2002 Addendum

GEORGE NELSON

(Originally Published as part of 2002 Addendum Nelson)

George Nelson (son of John Walker Nelson) – Participant in 1938 Air Race, Marseilles to Damascus to Paris

These two clippings reference an air race from Marseilles to Damascus to Paris and inspired the author to learn more.

BRITONS FLY 'ORPHAN'

Daily Express Staff Reporter

PARIS, Thursday.

ONE British airplane will start from Istres Airport, Marseilles, tomorrow, on a 3,800-mile race to Syria and back, competing against four French and eight Italian machines, all of which are Government-subsidised, and have greater horse-power.

The English machine, owned, entered, and to be flown by Flying-Officer A. E. Clouston, is called The Orphan.

There were reports yesterday that the British entry had been withdrawn, but Flying-Officer Clouston, who has Flight-Lieutenant C. Nelson as a wireless operator, told me today:—

"Both we and The Orphan are in 100 per cent. flying condition.

"We called the machine The Orphan because we were able to get no assistance, commercial or Governmental, to enter for the race."

IN AIR RACE

Flight-Lieutenant George Nelson (above), of Carnarvon-street, Hollinwood, Oldham, is to be the wireless officer in Britain's only remaining entry in the air race from Marseilles to Damascus and back to Paris. The race starts on Friday week. The machine will be piloted by Flight-Lieutenant A. E. Clouston. Flight-Lieutenant Nelson is to be married this autumn to Miss Violet Mary Husbands, of Marchwood (New Forest).

The author has learned that the race was held in 1937. Here is some information on the plane flown[1].

De Haviland 88 Comet

Geoffrey De Haviland was determined that Britain was to win the prestigious England - Australia air race of 1934. In great haste De Haviland's produced three of the five Comet racers built in time for the race. The subject of this model, the scarlet and white "Grosvenor House" was the eventual winner flown by C.W.A. Scott and T. Campbell Black who covered the 11,700 miles in 70 hours, 54 minutes.

In 1935 "SS" was doped silver and evaluated by the RAF at Martelsham Heath where it was pretty badly knocked about. The aeroplane was rescued by F.E. Tasker and rebuilt to compete in the 1937 Marseille - Damascus -Paris race as "The Orphan" and was doped blue for the occasion, finishing fourth. Later that year, renamed "The Burberry" A.E.

[1] accessed 17 August 2002, http://freespace.virgin.net/pbratt.home/De%20Haviland%20Comet.htm

Clouston and Mrs K. Green broke the England - Cape return record in 15 days 17 hours. Finally as "Australian Anniversary" the Comet flew Gravesend- Sydney- Blenheim - Croydon in 10 days 25 hours, a record which still remains unbeaten.

Some more information and a recent photo of the rehabilitated plane[2].

"The most famous Comet of all! G-ACSS named Grosvenor House after the hotel of the owner of the plane A.O. Edwards. The plane was flown by C.W.A. Scott and Tom Campbell Black in the London to Melbourne race and arrived first in Melbourne, winning the speed contest. It would have won the handicap race too but for the rule that only one title could be one by any one plane. The first place in the handicap race thereby went to the Douglas DC-2 "De Uiver" owned by the Dutch airline KLM.

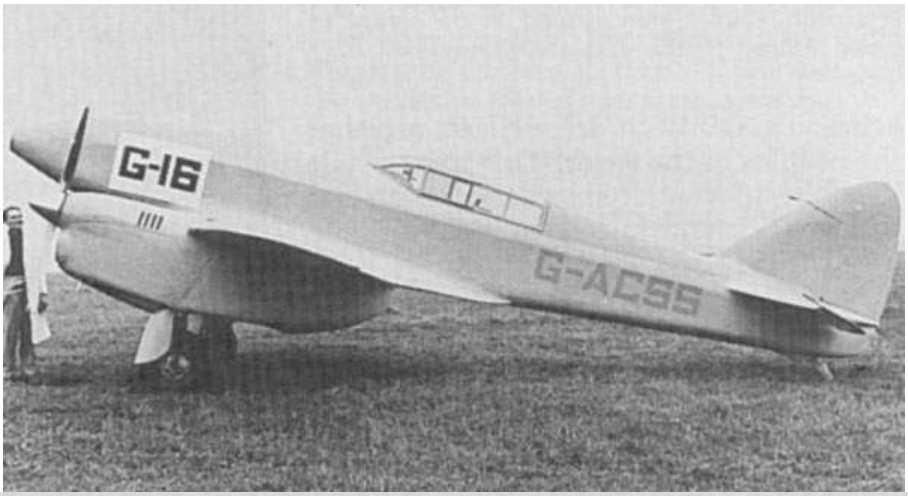
After the race G-ACSS was acquired by the Air Ministry and painted aluminum. It got the RAF serial K-5084. During the tests at the RAF at Martlesham it twice suffered a collapsed undercarriage. After the first collapse it was fitted with enlarged air intakes. After the second crash in September 1936 it was sold as scrap.

It was bought by F.E. Tasker who had the aircraft rebuilt and fitted with Gypsy Six series II engines. It was painted pale blue (according to one source "Morning Mist" & Blue) and named "The Orphan". In this guise it came fourth in the 1937 Marseilles-Damascus-Paris race and second in the 1937 King's Cup

[2] *accessed 17 August 2002, http://www.zuijdwegt.demon.nl/dh88/Comets/GACSS.htm*

In November 1937 it tried to break the out and home record to the Cape named "The Burberry". It succeeded in lowering the record to 15 days and 17 hours."

The following pictures are of it as "The Orphan." (same source as above)



Another tidbit … "In the 1937 race Paris to Damascus and back, Clouston & Nelson came 4th, the first three places being taken by the Italian team which had state backing. None of the other starters finished the course. At one stop the Italians had sportingly patched the fabric on the Comet."[3]

"In pale blue and renamed The Orphan, G-ACSS was flown into fourth place in the 1937 Marseilles-Damascus-Paris race by Flg Off A.F Clouston and George Nelson."[4]

Apparently, there is a reference to George in the book ""DH88, the Story of de Havilland's Racing Comets" by David Ogilvy, published by Airlife, ISBN No. 0 906393 40X"[5] [author's note: This book was apparently published c.1985 and is not generally available.] Someone graciously looked up the citation for me and reports[6]: "I regret to say that I have very little extra information on your relative. In the book on the De Havilland Comet by David Ogilvy he is just mentioned as co-pilot Flight Lieutenant George Nelson. No further information on him is given. The book states that the Comet piloted by Clousten and Nelson came forth in the race after a nearly disastrous last leg from Damascus to Paris. They hit very bad weather over the Alps which lead to heavy icing on the wings and tailplane. They managed to land safely at Le Bourget however." [author's note: subsequently, the author obtained the section of this book[7] that refers to this particular race … it is a very exciting read and is reproduced in it's entirety as an Appendix]

[3] accessed 17 August 2002, http://www.klif.demon.co.uk/cqqth/trad/tales.htm

[4] accessed 28 August 2002, http://www.pjcomputing.flyer.co.uk/comet/race.html

[5] e-mail received 27 August 2002, Ken Hyde. Hon Librarian, Shuttleworth Collection

[6] e-mail received 8/30/02, Tom Zuijdwegt [tom@zuijdwegt.demon.nll, this is the person who created & manages the web-site where the photos of "The Orphan" were acquired from.

