WILLS. Published 1961 by George Newnes, London. Price 21s.

FEW pilots seem able to put into words the many emotions which a pilot feels when he flies. Philip Wills is undoubtedly one who can, and his latest book, "Where No Birds Fly", gives proof positive. It is a worthy successor to "On Being a Bird" and will, I am sure, convince many "doubting Johnnies" on the fascinating aspects of our sport.

Philip describes many of his flights in different parts of the world. Flights, though previously recorded, when published as a collection are tremendously stimulating. To use a sentence from Peter Scott's foreword: "Gliding can bring on occasions a black despair, but on others a glorious glow of achievement".

In the book there is a remarkable chapter entitled "Us". It tempts me to ask Philip: "When will you write a full autobiography? An account of your early days in flying, rebuilding the British Gliding Association, your wartime work with Air Transport Auxiliary, to mention but a few highlights of your career?" Philip is not only the finest pilot we have ever produced, but he is surely the hardest working and most successful administrator any sport has ever had.

I once met a man who shared a room with Philip during his school days at Harrow. He told me that at one period Philip built himself a crystal radio set and would spend many hours trying to make it work. He said that, even at that early age, Philip refused to be beaten, and his tenacity and perseverance impressed him tremendously.

When you have read "Where No Birds Fly", as I know you will, you, too, will see how Philip Wills reached the top. It is a study of single-mindedness of purpose, and one which I recommend to all glider pilots, as they will undoubtedly benefit from it.

W.A.H.K.

Dying High, by AVON CURRY. Published by W. H. Allen, London. Price 12s. 6d.

A NEW epoch in the history of gliding has dawned. We glider pilots are no longer the lunatic fringe of society! "Nothing stirred the quiet rythm of the peaceful little club tucked in a fold of the North Downs until . . .", etc.

Now gliding is just a background for the real things of life, such as murder, sabotage, suicide and jealous hatreds. This book, "Dying High", has a good typical "who dun it" plot, set in an imaginary gliding club somewhere near London. A pilot has been killed by diving his glider into a barn. His girl friend is convinced that such an expert pilot could not have met his end this way unless the machine had been sabotaged.

If you like crime thrillers you will certainly enjoy this book. If you want gliding better known as a sport to the great public, books like this are as good a way as any. But if you are saddened by the vulgar popularisation of your sport, I fear it is too late to go back, and you will have to take up balloon hopping!

A. E. C. RUSSELL.

Correspondence

SUGGESTED CHANGES IN F.A.I. RULES

Dear Sir,

I agree with Peter Scott's letter in the October issue in one respect only. The rule concerning the "point of origin" as applied to triangle flights should be made to cover distance, goal and out-and-return flights also. This would clarify the confusion of "point of release" and bring the rules for the various tasks more in line.

My suggestion here is that the rules should allow the pilot to release with the required 1 kilometre of the nominated point of origin, or, if he has released too far away, be allowed to cross it after release at not more than 1,000 metres, etc. This would make it possible to be aero-towed for an early start on an out-and-return, where you release in some source of lift more than 1 km. away and try to hang on until the thermals pop and the time comes to go. You may not be able to land in the vicinity of the release, or stay airborne, unless you release where you did.

The rules as they now are were made before aero-towing was universally used. A release point observed only by the tug pilot is not, due to circumstances, accurate enough.

Now as to overflying your goal. Certainly you may do this. It is for the pilot to decide. If he arrives at the goal too early he curses himself for having made it too near. If his goal gives him a Diamond or a record, he lands. If he goes on he could achieve a Distance Diamond or record. But obviously he cannot and may not claim both. (Similarly if for an out-and-return or a triangle.) What would happen if you go on and fall short of the distance claim? Do you then meekly come back and say: "Please, Sir, I miscalculated, but may I now claim the lesser task?"

The fascination of the sport is exactly that, that you should accurately assess the whole situation and accomplish the ultimate which is possible as you see it before you start and not after the flight is nearly over.

The same remarks apply to dog-leg flights. These could be very fascinating if you accomplish them exactly as planned and declared. But what art is there in hareing off to some unstated point until blocked by the weather, taking a quick photo of the terrain and dashing off to the next best point as dictated by conditions as you find them?

The rules, if changed as asked for by Peter Scott, must be changed for all: then how are the pilots of small land masses better able to hold their own? After all, it is not only a small land mass which makes gliding achievement unequal. There are things like the Sierra Nevada, Texas, and distances from poles or equators which are sent to try us.

E. DOMMISSE.

Pretoria, Republic of South Africa.

GULLS IN SHIP-THERMALS AND WAVES

Dear Sir,

I have never seen seagulls flying in the same manner as Mr. Shattock's rooks (October 1961, p. 313). I have, however, seen them soaring the thermals which came off the deck of a coasting ship. I have also seen them wave-soaring.

The thermalling took place about ten miles east of Aberdeen. The ship, about 180 ft. long by 27 ft. beam, was on a southerly course and the wind was about W. by N. There were some good solid-looking "cauliflowers" over the land, but they all broke up

on crossing the coast. The sky over the ship was clear and the wind fresh. There were the usual crowd of gulls slope-soaring the weather side of the ship and, about every twenty minutes or so, a few of them would start to circle and drift off downwind. Having reached between 100-200 ft. and being about half a mile away, they would all, within a few seconds, lose interest in the thermal—suggesting to me that the lift had failed. Some of them returned to us and some went to investigate other ships in the vicinity.

The wave-soaring took place on the south beach at Bridlington, and I must say they seemed to be totally unskilled at this form of exercise. The sea wall with the terracing above it and private hotels above that forms a "hill" of perhaps 150 ft. or maybe less. It was low water with the wind again about W. by N., a cold, fully overcast day in winter. The gulls were scavenging along the edge of the sea, about four or five hundred yards from the sea wall. Every now and again they would start to soar and rise to about twenty or thirty feet. They they appeared to lose all control and would descend, flapping wildly, to within a few feet of the water. Regaining control, they would be obliged to fly upwind again to reach the edge of the sea. This suggests that they had drifted back out of the lift, or off the top if it, into the associated downcurrent, and probably the soaring, as well as the descent, were completely unplanned. The lift seemed fairly steady, as birds were going up and coming down all the time I watched, about half an hour.

F. DAWSON.

London, S.E.3.

LIGHTNING DAMAGE

Sir,

From Mike Gee's and Anne Burns's accounts of being struck by lightning, the damage appears to take the form of the ply being blown outwards from within. Assuming this to be due to a large potential difference between the metal parts of the aircraft—control runs, etc.—and the cloud outside, one remedy would be to earth *all* metal parts together (including instruments), using suitable connections, which in some cases would have to be flexible and/or removable, and to connect them to a suitable wick in the airstream.

So much for the aircraft: however, the hazard to the pilot would be increased, since the potential difference between him and the controls would now be greater. Since he is essentially a lot of electrolyte in an insulated tank, it would not be sufficient merely to attach an earth wire to his wrist. The simplest remedy would be to clamp it to his tongue or run a probe up his nose.

As my ideas may not be entirely correct, in which case the pilot would now be somewhat vulnerable, it might be more practical to adopt the theoretically less satisfying course of dressing the pilot in rubber shoes, rubber gloves and rubberised flying suit. Perhaps some of our many gliding doctors may care to experiment ?

C. A. HELY-HUTCHINSON.

H.M.S. Dreadnought.

GATE-CRASHERS

Dear Sir,

Have you ever witnessed this scene? Two Instructors from different clubs are having a quiet beer when one remarks: "We had a chap, bent the Tutor—most stupid approach I've ever seen. Bloke called Ebenezer Plugworthy." "That was the Sierra Bravo that flew our Prefect into the windsock." How many of these people are there, going cheerfully from club to club, often claiming vast experience and then cheerfully breaking everything in sight?

Sir, in a few words, and in the accident reports in future, *I want names*. If somebody's dim enough to get out of an aircraft in half a gale to watch it blow over, I want to know who, because I'm not letting them near one of my club's aircraft. Not on your Nelly!

M. C. USHERWOOD.

Doncaster.

Unfortunately our correspondent's suggestion would defeat its own ends. Experience has shown that clubs will only send in accident reports if they are assured that the name of the club will not be published; and the name of the pilot would, of course, reveal the identity of the club. At present it is the almost invariable practice at clubs that visitors of unknown competence are sent up for a check flight with an Instructor before being allowed to fly solo.—ED.

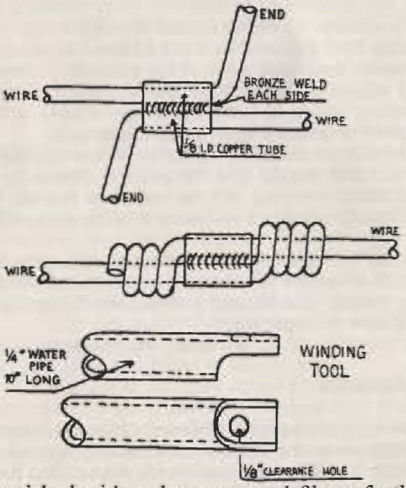
JOINING BROKEN PIANO WIRE

Dear Sir,

We have read with interest the various articles in SAILPLANE & GLIDING on the problems in finding a suitable joint for piano-wire winch cables. When our Club commenced flying some two years ago, we were restricted to winching only, using a winch fitted with piano wire and borrowed from a neighbouring Club who were then aero-towing. They had had a lot of trouble in finding a joint that would pass through the lead-in gear without causing a break, and, even more so, one that would not lock itself under a layer of wire on the drum. I might add that the winch has a fairly narrow drum and at that time had no laying-on gear, and the wire had a tendency to build up in the centre of the drum and then topple over.

The joint in use was simply to loop the two ends of the wire, one through the other, and roll the ends several times around the wire, thus making a flexible joint that stood up quite well to a large number of launches but had to be wrapped with insulation tape to overcome the tendency to catch under the rolls on the drum. Of course the tape wore rapidly and had to be replaced daily.

We tried various sleeves, etc., but all were too involved or required heavy tools to twist or crimp them onto the wire. Finally we tried passing the ends alongside each other and rolling them around the other wire. This made a neat join, but we soon found that one end would straighten and pull out, leaving the other nicely curled like a pig's tail. A little investigation soon showed that where the two ends were bent to begin the roll around the wire, a screwing effect was introduced so that one end simply screwed its way out. What was needed was something in between the two bends for the wire to pull against, and for this purpose a piece of flat copper was introduced, the ends being wrapped around the joint. This did the job, but the loading caused the ends of the copper strip to straighten out at right angles to the wire.



From there we got on to the sleeve still in use. It consists of commercial ¼-in. I.D. solid drawn copper tube. Two pieces 6 inches or so in length are laid side by side and bronzed on both sides to give a double-barrelled effect. This is then cut off in approximately ½-in. lengths. The ends of the wire are fed through the tube, one from either end, and bent at almost right angles. A tool simply made from a piece of ¼-in. water pipe is used to coil the wire ends around the wire for three turns. At this stage the outer side of the end being wound is nicked with a three-cornered file; a further slight turn of the tool then breaks off the end, leaving a neat finish with no protrusion. To hold the wire while twisting the tool, an ordinary pair of vice grips is clamped on the sleeve.

After considerable use the sleeve is found to become slightly twisted. The only odd failure so far is through the wire breaking at the first bend or occasionally unwinding and pulling out, perhaps through making a too accurate bend or in the second case not putting on sufficient turns.

11 or 12 S.W.G. wire fits neatly through the tube, but it is necessary to remove any rags and cut the wire ends cleanly. Certainly four items are required to make the joint: a good file, vice grips, winding tool and the sleeve. In our case we carry a supply of sleeves in the hollow handle of the tool. However, it does make a neat strong joint and above all requires no expensive materials.

It is not being used on a sealed runway, but I do not think it would wear even so. Or, if it did, I should imagine a lot of use could be had before replacement was necessary. I hope the foregoing may be of some use to Clubs who are having difficulties, and we would be most pleased to hear the opinions of anyone who tries the idea. CARL PERHAM.

Whakatane Gliding Club, N.Z.

THERMAL CENTRING USING WATER VAPOUR DETECTORS

Dear Sir,

Thermal "sniffers" using temperature heads on the wing tips have been disappointing for various reasons, as pointed out by Paul MacCready in the July 1961 issue of *Aero Revue*. Wet-bulb temperatures are hard to measure, and water content measured by a microwave refractometer is impracticable in a glider.

If a thin-walled porous pot is suddenly put into a moister atmosphere, the pressure will rise slightly within it as water molecules will diffuse inwards faster than the air molecules will diffuse out (water having the lower molecular weight). On this basis we could design two possible types of instrument. Firstly, we could have a porous diaphragm built flush into the side of the fuselage with the sealed cavity on the inside connected to a sensitive flow meter like that of a Cobb Slater or Horn variometer. This instrument would give a reading of the change of humidity encountered while passing through the air, and with suitable interpretation would be of use in thermal centering. Secondly, one could have streamlined unglazed porcelain porous pots at the wing tips connected by tubing connected differentially to the same kind of flow meter as before. Air in the system would now tend to flow away from the wing tip in the moistest air, giving an indication on the flow meter of the direction of best lift.

D. BRENNIG JAMES.

Marlow Common, Bucks.

CROWS IN THERMALS

Dear Sir,

I was most interested in I. H. Shattock's letter in the October issue concerning Rooks in Thermals. I was fascinated a few weeks ago to observe a similar performance near Dale in Pembrokeshire. About 50 Rooks were soaring in what must have been an extremely active upcurrent beneath cumulus and about 3 miles inland. The procedure was exactly as described by Mr. Shattock. After the Rooks reached an altitude of about twelve to fifteen hundred feet they closed their wings and dived vertically to earth again.

I have related this experience to several members of my Club, most of whom think I am pulling their legs. Perhaps they will now believe me!

Incidentally, I have also seen Buzzard Hawks doing chandelles and Ravens doing loops—but I had better not elaborate, otherwise my C.F.I. will ground me pending a psychiatrist's report!

GRAHAME BARRETT.

West Wales Gliding Club.

STIFFER LOG BOOKS

Dear Sir,

I was recently taking the opportunity, provided by a dense fog smothering the Long Mynd, to write up my previous flights during the Cambridge University Gliding Club's September Camp there. Alas, the writing up of gliding log books affords little pleasure. We pay four shillings for a B.G.A. log book which, in the form of a child's exercise book, could be purchased for a few pence at Woolworth's.

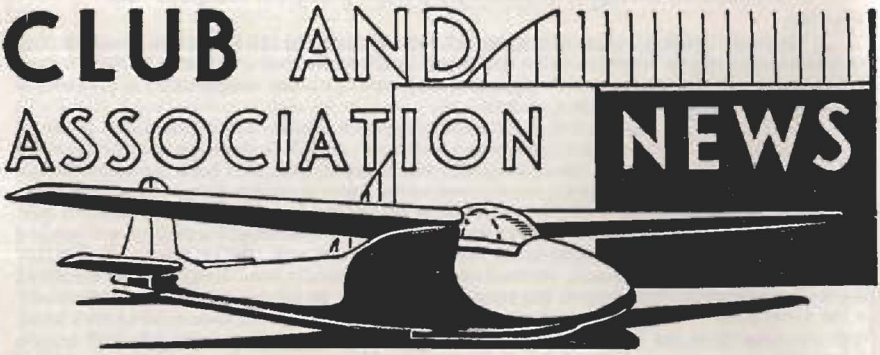
Surely there will be a great demand for a properly bound and stiff-covered book with the leaves sewn in. If such were available, the glider pilot's log book would then attain the status of that of the power pilot who regards his log book with such pride and affection.