[7] Packet received 5 October 2002, Keith Davidson, 3088 Adirondack Ave, Columbus, OH 43231

Interestingly, there was also a web-site in Russian that talked of this race. It seems to be a page devoted to the SM 79 Sparviero, which is an Italian Plane, called "Sparrowhawk." Below is the apparently relevant paragraph in Russian[8] and then "roughly" translated using an on-line machine translater[9].

"Англичане выставили голубой (pale-blue) D.H.88 Comet, G-ACSS "The Orphan" ("Сирота"),пилотируемый Э.Е. Клоустоном и Джорджем Нельсоном.Итальянцы доминировали количественно с пятью S.M.79C и тремя Fiat B.R.20. Гонка обернулась легкой победой для S.M.79.В то время когда итальянские экипажи прошли первый этап до Дамаска со средней скоростью 418 км/ч,Comet достигла 349 км/ч,а лучший французский самолет добился лишь 299 км/ч.В обратном перелете первый S.M.79C (пилотируемый Купини и Парадизи) выиграл со средней скоростью 351 км/ч и общим временем 17 часов 35 минут,второе место занял S.M.79C пилотируемый майором Фиори и лейтенантом Лучини (349 км/ч,17 часов 57 минут) и третье S.M.79C пилотируемый полковником Бизео,подполковником Мори и лейтенантом Бруно Муссолини (343 км/ч,18 часов 4 минуты).D.H.88 был четвертым. В ноябре 1937 года S.M.79 под управлением капитанов Лучини и Тивены установил новый мировой рекорд на дистанции 1000 км с 500-кг нагрузкой,достигнув скорости 401 км/ч."

"Anglichane have exposed blue (pale-blue) D.H.88 Comet, G-ACSS "The Orphan" ("Sirota"),пилотируемый by E.E. Kloustonom and George Nelisonom.The Italian доминировали quantitative with five times S.M.79C and three Fiat B.R.20. Racing turned the runaway victory for S.M.79.B that time when italian crews passed the first stage before Damascus with average velocity 418 km/ch,Somet reached 349 km/ch,but the best french plane obtained only 299 km/ch.In inverse flight first S.M.79C (пилотируемый Kupini and Paradisand) has won with average velocity 351 km/ch and the general time 17 hours 35 minutes,the second place has occupied S.M.79C пилотируемый by major Fiori and lieutenant Luchini (349 km/ch,17 hours 57 minutes) and the third S.M.79C пилотируемый by colonel Bizeo,lieutenant colonel Epidemic deathes and lieutenant Bruno Mussolini (343 km/ch,18 hours 4 minutes).D.H.88 was четвертым. At November 1937 S.M.79 under governing the captains Luchini and Tiveny has installed new world record on distances 1000…"

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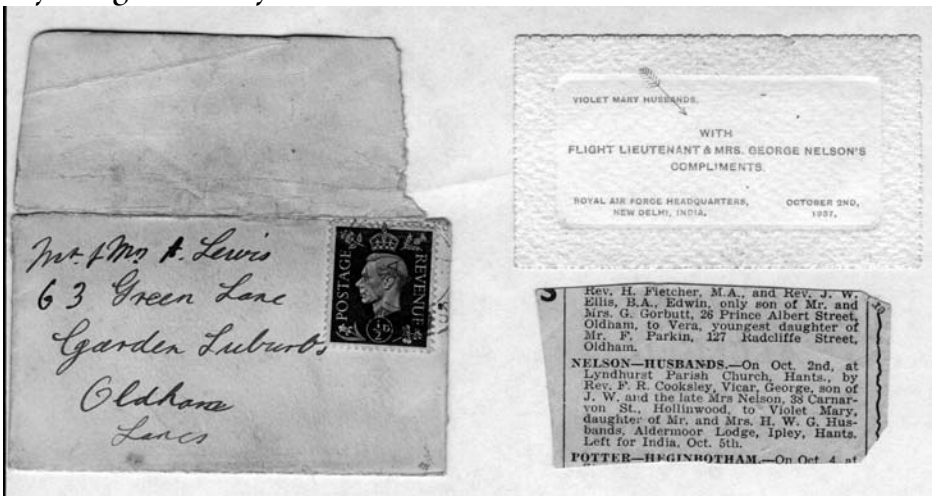
We know that George married Violet Husband shortly before he was deployed to India. One of the newspaper articles also references this. Well, the papers of Mrs. A. Lewis (Auntie Edith's mom) also contained the following (this envelope has to be the tiniest I have ever seen!):

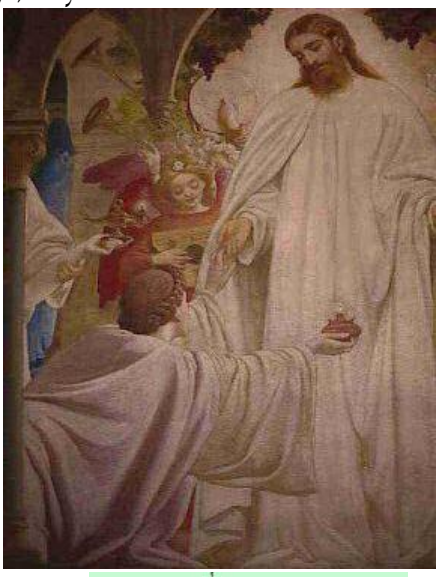


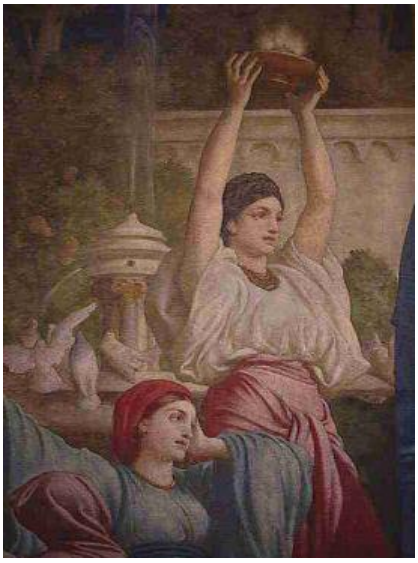
[8] Accessed 5 September 2002, http://www.airwar.ru/enc/bww2/sm79.html

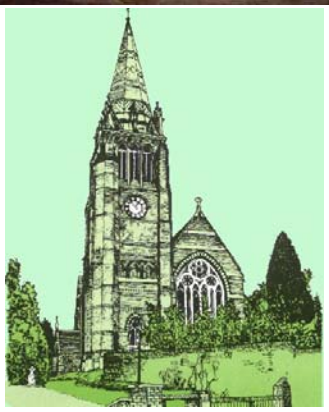
[9] accessed 5 September 2002, http://www.rustran.com/socrat.php4

From this, we learn where they were married and some searching reveals some information about the church (see Appendix A for great detail on the church). It is called St. Michael & All Angels.

"The present building, the third on the site which is a pre-historic man-made mound, was built between 1858-69 during the Victorian period of Lyndhurst's immense popularity. Designed by William White, it is Gothic in its ethos but uses modern materials reflecting both the theology and ecclesiology of much Victorian thought. The vision was to express something of the ancient and eternal from the Kingdom of God in the contemporary materials of the day - ancient and modern. The church is richly decorated throughout in the Victorian manner with windows by Kempe, Clayton and Bell and the Pre-Raphaelites, Burne-Jones, Rossetti, William Morris and others. In 1860 Frederick Leighton (later to become Lord Leighton and president of the Royal Academy of Art) offered to paint a large fresco in the new spirit medium of the Parable of the Wise and Foolish Virgins for the cost of the materials only. In the face of the bishop's disapproval, the vestry went ahead with what was to become one of Leighton's principal and most successful monumental works. The church is also the last resting place of Alice Hargreaves (who inspired the Adventures in Wonderland by Lewis Carroll). She lived for most of her adult life in Lyndhurst..."[10] (Another view)[11]



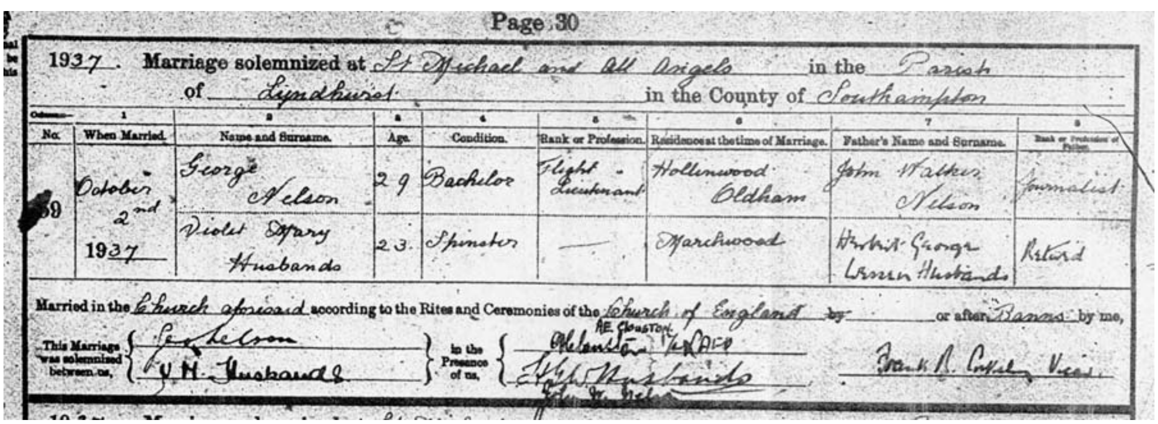




[10] accessed 14 September 2002, http://www.newforestparishes.com/lyndhurst.html

[11] accessed 14 September 2002, http://www.new-forest.org/ex-wooden/attract/church.html

Additionally, there was a photo of George & Violet on their wedding day and on the back a handwritten note from them.



Page 30

1937. Marriage solemnized at St Michael and All Angels in the Parish of Lyndhurst in the County of Southampton

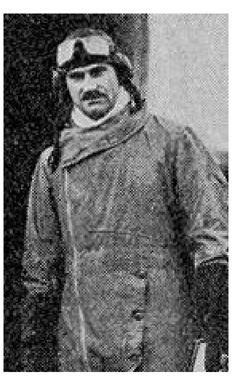
No.	When Married.	Name and Surname.	Age.	Condition.	Rank or Profession.	Residence at the time of Marriage.	Father's Name and Surname.	Rank or Profession of Father.
59	October 2nd 1937	George Nelson	29	Bachelor	Flight - Lieutenant	Hollinwood Oldham	John Walker Nelson	Journalist
		Violet Mary Husbands	23.	Spinster	—	Marchwood	Herbert George Lemen Husbands	Retired

Married in the Church aforesaid according to the Rites and Ceremonies of the Church of England by or after Banns by me,

This Marriage was solemnized between us, Geo Nelson, V M Husbands

in the Presence of us, AE Clouston [illegible], H G L Husbands, John W. Nelson

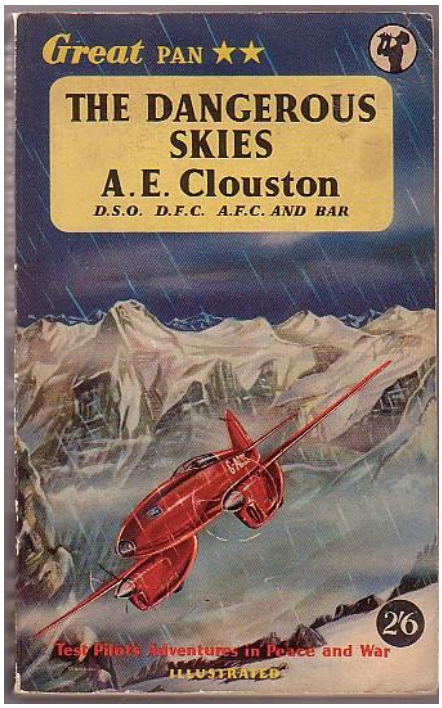
Frank R. [illegible] Vicar.



Now have their wedding entry from the church registry. Lo and behold, AE Clouston, George's co-pilot on "The Orphan" was one of the witnesses! See above.

(the photo to the left of AE Clouston was taken 1937)[12]

[12] *accessed 29 September 2002, http://www.pjcomputing.flyer.co.uk/comet/race.html*



Additionally, the author has learned that AE Clouston authored a biographical book (descriptions acquired from Abe.com a www used book seller) (note also that the cover is of the G-ACSS, the call letters for when the plane was "The Orphan" and George was the wireless operator):

Clouston, AC A.E. THE DANGEROUS SKIES
London: Cassell, 1954 Hard Cover. Very Good. 8vo - over 7¾" - 9¾" tall. A brave and witty man who was a great pilot tells the remarkable stories of a flying career. 187 pages, with good photos of people and aircraft.
Also described by: The author, one of the first civilian test pilots appointed to the Royal Aircraft Establishment at Farnborough, breaker of numerous records and researcher into various aspects of flying and defence during WWII.
And
a pioneer British flyer tells of his many amazing adventures, including testing strange aircraft, setting records for speed, and being offered a cool million pounds Sterling to bomb Hitler; cover illustration by Gordon

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Given that George was accomplished and that his father was of some note in the Oldham area, it was likely that the Oldham Chronicle published some articles regarding George. Oldham Local Studies has discovered the following 3 articles on George.

1. August 23, 1937, "British Entrants Fourth"
2. August 27, 1937, "Hollinwood Man in Great Air Race"
3. July 22, 1938, "Killed in Plane Crash in India"

These are reproduced on the following pages.

His obituary gives us a bit more info on where the incident where he lost his life took place. Apparently it is Kundiar instead of Cundian. The author still cannot find such a location and the reference to the Indus River and the Punjab and Simla gives us something to work with. Apparently, Simla is north of Delhi (check-out map of the Punjab on the next page). The Indus is the western-most river shown on the map. As with many parts of the world, there's been some boundary changes since this map. The next two maps show India as it is today; notice where New Delhi is and the Indus River. The Indus river is now mostly

August 23. 1937
Oldham Chronicle.

BRITISH ENTRANTS FOURTH

Narrow Escape Over the Alps

FLIGHT LIEUTENANT GEORGE NELSON, of Carnarvon Street, Hollinwood, acting as wireless-operator-navigator to Flying Officer Clouston, was one of the few to finish in the Istres-Damacus-Paris air race. Clouston and Nelson were the only British entrants in the race, and were flying in The Orphan, the same D.H. Comet in which Scott and Black won the England-Australia air race three years ago, fitted with two new engines.

An Italian Savoia-Marchetti 79 machine, with Cupini and Baradisi as crew, won the race, which involved the travelling of a distance of 3,870 miles, and which was organised as a substitute for the New York-Paris race.

Arrived Fourth

The flyers took off on Friday evening from Istres and had to make Damascus in one hop. On the way back they were allowed to halt, if necessary, for refuelling or repairs.