P. O'DONALD.

ALBERT FALDERBAUM

A FANTASTIC aerobatic display in a Lo-100 sailplane will be remembered by all who attended last year's World Championships at Cologne. The pilot, Albert Falderbaum, had the misfortune to lose his life on 29th September near Augsburg, when his parachute failed to open after abandoning his light aeroplane in a spin. Falderbaum took up gliding at 14, soloed an aeroplane at 15, and won three consecutive German aerobatic championships in 1938, 1939 and 1960. His sailplane aerobatics always ended with a low upside-down beat-up of the airfield followed by a half-roll and landing. He was 48.

CLUB AND ASSOCIATION NEWS



THE coming festive season prompts me to mention a few of the Club Christmas Parties that I have heard about.

November 24th, Blackmore Vale Dinner in Blandford; 9th December, Essex Club Party; 16th December, Bristol Club Party; 20th December, Kronfeld Club Party.

We welcome to these columns for the first time a new R.A.F.G.S.A. Club, the Red Hand, at Ballykelly, Northern Ireland.

All that remains is for me to wish you all a very merry Christmas and good thermals in 1962, and thank you for your continued co-operation during the past year.

The final date for copy and photographs for the February issue is Wednesday, 13th December. Don't forget, copy must be typed, double-spaced on foolscap, and it does help a lot if you indicate the paragraphs you would wish cut first, and also the total number of words.

YVONNE BONHAM,
Association and Club News Editor.

ABERDEEN

IT is some considerable time since we last appeared in print, but we have been pressing on, and our most recent highlight was the completion by our Chairman, Gordon Whitehead, in the syndicate Weihe of his Silver C.

While at Portmoak, 5-hour legs were performed by Angus Macaulay, our C.F.I., in the Tutor and John Campbell in the Weihe. C's were gained by Robin McGregor, Allan Stewart, Ian Robertson and Lewis Mackay.

We would like to take this opportunity of thanking the S.G.U. for their hospitality to our members during both visits this year.

At our own site we are pleased to record solos by Joyce Smith, Archie Baird and Pat McCann, and to welcome back Harvey Pole after a lengthy absence.

Launches for the year have so far passed our previous best, and this is in some part due to the fully booked summer courses which everyone seemed to enjoy. Due credit must be paid to our three youngest members, Allan Middleton, Stuart Carrie and Robin McGregor, who must have amassed a record number of winch and jeep-driving hours during these courses.

To round off all this, five of our members have gained B.G.A. Instructors' categories.

F.C.M.

BLACKMORE VALE

WE have now flown over 1,000 launches since we started operating. A winch has appeared and has improved the height of our launches.

Most of our ex-power pilot members have now gone solo and these have now been followed by our first home-trained pupils, Ted Andrew, Pete Baxendine and Alan Palmer, going solo on the 15th of October.

A caravan on the field is proving very useful as a tea-shop, office and storm shelter, thanks to Martin Candy, who obtained and adapted it for us.

We now have our own hangar and

although it is a very tight "tailored" fit for the T-21 and Tutor, our aircraft are now safe.

Our first Club Dinner has been arranged for the 24th November in Blandford.

G.B.

BRISTOL

THE last issue went to press at a slightly inconvenient time to report on our week-end rally which was held at the beginning of September.

This was supported by twenty-one gliders which we felt was the maximum we could handle. The weather turned out to be highly anti-cyclonic; magnificent for sun bathing but useless for soaring and the farthest anybody got from the site was Cheltenham.

However, the barbecue on the Saturday night was very successful and a good social week-end was had by all. Many thanks to all the people who turned up to support the rally; we hope to see you all again at our next effort and will try to get a new piece of seaweed for the met. man.

The new Swallow is fully operational and is being well utilised.

The skeleton of a prehistoric glider of the Species Scud 3 has recently appeared in the hangar and is undergoing extensive renovation by a group of seven optimists.

There has been an increase in social activity in the Club recently, no doubt due to the reduced subscription for married couples; congratulations to Lucy Barlow and Ted Chubb on their recent engagement.

With the end of the soaring season, marked by a notable flight by Denis Corrick to Great Yarmouth (in the Skylark 2c) for Gold C distance and Diamond Goal, we are pressing on with the winter programme.

A surprising number of people have been seen overhauling vehicles, painting the hangar, rebuilding trailers and digging holes.

All this is excellent training for the party season, including the Christmas party on 16th December.

A.L.S.

CAMBRIDGE

NEVER before has the Cambridge University Gliding Club seen as much flying as in the academic year ending in September 1961. With a fleet of six club-operated sailplanes, of which only four were available most of the time, 1,300 flying hours were logged, 200 more than in any previous year.

The average time per launch, which was 10 minutes in 1951, has now risen to 17 minutes. There were 3,027 cross-country miles, more than twice the annual average of the last 10 years. True progress is reflected by the fact that over a third of the year's mileage was flown in closed circuits, i.e., in triangles and out-and-return flights.

A record number of 11 pilots completed their Silver C qualifications, and the total number of Silver C legs was 36, six more than last year. Three members gained Gold C legs, among them George Whitfield who completed his Gold Badge.

In July and August the Club held six Elementary Gliding Courses. The Course Secretary, Stanley Woolston, had his problems this year, for Bluebell, the Club's T-21, had "sloped off" for an extended holiday at Kirbymoorside. The Perkins Gliding Club came to our rescue by offering their T-21 for hire and everything went well.

The September Camp at the Long Mynd, which has become a regular feature, could have done with more west wind. Nevertheless, 113 hours were accumulated in hill lift, thermals and waves, and Ray Haddon managed his 5-hour flight.

One of the most exciting flights of the year was enjoyed by John Brenner in the Olympia on 20th August. In the late afternoon of this day, the sky over Cambridge invited the gliderman with an astounding display of wave clouds, a very rare sight in East Anglia.

From an aerotow to some generous altitude, John found wave lift at 5,000, 4,000 and 3,000 ft., where he maintained height for 15 minutes.

G.S.N.

CORNISH

ON the week-end 30th September-1st October we had a visit from B.B.C. Television. Although the weather was not co-operative for the whole week-end, the ridge worked powerfully on the Sunday afternoon.

Things have slowed down considerably now as the courses have finished at the end of a very busy summer. The Club members whose long range weather forecast—or chance—led them to course No. 17, did well as this course had 52 hours' flying including some wave flying. This wave is a rare one but one would expect it to be

rarer as our cliff faces out into the Atlantic.

We hope soon to see another glider flying from the site; a venerable Kite 1. If this machine achieves half of its Walter Mitty-like owner's daydreams it will do very well indeed. Another old-timer, the Avia, has now emerged from its ten plus with a superb finish and it will be interesting to see how these two aircraft compare in flight.

The Club is very sorry that Vic Prowse is leaving the district. Vic is not only a first-class instructor but a very popular member who used to write this column.

The Club wishes the rest of the gliding fraternity a very merry Christmas and a very soarable new year.

J.E.K.

COVENTRY

As the soaring season draws to a close we record what will almost certainly be the last cross-country of the year, Ivor Tarver's 4-hour "Cooks Tour" of all the local airfields.

Certificates were gained by G. Harvey, J. MacDonald and K. Hornby. Doug Findons gained his C in a ballasted T-21. Bill May did his 5 hours in the Club Olympia and Frank Neale his in a private Olympia, both on the Edgehill ridge.

Whilst the red Prefect was undergoing repairs at Kirbymoorside, her cream sister was sold to the Dumfries Gliding Club. The Ka-2b has been fitted into the training programme and most of our members are now used to her.

A ninety-year-old passenger had his first flight in the Ka-2b, to the accompanyment of pictures and paragraphs in the local press.

We appear to have passed the 1,000 cross-country miles mark this year by a comfortable margin. Stan Clarke, our tug-master, is hoping to do 1,000 aero-tows in the year, and thanks largely, we suspect, to his efforts, is threatening the Club with a small profit.

C.D.D.-J.

CROWN AGENTS (Lasham)

Since our last appearance in these pages we can claim an interesting season's record. One of the highlights was the experience of soaring the rare lee wave at Dunstable on Sunday, 9th April, to a height of 2,300 ft.