Flight-Lieutenant George Nelson

EXCERPTS

2002 and 2003 Addenda – George Nelson

Mr. Nelson's Career

Flight-Lieutenant Nelson will doubtless receive congratulations on this feat from his numerous friends in Hollinwood. He comes of a well-known Hollinwood family, and is the son of Mr. J. W. Nelson. Though only 29 years of age, he is the second in command at Dishforth Air Training School, near Thirsk, Yorkshire.

He was educated at Oldham Municipal High School 1920-7, and was head boy during his last year. Obtaining a Mary Alice Clegg Scholarship he proceeded to the City and Guilds College, London, where he took the degree of B.Sc. (Eng.) in 1930.

He joined the Air Defence Force in 1929, and obtained a pilot's certificate, receiving his commission as a pilot officer in the Air Force proper in 1930.

Wireless Control of Aircraft

He was drafted to India in 1931, returning early in 1933 to train for a special course at Cambridge University for research into the wireless control of aircraft, and entered the University in October, 1934, for a two years course.

Mr. Nelson's main interests through out school and university life have been sport and wireless. He obtained several sporting honours.

Like many schoolboys during the early days of wireless telegraphy, he constructed crystal sets in the orthodox way, and that was the start of what has since developed into an illustrious career.

His latest research has been into the use of wireless for direction finding to assist air pilots, and it was this that was principally responsible for his entry into Friday's race.

Mr. Nelson is to leave for India again in October to take up a post at Delhi in connection with the special work for which he trained at Cambridge.

Hollinwood Man in Great Air Race

The winning plane left Istres at 10 31 p.m. and reached Damascus at 4 24 a.m. It crossed the line at Le Bourget at 3 50 on Saturday evening. Second and third were two more Italian Savoias, that of Fiori and Lucchini arriving at 4 17 p.m., while that of Biseo and Bruno Mussolini, the Duce's son, arrived at 4 37 p.m.

Clouston and Nelson arrived fourth at 5 p.m.

M. Sarraut, the Minister of State, officially welcomed the airmen on behalf of the French Government and praised their courage and efficiency and paid a tribute to the aircraft industry of Italy.

Among many distinguished persons of the aviation world present were Louis Blériot, the Channel flight pioneer, and Maurice Farman.

Ice Danger

Clouston told Router: Over the Swiss Alps we had to come down low owing to ice formation on the wings. It was almost the end of us. We were flying at 15,000 feet, but the ice brought us down in a spiral and we did not know what was going to happen. In the end we were able to steady her and keep her up when only about 250 feet from the ground. There was no possible landing in the mountains, and if we had not been able to keep up a crash would have been inevitable. Otherwise it was a splendid flight.

Clouston's official time was given as nineteen hours, forty minutes, 59 seconds, and his average speed 195.4 miles an hour. The winners' figures were seventeen hours, 32 minutes, 45 seconds, and 220 miles an hour.

Oldham Evening Chronicle July 22, 1938

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Photograph by G. E. Rowland, King Street, Oldham.

Killed in Plane Crash in India

HOLLINWOOD OFFICER

Brilliant Career Cut Short

FLIGHT-LIEUTENANT GEORGE NELSON, only son of Mr. J. W. Nelson, of 38 Carnarvon Street, Hollinwood, was killed on Tuesday when his plane crashed into the Indus near Kundiar, in the Punjab. He was attached to the signals branch of the R.A.F. at Simla, and a part of his duties was to visit different depots in India. According to the latest report from the Air Ministry it is assumed that his body is submerged with the wreckage in the river. One report says that the leading aircraftsman who was flying with him escaped with injuries.

Lieutenant Nelson left England for India on October 5th last, having been married on October 2 to Miss Violet Mary Husband, who thus after nine months of married life is a widow.

He was a pupil at the Oldham High School, where he was top boy in 1927 and won the Mary Alice Clegg scholarship, which he used at London University. When he took his degree the R.A.F. was offering commissions to students of his attainment and physical fitness and he decided to make the Air Force a career and signed for the full period of twenty years. That was in 1930.

After some time spent in several training schools he was sent to Ambala, India, where he spent one year. He was brought back to take a two years course at Cranwell, and as he did so well in his studies he was sent to Cambridge University for a further two years, the special subject being signals. This was followed by nine months in the experimental branch at Farnborough, after which he was attached to the depot at Dishforth, and thence transferred to India.

He was within a month of thirty years of age.

Municipal Technical College

Results of the examinations held at the Municipal Technical College, Oldham, held under the auspices of the Union of Lancashire and Cheshire Institutes and the City and Guilds, are:—

UNION OF LANCASHIRE & CHESHIRE INSTITUTES.

EXAMINATIONS—1938.

Dressmaking, Second year.—Distinction: Mary Buckley. First class: Ada S. Seville. Second class: Kathleen Kennedy.

Dressmaking, Third Year.—First class: Marion Bell. Second class: Veronica Hogan.

Ladies' Tailoring, First Year (Principles).—Distinction: Mary Buckley, Olive Lonsdale, Margaret Smith, Vera Thomas. First class: Elsie Clayton, Alice Gaynon, Marjorie Hoggins, Peggy M. Nadin, Betty I. I. Perry, Rhoda Wardman. Second class: Veronica Hogan.

Practical.—Distinction: Betty I. I. Perry, Margaret Smith, Vera Thomas, Marjorie Hoggins. First class: Mary Buckley, Elsie Clayton, Alice Gaynon, Olive Lonsdale, Peggy M. Nadin. Second class: Veronica Hogan, Rhoda Wardman.

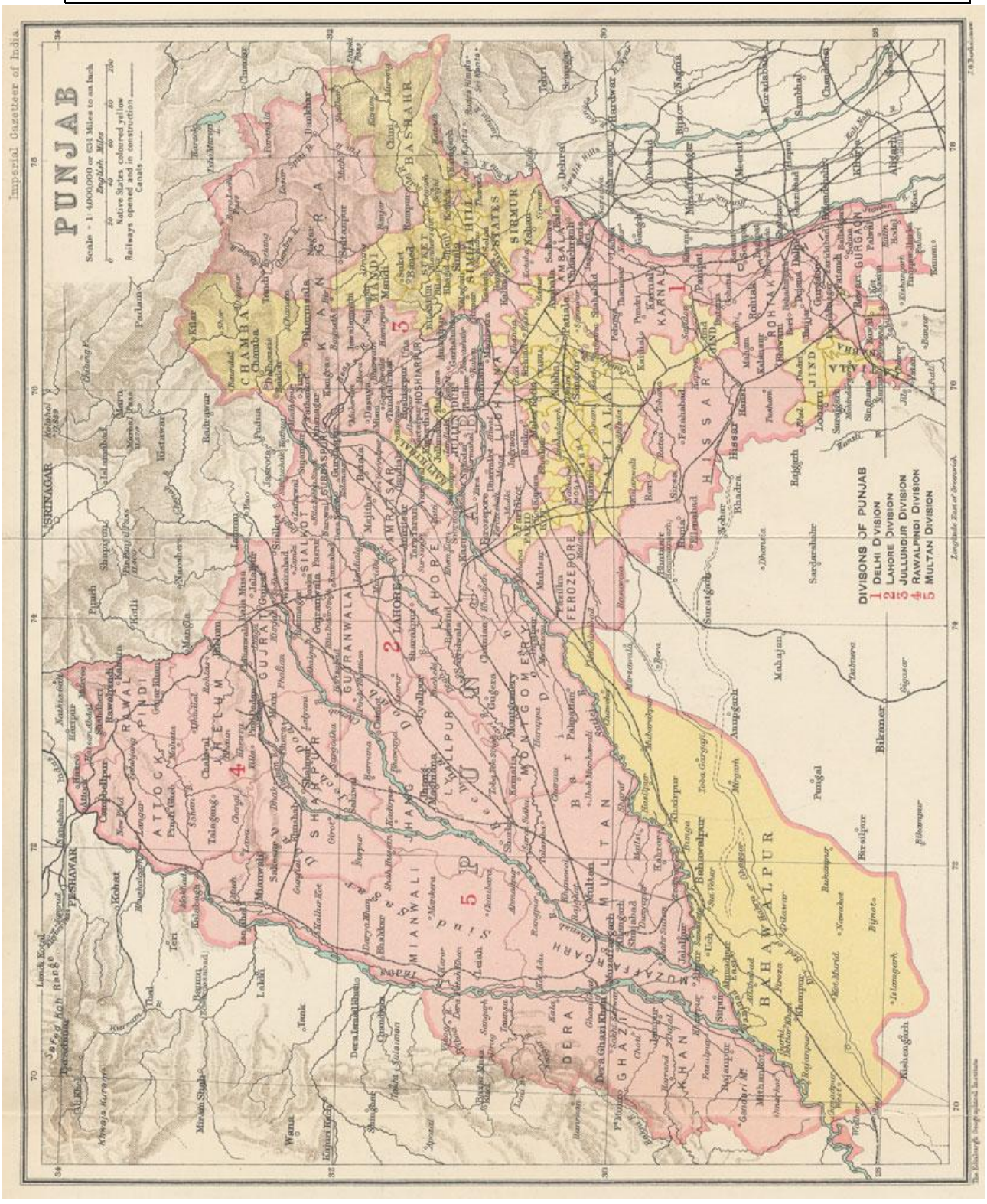
Ladies' Tailoring, Second Year. (Principles).—Distinction: Kathleen Furness, Martha Stott. First class: Elsie Clough, Margaret Holroyd, Doris Hoyle.

Practical.—Distinction: Doris Hoyle. First class: Kathleen Furness, Margaret Holroyd. Second class: Elsie Clough, Martha Stott.

Ladies' Tailoring, Third Year (principles).—First class: Mary Buckley, Edith

EXCERPTS

2002 and 2003 Addenda – George Nelson



EXCERPTS

2002 and 2003 Addenda – George Nelson

in Pakistan with a little bit in northern India. The next map shows modern Pakistan with the Punjab state and the Indus River. So, somewhere in NW India or Pakistan is where George's plane went down.

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Additionally, there is a research arm of the National Air and Space Museum (NASM), part of the Smithsonian Institution. The author queried the archive and was rewarded with a lovely packet of information, including a photo of George and AE Clouston! An overview of some of the materials sent follows.

August 19, 1937 issue of "Flight" magazine (a British Publication). The picture to the left comes from the article "The Orphan" "Britain's Lone Challenger in the Damascus Race : The Saga of a Comet : News of Competitors". Reading through much of the technical details, one comes across the following:

"F./O. Clouston is too well known among followers of his sporting flying to necessitate a biographical resume. His companion, wireless operator-navigator will be Flt. Lt. G. Nelson, who has made a meticulous study of everything the modern navigator should know, particularly in relationship to the Damascus course. The most precious item in his stock-in-trade is a Mk. VIII bubble sextant designed at Farnborough and intended for use with sun or stars. His chart, prepared by the A.A., he describes as a masterpiece. This gives great circle and modified rhumb line courses, and indicates among other things the broadcasting stations which can be used in conjunction with the remote D.F. loop, which, incidentally, may be employed to take cross bearings as well as for homing.

Flt. Lt. Nelson has had ample opportunity to try out his sextant during long cruises in new Whitley bombers. After the Damascus race he will be transferred to India.

Parachutes will not be carried because, in Clouston's own words, The Orphan will come down on an aerodrome and nowhere else."

FRANCE-SYRIA RACE WILL START TONIGHT

Thirteen British, French and Italian Planes Ready—Son of Mussolini Entered

Wireless to THE NEW YORK TIMES.

ISTRES, France, Aug. 19.—Thirteen planes stand ready to take off between 6 and 10:30 tomorrow night in a race to Damascus, Syria, and back to Paris, 3,800 miles. This will substitute for the Lindbergh memorial race from New York to Paris, banned by the United States Government as too risky.

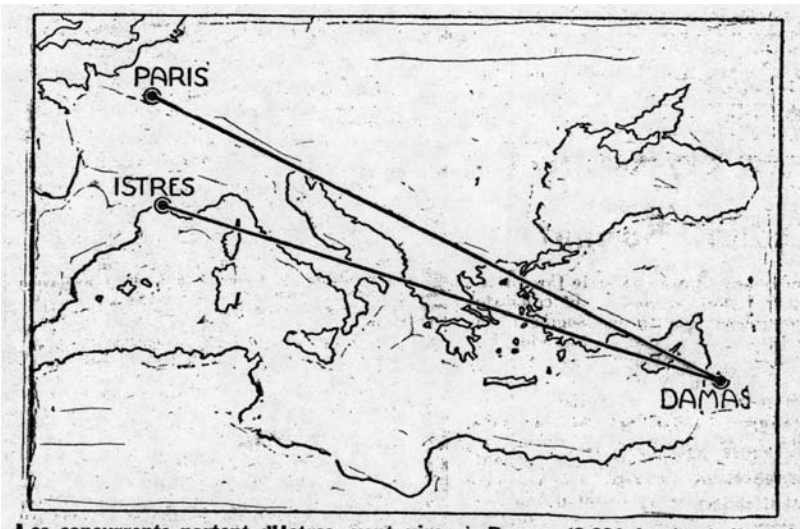
The race is open only to those originally entered for the New York-Paris competition. They include four Frenchmen, eight Italians and one Britisher. Among the Italian competitors is Il Duce's son, Bruno Mussolini, teamed with the leader of the Italian squadron, Colonel Biseo, in a Savoia-Marchetti plane.

The race will be decided on elapsed time only, with no team prizes. The first prize is $55,500, the second $37,000 and the third $18,500.

The first authorized stop will be Damascus, planes landing before that being disqualified. On the return journey any number of intermediate landings will be allowed. Planes able to make the flight nonstop need not land at Damascus.

The Italian contingent, made up of fast military planes capable of averaging 240 miles an hour, although none was specially built for the event, is favored to win. The last-minute British entry of Clouston and Nelson in a Comet equipped with two 200-horsepower Gypsy motors, which even yesterday was a doubtful starter, showed up after having flown from Croydon, England, to Istres at an average of 250 miles an hour and is regarded as a likely outsider.

The map below, from a French publication, shows the race course.



Les concurrents partent d'Istres, vont virer à Damas (2.921 km.) où ils ont la faculté d'atterrir et de se ravitailler, puis repartent pour Paris (3.269 km.). Istres-Damas doit être effectué sans escale. Les escales entre Damas et Paris sont autorisés, mais les concurrents profiteront-ils de cette clause ?

2003 Addendum

GEORGE NELSON

(Orignally Published as part of 2003 Addendum Published 060203)

A NELSON group photo!