During July a week's course at Lasham was arranged for some of our members, and this was found so beneficial and enjoyable, despite indifferent weather, that another was fixed for October and proved equally successful.

The Swallow was taken to Cornwall in August and Charles Ogilvie (Nyasaland) obtained his C at Perranporth, as did "Steve" Harwood.

Other visitors from overseas during 1961 have been John Bristow and George Stables from Kenya, and Ralph Crates from Northern Nigeria, while "Sandy" Keay (also N. Nigeria) is expected home by the time these notes appear.

At the Dunstable aerobatic contest the Swallow was flown by four pilots. Humphry Dimock and Godfrey Harwood were not placed in the first five, but the latter is believed to be the first to make use of a smoke trail in these contests. J.E.G.H.

DERBY and LANCS.

A sign of approaching winter with its snowdrifts and clamp on the hill was the beginning of the social season with a fancy dress dance organised by the Social Committee on Saturday, 7th October.

This produced some splendid and improbable costumes ranging from Brian Holmes as a St. Trinianite to Harry Midwood as a sort of blue beer-drinking sausage.

Future winter seasons will be made more successful and comfortable by the conversion of the present aircraft workshop to a clubroom.

The workshop is to be moved to the hangar. This has been made possible by private owners having been persuaded to keep their gliders de-rigged in their trailers. Thus, in spite of the growing numbers of machines on the site, the hangar seems almost empty.

The latest arrival is a Skylark 3-F, bought by the old "Derwent" syndicate. "Derwent", an Olympia 2-B, has been taken over by Messrs. Wood, Harrison and Hare.

Since the last Club report, cross-countries have been few. Jose Newmark has been to Ludlow in the Club Skylark, Tom Smith to Ingoldmells in his Olympia, Paul Newmark to Swanton Morley in the Club Skylark, and Ron Allen to the East Coast in the Club Olympia.

The training programme has made a terrific spurt, however, and the following have flooded onto the Tutor list:—S. A. Pritchard, B. Holmes, P. B. Clark, H. A. Blomily, H. R. Chrichton, Ibberson, W. Kruger, C. Brown, I. Williams, G. Airey,

J. Browne, B. Young, K. Gregory, R. Orton and P. Street. F.D.W.

DEVON & SOMERSET (Dunkeswell)

By the end of September we had already reached our target of 5,000 launches for 1961 and weather permitting should achieve 6,000 launches and 650 hours by the year's end.

This year has produced six Silver C legs by members. Tony Lapham completed his Silver C with a climb to 6,000 ft., after many tries! Dave Minson gained height and distance in a flight to Alresford just short of Lasham.

Reg Chubb did his distance to Clevedon near Bristol, and John Hancock his into Dorset. John Fielden declared an out-and-return to Lasham and after arriving at Lasham in 2 hours was very unlucky to land at Chard, just 12 miles short of Dunkeswell, and a Gold C plus!

John Fielden has, during the last few months, been organising 6 a.m. starts on Sunday mornings for ab-initio pupils, taking advantage of the prevailing calm conditions. By limiting the number of persons to about six, a sensible number of launches per person can be given and our number of solos has risen considerably.

Thanks to the efforts of Hugh Stringer and some of our ladies the Club caravan is now in operation at the end of the runway, offering comfort and refreshment for all. It should do a roaring trade during the winter months. P.E.B.

DUMFRIES and DISTRICT (Townfoot)

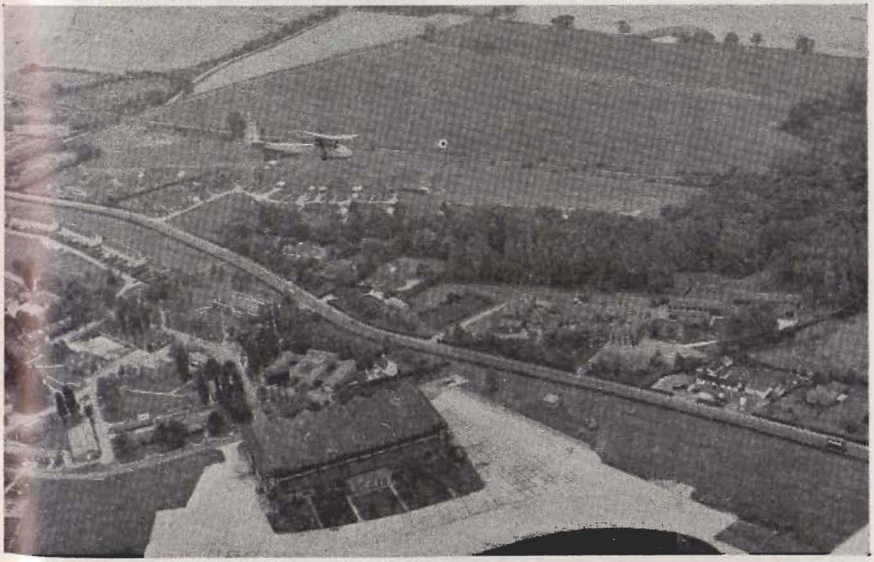
Flying has been fairly regular during the past two months and there have been some good hill-soaring days. George Binns and Jim McKinstray qualified for C's and Douglas Houston and Neville Gray got away solo.

We now have, thanks to Coventry, a syndicate Prefect and equipment is being gathered together ready for our first cross-country attempt.

There have been a few visitors at Townfoot but none have so far arrived by air—what about some of these goal flights we read about? G.J.K.

ESSEX

With nine first solos during the past two months we are beginning to see the fruits of our labours. The Tutor is taking



Essex Club's T-21B over North Weald, photographed from a Miles Messenger

Dec 1961

more of the load off the T-21 and we must now look to a second solo machine to keep these budding pundits happy.

Our winch, a Bedford truck conversion by our M.T. chief, Eric Pagram, has proved itself fully up to the job and construction of the second drum is under way.

Thanks to the enthusiasm of our members the necessity to rig and de-rig our gliders every day has not proved too much of a handicap, so that all in all our first few months of full operation have gone quite well.

With the able support from our members' wives we are installing a Tea-cum-Snack Bar at the Clubhouse.

Our first Christmas party takes place at the Clubhouse on Saturday, 9th December, when we welcome all members and their attachments. M.G.R.

KENT

WEST Malling has continued to produce good thermals and quite a lot of local soaring has been carried out in the Olympia and Prefect since August.

Ken Brissenden, who has worked so hard to get the winches and vehicles into first-class order, gained his C in the Prefect, and Ron Cousins also got a C only a fortnight after his first solo.

Bill Gartland has also made his first solo, and Don Connolly has achieved a B certificate having returned to Gliding 15 years after getting his A.

Roy Hubble spent 5 hours patrolling the cliffs at Perranporth in the Swallow while on holiday in Cornwall, and so completed his Silver C. Training is going on as busily as ever and the new flying progress books are proving a great success.

We were sorry to have to say goodbye recently to Commander Ted Rice, U.S.N. Finally, congratulations to Shirley and Denis Monckton on the birth of their daughter. P.B.

LAKES

WHILST, of course, the Lakes Gliding Club is still a small affair by comparison with many other clubs, the fact is that it continues to grow and develop, if not with spectacular speed then certainly with a steady realiability.

A new bird is now homing on the top fells. It is the privately-owned Kite which has recently been acquired by our Ground Engineer, Ernie Dodd, and his colleague, Gerry Wilson.

This now brings the number of gliders operating regularly from our site to five. These are made up of three Club and two private gliders.

Congratulations are heartily extended to Ann Taylor and Shirley Waid on being the first two lady members of the Club to solo.

Both these ladies achieved their success whilst on Courses at Dunstable and Cambridge respectively. We were interested to learn that Shirley's solos, of which there were five flights, were done in a Slingsby Swallow.

D.H.M.

LASHAM

THE news that we have at last secured a long lease of the airfield was reported in the last issue. The brief announcement gave little idea of the years of interminable negotiation that were required to ensure the future of Lasham.