Left to right: **George Nelson**, Sarah Ann Lewis, Lizzie Nelson, Arthur Lewis, J.W. Nelson, Ken Laycock, Jessie Nelson, Gwen Laycock?, Edith Lewis, Lisbeth Nelson, Clarice Pinder? (Photo taken by Olive Laycock)

George Nelson continued …

"With reference to George Nelson's RAF career The Air Force List gives Nelson as working for the Signals Department of HQ RAF India in 1938."[13]

A subsequent query[14] provided a little more information

"We do have a complete set of the Air Force List, which I have consulted for all of 1938. He appears in the list from January to August. As per your information he is a flight lieutenant in the Signals Department of HQ RAF in India. His commencement date of service in India was 5th October 1937, his seniority date at his rank is given as 1st August 1935. He disappears from the list in September, but appears in the Deaths for that month, it says:

[13] Letter dated 16 October 2002, Guy Revell, Assistant Curator, Royal Air Force Museum Hendon, Grahame Park Way, London NW9 5LL, www.rafmuseum.com

[14] E-mail dated 17 January 2003, Dorian Leveque (Dorian.Leveque@bl.uk), Reference Services, Oriental and India Office Collections, The British Library

Nelson, George Missing believed killed 19 July 1938"

The author has acquired the book "The Dangerous Skies, A.E. Clouston."[15] It has been pointed out in some reviews of this book to remember that many years had passed between the time this book was written and when some of the events occurred … so, some things didn't quite happen as the book would have you think. The previously shared newspaper clippings are probably more factually accurate! A few entries from the book are:

"Tasker agreed to my request to enter the Comet for the French air race. I paid the fifty pounds entry fee, and we were to share any winnings. Flight Lieutenant George Nelson, a friend from my early R.A.F. flying training days, happened to be at the R.A.E. on the signals side and I invited him to go as co-pilot. George jumped at the idea. I knew him to be a reasonable pilot, but he had spent a lot of time on specialist duties and had not the same flying experience as I had. He was therefore quite content to leave the flying side to me whilst he concentrated upon navigating by sextant."

(An aside: This association goes back to the early 20th century when the Aldershot based balloon factory of the Royal Engineers re-located to the wide-open and wild Farnborough Common. A division of the British Army, the Royal Engineers made their own mark on powered flight being associated with Farnborough. On the 5th of October 1907 the army's latest non-ridged airship the Nulli Secundus, set a new record by flying over fifty miles in three hours and twenty minutes from it's Farnborough base. With records being broken royal recognition of the balloon companies achievements soon followed.

On the 1st April 1911 the company was renamed 'His Majesty's Aircraft Factory'. In 1912, when the Royal Flying Corps was created, 'His Majesty's Aircraft Factory' became the Royal Aircraft Factory, responsible to Government for designing and building balloons, manned kites and airships for the military - and thus developing the airfield. To give some idea of the level of activity associated with the airfield at this time, it is interesting to note that the Royal Aircraft Factory had already grown to employ over 5,000 people.

Since then the establishment has changed it's name a total of four times. In 1918 with the Royal Air Force newly formed, the Factory became the Royal Aircraft Establishment so that the initials wouldn't be confused. The RAE concentrated on aviation research to support the young RAF. Many years later the RAE became known as the Royal Aerospace Establishment to better reflect the broader type of work that was being done.)[16]

"At half-past nine I told George to climb into his seat and I went to swing the propeller. George had climbed in and out of the Comet too many times to remember, but on this occasion he stepped on the delicate trailing edge of the wing. It was not strong enough to be used as a step, and his leg went through up to the thigh. I rushed back to take his weight, and lifted him down. There, ten minutes form take-off time, was the Comet with an eighteen-inch square hole right through the wing. George was almost in tears. I did a quick survey of the damage. We could probably take off all right, but with nearly twenty hours of continuous flying at full throttle, the hole would probably enlarge to dangerous proportions during

[15] *"The Dangerous Skies, A Test Pilot's Adventures in Peace and War," Pan Books Ltd, London, 1956*

[16] *accessed 5/21/03, http://www.farnborough-live.co.uk/airshow/airfieldhistory.html*

the flight, and the entire wing might even disintegrate… The starters sportingly gave us permission to carry out repairs and take off last."

The next pages are excerpts from the book and a photo from the end-of-race banquet. These are followed by pages from the book "DH88, The Story of de Havilland's Racing Comets" by David Ogilvy

from side to side. My arms grew tired and numb, and as my efforts weakened, the ice hardened again on the ailerons.

But I had little time to worry about the aileron controls when the engine began to lose power. I altered the throttles, switched tanks, made all the adjustments I could. Still the engine slowed and the propellers began to windmill. We were over the middle of the Alps with peaks rising to 16,000 feet, and we were losing height rapidly.

We had no parachutes or we would have jumped there and then to save our necks. As it was, whether we continued towards Paris or turned back for Venice the result was inevitable. Sooner or later we must hit a mountainside. We had no power to go up, we could not go forward or back, so there was only one thing left to do, go down. That was our only chance, to go down and trust to God we were over a valley.

I glanced back to George, and pointed down. He nodded. We exchanged not a word. He was as alive to the danger of our situation as I was. Discussion would have gained nothing.

I moistened my lips, and put the Comet down into a spiral, gliding turn. My eyes never left the altimeter. The needle dropped back to 15,000 feet and we sat and waited for it. For 2,000 feet more we spiralled down in gliding turns awaiting the end; and then at 13,000 feet we broke into a pocket of clear air. There was cloud above, cloud below, cloud all round us. It was a thankful relief to be out of the cloud and free for a moment of immediate anxiety and suspense; but it was nevertheless a disconcerting experience to look out in clear air and have no idea where the sky or ground was, whether we were upside-down or right side up. Only the instruments told us that.

Slowly the engines picked up again, and the ice started to shed off the wings. The glasses of the dashboard

instruments steamed over from the change in temperature. The ailerons improved, but strong air currents were tossing us about like a cork. I flew round and round, not daring to leave the air pocket until it began to change shape and I could no longer circle without passing into cloud each time we came round. I had to make a decision. We were obviously in a valley, though how sheer or steep it was, or in what direction it ran, we could not tell. Certainly at 13,000 feet we were below the mountain peaks around us, and to attempt to fly straight in any direction would have been suicide.

By this time the engines were running well again, and so I decided to spiral up to 15,000 feet and try to continue on our way to Paris, hoping that we would clear the bad weather before icing were to force us down again. For twenty minutes we climbed back in spiral turns through cloud in which the precipitation changed frequently from rain to sleet and snow, and back to rain again.

At 17,000 feet I levelled out and set course in snow for Paris. Within fifteen minutes the engines started to falter once more. They ran rough at low revs for a while, and then slowed up. The engine carburettor heating system had no effect. I opened and shut throttles and altitude controls, but they made not the slightest difference. We were still in a heavy snowstorm. Ice covered the wings and windscreen. The airspeed indicator remained dead. The ailerons were very stiff again.

As we lost height I kept the Comet in a spiral, again hoping, praying, for the best. Next moment a brittle explosion shook us, and rain and hailstones beat down upon my face in the cockpit. I ducked low, taking cover from the vicious flail with my face pressed against the instrument panel. My first thought was that we had hit the mountain, but we still kept going and I discovered that it was only the cockpit canopy and windscreen that

had been shattered, blowing out as a result of the violent temperature and pressure changes.

I glanced back to see how George was faring. He, too, was crouching low for shelter.

At 11,000 feet we were in thick, white, cumulus cloud and the engines returned to life. I at once started to climb up in tight circles. Once more we levelled out for Paris at 17,000 feet.

This time we carried on happily for twenty minutes, and I was just beginning to think the engines might take us through when we hit heavier snow. Rough running set in almost at once, and the propellers were soon windmilling again. For the third time within an hour we started to lose height rapidly. How I envied the other competitors with their powerful engines and oxygen, which enabled them to fly high above the storm.

At 8,500 feet we passed from snow to heavy rain, and the engines came to life, missing at first, but soon running smoothly. Three times we had spiralled up and down over the Alps without being able to see where we were going. There was nothing for it except to start climbing, but I was full of dread at the thought of being forced down again. Three times our luck had held. The chances next time must be very heavily weighted against us.

And then I caught a shrouded glimpse of the rocky floor of a valley rushing past several hundred feet below us. I promptly pushed the nose of the Comet down. We broke cloud almost in the snow waters of a swollen river. We flew along it. Cloud hung all around us. A mountainside sheered up before me. I banked steeply, missing the ground by feet as the valley took a sharp turn to the left. Precariously we followed the river down a narrow gorge. I was more frightened than ever, not knowing whether we would be caught out at any minute by the wall of cloud in front of us. For minutes

that seemed hours, we hugged the valley, until the sight that we had no longer dared to think about broke suddenly upon us. We were out of night into day, out of cold into warmth, out of mountains into lowlands. We were flying over the sunlit plains of France, and the sun was back in our hearts.

George and I shook hands with ourselves and grinned at each other. The howling blast that swirled around us through the open cockpit made conversation impossible.

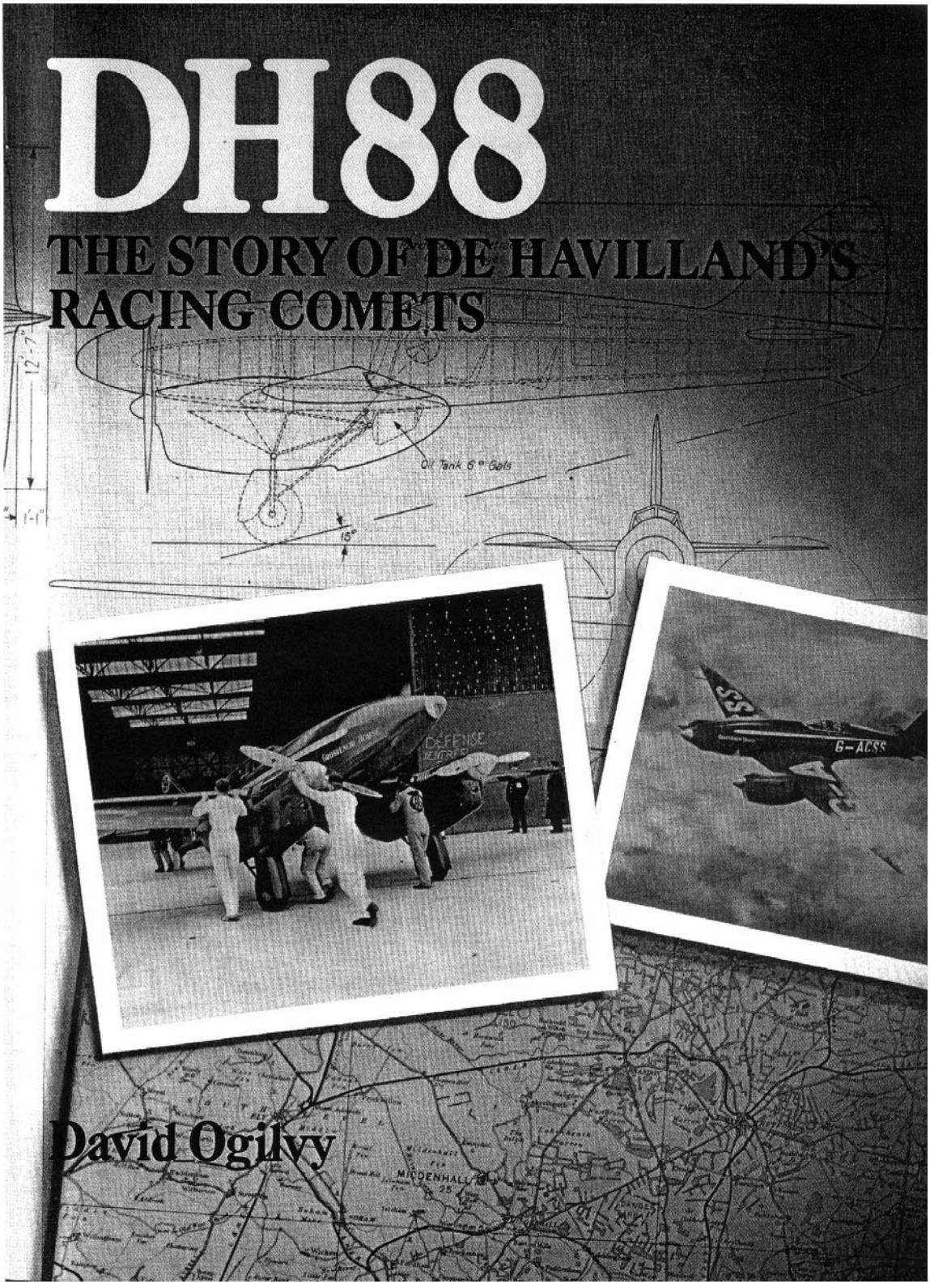
Thirty-five minutes later I sighted the Eiffel Tower ahead and veered off to starboard to Le Bourget airport. We roared across the hangar tops that formed the finishing-line. I pulled up to 1,500 feet and circled, taking a look at the airfield. Our spirits fell. Parked neatly, wing-tip to wing-tip, were three Savoia Marchettis. We flew closer for a better view. A lot of fuss was going on around the Savoias, and the Italians were still being congratulated.

I crossed the finishing-line a second time just in case there should be any disqualification, and we landed and taxied into line with the Savioas. Tired and dazed we climbed out of our cockpit, and the cheering roar of thousands of spectators came at us. For a moment we thought we must have won to warrant such an acclamation, but we soon learned that the Italians had taken the first three places. They had arrived a matter of minutes before us, with Bruno Mussolini in third place. We heard afterwards that the Duce had stormed at the pilots of the first two Savoias for not letting Bruno cross the winning-line first.

Out of the fourteen starters, all with faster machines than the Comet, only the four of us finished the course. The rest had either crashed or were lost.

At the presentation banquet the following evening I stepped forward with George to receive a small bronze plaque. All the prize-money went to the Italians.