The first evident result has been the transformation of the tattered and rusty remains of the old hangar to a gleaming red framework, soon to be covered with asbestos sheeting.

The next step is to put the finishing touches to Frank Kinder's clubhouse design; and also to deal with the small matter of raising the necessary X thousand pounds to build it with.

Notable flights made during the season have been reported in the various Club notes. Up to the middle of October we had done a total of 22,500 launches, this in spite of recent week-ends washed out by gales, rain or fog, the Autumn Competition week-end being one of these.

The proceedings were, however, enlivened by an early-morning fire in the clubhouse which, apart from disrupting the electricity, water, gas, telephone and beer supplies, did less damage than was at first

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NOT TO WORRY

Innocent Member (eager to learn): "What's the signal for a cable break?"

Duty Pilot (after making a few hasty runs of the field to repair the cable): "Don't worry; the instructor usually drops the knife and tape on the way past."

Dumfries & District G.C.

feared.

One of the features of this season has been the large number of glider pilots from all over the world who have flown at Lasham.

One recalls visitors from Australia, Poland, Ghana, Nigeria, U.S.A., Eire, France, Uganda, Belgium, New Zealand, Sweden, India, Norway, Germany, Holland, South Africa, Argentine, Canada, Tanganyika, Italy, Rhodesia, Switzerland and Iceland.

J.N.C.

LONDON

THE Dunstable wave came early with flights to over 4,500 ft. by Charles Ellis and Mike Fairman on the 20th of August.

Thermals returned on the 27th and took Guy Collinssplatt 60 miles home to tea in Denston, while John Argent's first cross-country of 100 miles followed his first solo by a mere six months. August's last noteworthy flight was John Cardiff's 100-km. out-and-return to Rushden on the 30th.

Early September brought a 100-km. triangle by S. Beck in the Sky and 108 miles by A. Tarnow in the Skylark 2.

The T-21c has joined the fleet after successful airworthiness tests. This and the Eagle should get higher launches from the new 120-h.p. winch now under construction

The private fleet booms. Tom Zealley has imported a KA-6 from Finland, while two new KA-6's and a 460 are on order. The B.E.A. Club took over the KA-7 and Frank Pozerskis has brought in an Eagle from Northampton.

For the fifth year in succession the sun shone on the Aerobatic Contest on the 24th September, which event is fully reported elsewhere in this issue.

M.B.

MIDLAND

AFTER many years as C.F.I., John Hickling resigned in August. We all wish to give him our sincere thanks for the sterling service which he has rendered the Club during those years. Keith Mansell takes over as C.F.I. and has Norman Groucutt as his deputy.

With the weather continuing to treat us kindly we expect to exceed 3,000 hours and 11,000 launches before the end of the year. Although we seem to be a little down on cross-country mileage this year, Norman Groucutt, Cecil Reilly and Norman Spencer have completed their Silver C's with distance legs and many 5-hour legs have been flown.

Two T-42 flights on 20th August made contact with good wave conditions. The first flight by Wilbur Wright and Keith Mansell reached 9,000 ft. a.s.l. from an aero-tow to 3,300 ft. a.s.l. over Bishops Castle and was followed by a similar flight by Cecil Greenhill and Stephen Wills.

By way of contrast the SG-38 has been flown on several week-ends and pilots have produced an interesting variety of circuits from 600-ft. launches.

Another Course Season has been satisfactorily completed and we take this opportunity of extending our gratitude to our resident instructor, Jack Minshall, and his band of Club instructors and winch drivers for the flying side, to our Ground Engineer, Teddy Proll, for tending the aircraft's needs and to the "Fairies" for providing sustenance.

Yet another bachelor bit the dust on 7th October. This time David Benton, to whom, with his wife Mary, we extend our best wishes for the future.

The Army Gliding Club intends to winter a Skylark with us and hopes to run its "Wave Safari" on the Mynd after Christmas.

K.R.M.

NEWCASTLE

DURING the past year's operations the training of new members had to be combined with site familiarisation and exploration.

Since July, large areas having been cleared and levelled, the number of launches possible per day has doubled and the morale of Club members trebled.

After a long period which produced no certificates, the new members who had kept coming regardless of frustrations, began to go solo and old established Tutor pilots converted to the Olympia.

Soaring winds (N.W. to N.E.) have been scarce, but S.W. winds have produced remarkable and varied amounts of wave soaring. Unfortunately, the weather pattern over July and August produced relatively few good thermal days and over 3,000 ft gains have been rare.

The first C certificates at Carlton were gained in hill lift by Messrs. Carr, Roland and Storey, while Gordon Revell used a weak October wave to good effect to gain his C after 20 minutes.

The T-21 surprised George Carr and Allan Pratt by rocketing them to 12,500 ft. a.s.l. at 600 ft. per minute. They were flying

BRITAIN'S FINEST SOARING SITE

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1,400 ft. a.s.l.

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Good food Bar

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Subscription £9 Entrance fee £3

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RESIDENTIAL SUMMER COURSES

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virtually hands off for 75 per cent of the climb in the smoothest of late August waves.

We were visited by Philip Wills and Kitty in October.

Looking forward to 1962, the Club should be fully operational, with Club aircraft at last breaking the monopoly of cross-country flying, which has in the past been held by the private owner members.

A.P.

NORFOLK & NORWICH

THE Warminger Trophy, which is to be awarded each year for the longest cross-country flight made from an airfield in Norfolk, will this year be awarded to Ian Strachen—of the Fenland Gliding Club—for a flight of 183 miles.

We welcome to our Club Chris Delf and also Barry Goldbrough. T. Daniel has obtained his C with a flight of 40 minutes in the Club Olympia.

From the Flying Committee of the Norfolk and Norwich Aero Club, a Gliding Committee has been formed, headed by the Chairman, A. Warminger; C.F.I., W. Reekie; and Secretary, P. Salmon.

At the Air Centre in Norwich, a Quiz on the lines of "Ask Me Another" was held on Thursday, 12th October, between the Norfolk Gliding Club and the Norfolk and Norwich Aero Club (Gliding Section).

This evening was greatly enjoyed by all who attended, and was the first of our regular Thursday evening events, which will be held throughout the Winter. A hearty invitation is open to everyone who would like to come along.

J.A.V.

OXFORD

THE pattern of the early months of the year has been characteristic of the whole season, for we have continued to lose flying days through bad weather and this, and a broken Olympia, put our launches to the end of October down by 800 and flying time by 60 hours.

It is interesting to note, however, that the average flight time for all aircraft rose from 11.5 to 13 minutes and No. 63 (ex-Mudlark) has contributed over 90 hours of week-end flying between joining us late in May and retiring to roost at the end of October.

To successes already reported must be added the result of a search for distance in France by the Skylark 3B syndicate in which they were joined by Chris Hurst and the unsuppressable R. S.-J.

The highlights of two very successful weeks were John Matheson, 150 km. in the Skylark, Raymond Salisbury-Jones, 170 km. in a C.310, John McKenzie, 220 km. in the Skylark, Chris, 260 km. in a Breguet 901, and 315 km. from Beynes to St. Yan by Malcolm Laurie in the 3B in 7 hours with a final glide in the best Piggott-Goodhart tradition for our first Diamond.

At home, Malcolm Roberts in No. 63 claimed a smaller but equally bright glory with our first Silver C Triangle for several years.

Planned many weeks ahead, the flight—Bicester-Oxford-Bicester with take-off and landing at Weston-on-the-Green—was attempted only on a day suited to the task and completed with a fair margin at each turning point. A creditable performance at a cost of less than 50/-.

Aerial photography obviously has its own complications, but if turning points with a distinctive feature are chosen they are not difficult to identify from photographs of poor quality even if the camera accidentally gets itself focused on 4 ft., whilst an observer with just a little time to spare will be rewarded by a map-reading exercise in the field which is both interesting and rewarding.

To wind up the season John Adams flew No. 120 to 9,000 ft. but, alas, the barograph trace is no more.

L.A.S.

SCOTTISH

WITH the completion of our 1961 Summer season, it has been noted that the Clubhouse has considerably changed S.G.U. members' habits and social activities.

Our redoubtable Chairman, aided by Mabel Ritchie and others, have organised a series of Saturday night parties which have brought new life to our ageing directors.

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After six months of operation the Clubhouse is showing a reasonable level of profit and under the supervision of Frank and Tibby Ireland it has blossomed into another established part of the Club.

The flying records, despite the difficult summer, show considerable improvement over 1960. In fact, by late September, the 1960 totals had been exceeded.

Our best day of September (24th), despite an 11.30 a.m. start, logged a near record: 38 hours soaring. On this day three visitors logged 5-hour legs and one Silver C height. This season's visitors have logged a large number of Silver C legs, principally Duration and Height.

Probably the best Club effort of the Summer was Andrew Thorburn's three Gold C Heights in one day (4th July). The first two were obtained on training flights (Course No. 5) in a T-21B and the third in a Skylark 2 to a height of 16,200 ft.

Another unusual flight was that of Bill Lawson in the Tiger Moth when he thermalled from 1,800 ft. to 2,800 ft. with engine revs. at 1,400 and his "Cosim" showing 10 ft./sec. up. He promptly landed and hauled out his Eagle to do some "sailplane-type" flying—this flight was also on the 24th September.

Visitors to the Club during the latter part of the Summer have included Fred Slingsby, H. N. "Doc" Gregg (Coventry), Trevor Taylor (Australia), Lt. J. Williams and F./O. David Innes (Army G.C., Lossiemouth), and a large party of our old friends from the Aberdeen G.C.

Recent additions to Club ground equipment have been two ex-R.A.F. winches in good order, and within the next few weeks another Tutor should appear.

Negotiations have almost been completed for the purchase of a further 12 acres of ground at the S.W. end, making launches in the S.-S.W. directions of the airfield possible. (The "pole" will be resited).

We are pleased to note that the matrimonial agency is still functioning and it seems that the Instructors are the main targets. Our best wishes go to F./Lt. Don Holliday and his co-pilot, Betty-Jean, and to another Instructor, Bob Porteous, who was married earlier in the Autumn.

W.A.S.

SOUTHDOWN

THE Tutor is now back in service after its "10-year" inspection and has been flown by an extra keen crowd of pilots this season, including Heesom, Tinning, John Lloyd, John Kelly, George Goffin and Derek Holland, who all soloed during the Summer.

Tony Perris and John Heesom gained their C's. Fred Wilson has also had his Grunau flying on a number of week-ends.

Our "away" Olympia has proved extremely popular with members and has been hired for almost every week-end since Easter, including several holiday weeks and two competition weeks.

Congratulations to Eric Jarvis and Ken Perelli, who completed their Silver C's. Eric with his height and Ken with a flight to Beeston Regis from Tibenham, having on the previous two days flown to Bury St. Edmunds and Great Ashfield.

There have been so many people converting to the Olympia, I hope I have recollected them all: Les Allard, our Chairman, Peter Henderson, Jim Tucker, Fred Wilson and Dickie Reed.

We wish to thank the Norfolk Club for allowing us the use of their facilities in basing one of our aircraft at their site for the season.

On the instructing side we now have two more categorised instructors, Ron Walker and Peter Staff.

P.W.

SWINDON

AT our last census we were surprised to find that half of our members were solo and over a third had progressed to the Olympia. One energetic member had soloed within three months and another had soloed and converted to the Olympia within 12 months.

Our Instructor situation has improved somewhat but experienced pilots are still more than welcome. The Country and Syndicate Membership Subscription remains at £2 2s. (plus £2 2s. entrance fee) in the hope that energetic pioneers will join us from afar.

At the moment we are fiercely debating our expansion policy and are open to offers of second-hand intermediate solo machines or high performance two-seaters.

We have welcomed visitors from Lasham, Nympsfield, Northampton, Coventry and Upavon, and have scattered ourselves around the various clubs in the summer. The first Saturday of the month is a Club social evening, so join us if you are ever in the vicinity.

B.D.S.

WEST WALES

DURING the second week in September the Midland Gliding Club very kindly allowed us the use of their Auster tugmaster which was flown by Peter Wullff.

Lloyd Edwards, Club Chairman, was the first to complete his C certificate, and C. Yarde soloed after only 27 trips in the T-21.

Exploration of nearby hills is planned within the next month, which we hope to do in co-operation with the Swansea Club.

A.R.S.

YORKSHIRE

THE latter part of the year is always one of reflection. We have taken advantage of the wave conditions that were unusually frequent this year. The most recent wave occurred on 27th August, when five aircraft soared. Douglas Collinson, David Rennison and Chris Riddell all reached over 8,000 ft. a.s.l. in a very slow climb which was easily missed. Time prevented further use of the conditions, for all the pilots landed at dusk.

The Club was well represented in the Northern Gliding Meeting at Camphill. Three aircraft took part and the six pilots competing all enjoyed excellent flying and the first rate hospitality of the Derby & Lancs. Club.

Both Ritchie Pick and Chris Riddell went their best distances to date. Ritchie managed 160 miles and Chris survived to reach his goal at Lympne for his Gold and Diamond. The first in the Yorkshire Club.

The Club Open Day on 17th September was successful in raising £100 towards our Clubhouse Fund. We took the opportunity



Photo by J. Denton Robinson

to fly in formation on the Hill and to carry out endless loops for the 5,000 or so people there.

Ten of our members have satisfied the C.F.I. on their written examination for the C and can now wear the award. Pat Simpson was one of these and is the first Air Ranger to ger her C. She is also one of the youngest members in the Club.

The heartiest good wishes of all members go out to Sue De Little and Henry Doktor, our resident Instructor, on their engagement. We wish them every happiness.

C.R.

SERVICE NEWS

ARMY G. A.

AT this time of the year most of us are more concerned with next season and our hopes for it being good than with the year that is almost past. It is for this reason that these notes appear under our Association heading rather than that of the ub at Lasham.

Very shortly we hope to have a new club operating at Netheravon. Initially it will work at week-ends only and possibly on Wednesday afternoons if there is enough support at that time. If we are able to arrange some one-week courses there next summer we will do so.

To start with, the new club will have two aircraft sent to it from our club at Lasham, the T-21B Rudolf and our Olympia 419. We are setting out to buy the aircraft which are needed to span the gap between these.

Eventuay well expect to have at Netheravon one or two Tutors, a Prefect or Grunau, and an Olympia 460. The launching equipment will be two Pfeifer winches with a tractor as cable retrieving vehicle.

This will mean that we will not have a T-21B at Lasham next year. We will be relying on the aircraft provided by the Lasham Gliding Society for initial training.

Our fleet there will consist of the Eagle, a Tutor, a Skylark 2 and a Skylark 3 until we can get more aircraft.

The ultimate holding of aircraft will depend a bit on what is available, but we hope to get up to two high performance 15 metre and another intermediate trainer in the course of next year.

The changes will involve some change of policy in the running of our club at Lasham. Up to now we have always encouraged our overseas and more distant members to come to Lasham on "ab initio" courses.

As soon as we can get these running at Netheravon we will encourage them to go there, and try to keep our aircraft at Lasham available for more advanced training and for those who live locally.

C.G.D.

BANNERDOWN (Colerne)

PROGRESS has been maintained and we logged 726 launches and 84 hours in August and September.

During the preceding two months we missed the presence of our C.F.I., Ed Meddings, who was driving Hastings aircraft in foreign parts. Two other friends the Perrins—pere et fils—have been posted to Harrogate. A sincere thank you to them both—they were gliding types in the real sense of the word.

We are glad to record A and B certificates by G. Millington, D. Werb and J. Whelan, and C's for R. Patterson and B. Chaplin. On 7th August Alan Yates declared Yarmouth and missed by only 30 miles. This effort brought forth a dramatic headline from our *Bath & Wiltshire Chronicle*—"Pilot's lone struggle amid clouds".

Our equipment has continued in full utilisation; the Austin 7 was broken up and a motorcycle substituted for cable retrieve. Subsequently, this caught fire and, pending its repair, a Morris Minor does good service. The Eon Baby is back from the menders after a heavy landing and is awaiting a major inspection.

During the period we have had a number of visitors. We are particularly glad to have Sqdn. Ldr. Mac. A. Bacon, Cpl. Bill Longley and Cpl. Warwick Fleming with us as members all of whom have wide gliding and instructor experience.

P.H.

CLEVELANDS (Leeming)

WITH the soaring season drawing rapidly to a close, plans are afoot for an interesting and instructive Winter programme. Our C.F.I., Flt. Lt. Dick Jones, will be giving a series of lectures and films on gliding will be shown when available.

Our "pet" wave visited us in September and the Skylark 3F rose to a dizzy 10,000 ft. Even the T-31 rose to the occasion (5,000 ft.).

We hope to explore our wave more fully as there does not appear to be much doubt that we at Leeming have first class wave conditions right on our "door-step". Both the Skylark 3F and Olympia are fully instrumented and equipped with oxygen.

Cpl. Bob Jeffrey, deputy C.F.I., has now left the R.A.F. and was presented with a suitably inscribed clock. Flt. Lt. Mike Lanng, our retiring Secretary, is replaced by Sqn. Ldr. Boyer, whom we welcome as a new member.

We "talk, eat and dream Gliding" at Leeming—all gliding types are assured of a most warm welcome—why not visit us?

R.F.P.

CRUSADERS (Cyprus)

SINCE we last wrote we are now sporting an almost complete fleet of gliders, having at long last received our long-awaited Swallow and T-21. Prior to its arrival out here, our Swallow was flown at the R.A.F.G.S.A.'s site at Crosby, in the course of which Flt. Lt. Roy Salmon, our Chairman, flew it 40 miles to gain his Silver C distance.

During our first week-end of operation with our new aircraft, a total of 3 hours soaring was attained, during which the Swallow, T-21 and T-31 were all airborne together.

Since then we have not had a non-soaring week-end and our Club record has been raised to 1 hour 1 minute by Gerry Kemp in the Swallow. Many other fine flights have been made, including a 27 minutes by Mac MacIntyre in the T-31.

Our founder members are thinning out now and in October we saw the departure for England of our hard-worked C.F.I., Chief Tech. Bill Owens. Together with Roy Salmon, Bill Owens was one of our original founder members and it is thanks to his hard work on both the flying and maintenance side that the Club is in its present position.

With the approach of the soaring season, everybody is looking forward to the cu-nims which hung about last year and already our more ambitious members have

visions of starting a milk-run to the other side of the island.

Flying at Akrotiri is still restricted to week-ends and holidays, so early starts are the usual order of the day and flying then carries on until dusk.

Our instructional programme is still pressing on and we now have two more ab-initios away solo and yet another C. This brings our total to date up to eight A and B's and two C's, all in seven months of two-seater operation on one auto-tow cable at an operational airfield.

We now have a Wild Winch about ready for operation but we still await the arrival of our Pfeifer winch which is in England at the moment. Finally, we would like to extend a welcome to any Serviceman passing through Cyprus to drop in for a chat, and maybe even a flight.

G.L.K.

EAST ANGLIAN (Duxford)

THE Club continues to grow with new members turning up every day. We welcome our American friends, Marty, Dinky and Jim Faulkener, from the U.S.A.F. base at Wethersfield.

Marty and Dinky have both soloed and gained their C certificates and Marty has since converted to the Eon Baby.

Congratulations to John Delafield on a Diamond goal and Mike Holloway on attaining Gold height.

Pete Dawson took the Skylark away on a Gold distance attempt, but fell out of the sky near Oxford.

Mo Dawson, Sue Stephens and Jim Morris all attempted Silver C distance in the Baby, but fell short. Al Whiffen made 50 kms. to Gt. Finborough, near Wattisham.

Quite a few C certificates have been gained: Tony Baylis gained his, also Tony Woodrow, Carol Binstead and John Glossop. Peter Poole and George Brown soloed and got their A and B.

We are very fortunate being able to fly seven days a week now that Duxford has closed down, and our launch rate has increased considerably.

Our C.F.I., Max Bacon, has left us and we thank him for all the work he has done in the Club. John Delafield takes over the C.F.I.'s duties.

A.H.W.

EAST YORKSHIRE

CAPT. Ott has replaced Bob Bowring, who has gone to Hornchurch.

The summer has been a constant battle against the weather, with soaring days few and far between. Les Manley has made several attempts at his Silver C cross-country leg.

Gp. Capt. Frogley succeeded in making two of his Silver C legs with a 5 hr. 38 min. flight, plus the necessary altitude and all within sight of the field.

Both the Olympia and Grunau now have barographs. Both winches are serviceable, the auto-tow Jaguar is ready to roll again, and aero-tows have begun.

We consider our "over 250" hours flying time this year with much satisfaction, as every minute must be fought for.

W.F.O.

FENLAND (Swanton Morley)

SINCE our move from Marham we have found Swanton Morley a first-class thermal site.

On 7th August, for instance, our four aircraft did 18 hours flying, the most remarkable flight being Jim Lawn's 3-hour Gull trip, in which he gained Silver height and landed near Yarmouth, some 48 km. *upwind* of Swanton.

This was Jim's first cross-country. Other Silver legs have been obtained by Ted Bensley, John Ross, John Andrews and Ivor Orrey.

Ivor did a smart 50-km. dash one week-day, parked the Oly then came back and retrieved himself! John Andrews, who has been gliding just a year, amassed 27 hours and is just about the ideal club member.

Pete Kevan has done stalwart work in organising things at Swanton, and he completed his Silver C earlier in the year. Ian Strachan has been re-categorised to A2, and has won the "Warminger Trophy" for his flight to Yeovilton in June.

A Merry Christmas to all, and best wishes to the Hill Sites for a successful wave season.

I.W.S.

FOUR COUNTIES

THOUGH we have not appeared in print for some time, the Club has nonetheless had a successful year.

In the Spring, John Bibb became the first of last Winter's large influx of new members to go solo, after which scarcely a week-end passed without another B or C. Congratulations to the 16 solos and the ten who gained their C.

Doreen Brooke, the C.F.I.'s wife, becomes the first lady to solo with the Club. The first award of the Tutor Pewter, presented by Stephen Hart for the best flight of the year by a Tutor pilot, has been made to Ian Smith, who reached 5,000 ft. on his C flight shortly after going solo.

Paul Lea, who joined us during the Summer from Moonrakers, has achieved the distinction in the Olympia of being the first Club member to get his 5 hours in thermals on the Club site.

Malcolm Gorley has been made an Instructor.

A.W.O.N.

HOME COUNTIES (Hornchurch)

We welcome John Langstrom who has transferred to us from Bicester to help with instructing. Dave Dennis has obtained his A and B and Gerry Doyle his C.

The Christmas party, our first venture of this nature, is being held early, on the 18th November.

Our fleet is being increased by the addition of a second two-seater, this time a T-31. The Cadet is at last getting a set of Tutor wings and our old, severely restricted, Grunau is being exchanged for a more worthy one. We have purchased a Ford van for use on the airfield.

This past twelve months has consolidated our position generally and shown that the Club is operating on a sound, firm basis and is still expanding steadily.

G.H.M.

R.A.F. COLLEGE (Cranwell)

A record number of hours have been flown. Several long local soaring trips were made during the Summer term, particularly by the two T-21's.

Two Silver C's were completed and two Silver C cross-country legs were achieved with flights from Cranwell to Manby and Skegness.

The Summer camp this year was held at R.A.F. Andover, and over 105 hours were logged. Several cadets qualified for their C's, but only one Silver C leg was achieved.

Other notable flights were 110 and 130 kms. in distance.

After this camp, four members took the Olympia to France, and during this visit two new College records were set up for cross-country triangular flights. In addition a straight-line distance of 200 kms. was flown.

Finally, another Silver C was completed here, bringing the number obtained during the Summer up to six, another College record.

THE RED HAND (Ballykelly)

At long last, in between fresh Atlantic depressions and the sound of multi-engined monsters flying, activities have started at Ballykelly.

The great day was 22nd July, when C.F.I. Pilot Officer John Prince and Flying Officer Pete Henderson took to the air in the Club rebuilt T-31 Mk. 3.

Although the Club has been formed since 1958 time has not been wasted and a sound backing of ground equipment has been steadily built up. Auto-towing is the standard method of launching and although the Club possesses a winch, it is unable to use it due to the continually waterlogged state of the grass areas.

In spite of continually bad weather the old T-31 has now chalked up over 300 launches and the first batch of members will soon be soloing.

Our fleet includes, besides the T-31, an ancient Mk. 1 which is in the rebuilding stage and a new Olympia due to arrive in the latter half of October. Plans are also afoot for the acquisition of a Kranich.

This being the only Service gliding club in Northern Ireland, membership is drawn from all three Services in the local area and the membership figure stands well into the forties.

With the arrival of the Olympia it is intended to operate on the nearby 1,200-ft. ridge and with the aid of aero-tow to contact the numerous, if not very high, waves often seen in this area.

We were sorry to say goodbye to our Chairman, Group Captain Armistead, recently. It was he who started the Club and held it together for the many months before flying took place. Our new Chairman is Group Captain Saxelby.

The Club would welcome gliding-type visitors who may be spending their holidays in Northern Ireland, with the warning to check for trains on the Belfast-Londonderry line (which crosses the runway) as they turn finals out over the water of Loch Foyle!

A.N.O.N.

WESSEX (Andover)

SEPTEMBER soaring started well with Sqn. Ldr. Carruthers flying a triangle for his 5 hrs., and Flt. Lt. Jankowski landed at R.A.F. Benson for his Silver C distance and height. Also on this day Sqn. Ldr. Kendell attempted a dogleg for Gold but landed at R.A.F. Wittering, a total of 138 miles.

Monday, 11th September, looked promising so Jean Letch and John Dabill decided to try for Silver distances. Jean landed at West Horsley, Surrey, thereby completing her Silver Badge, and John flew a good distance of 71 miles. Also on this day W.O. Kilburn flew 2½ hrs. local soaring in the Skylark.

One person soloed this month—M. Warren. A. Gover soared for 45 mins., thereby claiming his C certificate.

Ron Sandford entered the Nympsfield Week-end Rally with the Skylark, but due to poor weather no tasks were flown.

Sqn. Ldr. Carruthers completed his Silver C in October by a distance flight to Garsington, Oxon.

We are very sorry to lose Andy Gough, who is now posted to R.A.F. Bicester to start the new R.A.F. Gliding Centre there. Flt. Lt. Jankowski has now taken over as C.F.I. from Andy.

The standard of soaring has improved this season and a number of members have been converted to Olympia and Skylark.

J.L.

WINDRUSHERS (Bicester)

SOARING weather has been conspicuous by its absence recently and, with the season near its end, it would now seem that we can settle down to the old routine of "circuit bashing" for a few months.

Unfortunately, the enthusiasm of our beginners this year has not matched up to that of our more advanced pilots, as we have only produced a dozen or so C flights compared with some three dozen Silver C legs and nearly 3,000 cross-country miles.

We were honoured on 19th September by a visit from the Secretary of State for Air, the Rt. Hon. Julian Amery, and the Air Secretary, Air Chief Marshal Sir Theodore McEvoy, President of the R.A.F.G.S.A.

The Secretary of State enjoyed his first flights in gliders, piloted by our British Champion, Sgt. John Williamson; his introductory trip was an hour in the Eagle then, during a trip in the T-21, he took the controls for a short spell. Sgt. Andy Gough, who is now resident with us, gave a very spectacular aerobatic display in an Olympia.

At present we are all very busy preparing for our "Open Day" which is scheduled to take place on Sunday, 29th October. We have put on a rather ambitious programme, including an aerobatic competition for the Maygothling Cup.

OVERSEAS NEWS

CANADIAN HEIGHT RECORD

OVER the Canadian Thanksgiving holidays on 7th, 8th and 9th October, two local soaring pilots, Rudy Allemann and Ed McClanahan, trailered with their crews to Pincher Creek, Alberta, for attempts at high-altitude soaring in the Pincher Creek waves.

On Monday, 9th October, McClanahan reached an absolute altitude of 33,000 ft. plus (his barograph went off-scale) to exceed the existing Canadian altitude record of 30,630 ft. established by Julian Audette earlier this year.

We are rightfully proud of this performance by one of our members, and found the trip a delightful one, particularly in view of the hospitality shown us by our Canadian hosts.

J.H.

U.S.A.

A VERY active summer season has resulted in many newsworthy items on which to report.

The National Championships were held at Wichita, Kansas, from 1st-10th August, and the winner was A. J. Smith, an architect, who flew a LO-150. Variable weather with frequent overcasts allowed only five contest days but permitted one 333-mile three-legged flight by John Ryan in the Sisu 1 and 200-plus-mile flights by 28 of the 36 competing pilots on the one free distance day.

The S.S.A. Directors met after the Nationals and re-elected Paul F. Bikle, world altitude records holder, as President of the Society for 1962. A most significant decision they made was to submit a bid for the 1963 World Championships to be held in the U.S. C.V.S.M.'s selection of the next country will be made in late November.

Numerous soaring flights of some significance have been made in various parts of the country. Sterling Starr set a new national goal and return record of

348.24 miles on 15th July in a Schweizer 1-23D, from Inyokern to Lee Vining, Calif. (in the Bishop area) and return.

Rudy Mozer flew a Ka-6CR 396 miles from Adrian, Mich., to Frederick, Maryland, on 3rd July, the longest flight ever made east of the Mississippi River. On 2nd May he had made a 304-mile flight from a winch launch. Another Ka-6CR was flown 330 miles on 20th August by Bob Hupe, from Naperville, Ill., to Annapolis.

On 15th July Jack Lambie took off at 2 p.m. in his Fauvel AV-36 from El Mirage Field, Calif., and flew 247 miles to Mesquite, Nev., using an extensive shear line condition. Al Parker made a Schweizer 2-22C training glider go 195 miles on 29th June from Odessa to Friona, Texas.

S.S.A.'s Technical Symposium on Soaring, held in Los Angeles, Calif., on 16th September, was attended by over 150 people and pronounced very successful. Nine papers were presented, most of which will eventually be printed in *Soaring* magazine.

The 500th U.S. Silver C was awarded in July and it appears that another 50 may be earned by the end of 1961.

Total S.S.A. membership on 30th June was 3,495, one-third of which are members of S.S.A. Chapters, clubs that maintain 100 per cent S.S.A. membership.

L.M.L.



Russian sailplane A-9, holder of many past records. With a second seat it becomes an A-10, which still holds the world's two-seater distance record.

(*Courtesy "Soviet News".*)

U.S.S.R. RECORDS

Two national records were set recently in one day, at an aerodrome near Moscow.

Mikhail Veretennikov, of Dniepropetrovsk, flew round a 200-km. triangle in a single-seater at 89.563 km./hr. (55.652 m.p.h.).

Vyacheslav Yefimov, of Kiev, covered the same course in a two-seater at 80.924 km./hr. (50.284 m.p.h.). beating the previous record of 19.765 km./hr.—*Soviet News Press Service.*

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Well appointed Clubrooms
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THREE FULL TIME PROFESSIONAL INSTRUCTORS

FOUR T21B'S FOR DUAL AND EARLY SOLO TRAINING

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J. N. COCHRANE, General Manager
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"Eagle" 2-seater

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For details write to:

The Secretary, Surrey Gliding Club, Lasham Gliding Centre, Alton, Hants.

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Secretary, Sutton Bank, Thirsk, Yorks.
Tel. Sutton (Thirsk) 237.



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