Dinner after the Damascus air race, 1937. F/O Clouston and F/Lt. Nelson facing each other on left

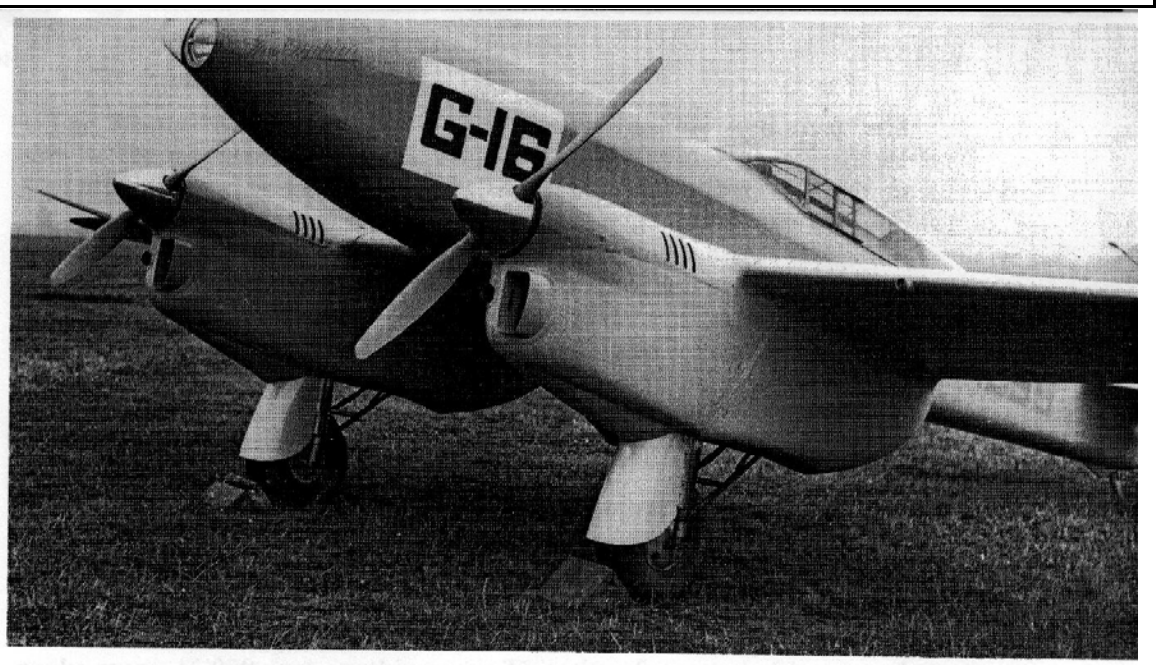


In this form G-ACSS re-emerged on the civil scene. Painted in a blue and grey scheme and renamed *The Orphan,* the newly-refurbished Comet was entered in a race to be staged in August 1937 from New York to Paris to mark the tenth anniversary of the famous solo Atlantic crossing by Charles Lindbergh. There were twenty-one published contestants, but shortly before the event the United States Government expressed serious doubts about the safety of so many pilots and aircraft crossing so much water and the U.S. Department of Commerce banned the race.

Almost immediately an alternative route was announced and this was to be from Marseilles (Istres) to Damascus, to Paris (Le Bourget). The number of starters had dwindled to thirteen and G-ACSS was the only British machine to be entered. Carrying the black racing number G-16 in a large white rectangle on the nose (a most unusual position, for normally such numbers are painted on the vertical tail surfaces) *The Orphan,* flown by Flying Officer Clouston and Flight Lieutenant George Nelson, averaged 196 mph over a route of 3,850 miles in an elapsed time of 19 hours and 41 minutes. The Comet made the fourth fastest time to an Italian Savoia Marchetti SM 79 that achieved 219 mph for the course. The race was flown on 20th and 21st August 1937.

That is all to be found in the history books, but any flight of this nature must make more worthwhile reading than the bare statistics that it produced. To appreciate the strains imposed on the aircraft and its occupants, no such tale can be more convincingly impressive than these selected extracts from a report written by Clouston shortly after the event:

> 'During the France — Syria — France Air Race from Istres (Marseilles) to Damascus (French Syria) and back to Paris, a storm belt of 450 miles was flown through over the Swiss Alps at 18,700 feet where severe icing conditions were encountered. This storm belt extended from the Mediterranean commencing about 150 miles due East of Venice to within 180 miles of Paris. With the exception of this storm area the entire 3,849 mile course was flown in good weather.
>
> The storm was entered at 7,000 feet on a Great Circle course of 302°. The course Damascus — Paris direct takes one over the middle of the Swiss Alps which extend for over 450 miles and reach a height of 16,000 feet in places.
>
> The majority of the 2,000 miles run home, Damascus — Paris, was flown just clear of the mountains at 6,000 — 10,000 feet in good weather, but when some 150 miles from the Swiss Alps the above mentioned storm belt was entered at 7,000 feet and the Comet was climbed through it to 18,700 feet above 10/10 clouds in sunshine. The aircraft was climbed



G-ACSS flew under various names. Here, as 'The Orphan' and with the racing number G-16 displayed prominently, it is seen at Gravesend in August 1937 prior to the race from Istres to Damascus. Note the absence of discs on the spinners, as evidence that the Ratier propellers have been replaced by more modern controllable pitch units.

through the storm area slowly so as not to lose too much time in the Race, the climb from 7,000 feet to 18,700 feet taking nearly an hour. During the climb heavy rain, then hail and snow clouds, were passed through. The Comet took on about ¾" to 1" of ice during this climb.

The clouds flown through on the climb from 7,000 feet to 18,700 feet were very heavy rain clouds with terrific up and down currents and some lightning up to about 15,000 feet where the rain changed to heavy hail showers, then snow until 18,700 feet was reached above the storm in sunshine.

The Comet had collected about ¾" to 1" of ice on the leading edges of the tail plane, fin and main planes during the climb. Later on the clouds extended to probably 30,000 feet, 10/10 and were of surprisingly varied types. At times they were heavy cumulus that almost obscured the wing tips and housed a colossal amount of moisture that froze readily to the aircraft. At other times belts of heavy snow storms were passed through which did not freeze to the aircraft readily; then again we would pass through a heavy hail-stone type of cloud, and again through heavy rain, all at 18,700 feet — 19,000 feet and blind flying 10/10 clouds all the time. It was very disconcerting weather to fly through and the aircraft was pitched about in gigantic bumps for several minutes, then would settle down on a steady blind flying course as the clouds varied, only to be pitched about with force as the hail and snow belts were intermittently flown through.

The frontal portion of the Comet screen became iced over and completely restricted forward visibility. The entire screen is made of Rhodoid and during a period when the machine was spiralling down in the region of 13,000 feet a loud report, similar in sound to a shotgun report, rang out. As we were still in 10/10 cloud, knowing the mountain peaks were 16,000 feet, George Nelson and I naturally assumed we had hit the mountains but almost immediately our cockpits were filled with hail, snow and rain. The complete cockpit Rhodoid covering, extending over and around both cockpits, had blown up into small pieces and disappeared with the exception of a few small strips of Rhodoid attached to the ribs forming the cockpit housing, which were left flapping in the air flow, plus a small frontal piece.

This extraordinary bursting of the cockpit covering I can only assume was caused by the great change in temperature as the Comet lost height quickly with failing engines from 18,700 feet to 13,000 feet. At 13,000 feet we found ourselves in a break in the clouds, with no sky or earth visible. It was obvious we were down a valley in the mountains as the mountain peaks were 16,000 feet in this area. This therefore probably caused considerable changes in the temperature. From then on until the ice areas were left both George Nelson and myself experienced a very uncomfortable journey sitting in the flying hail and snow at 200 mph which feels like hitting cricket balls. We then found ourselves at 12,800 feet circling around in a break in the clouds that might have closed up any moment and with no top, sides or bottom visible.

We could not proceed or return at this height as the mountains extended up to 16,000 feet all around, although not visible. We therefore had no option but to spiral up into the snow and hail, that had already sent us down, until above 16,000 feet, before continuing on a course for Paris. About 20 minutes was spent in climbing the Comet to 17,000 feet before setting a course for Paris, which was still in a 10/10 snow storm with occasional patches of heavy hail and rain.

The engines were running smoothly at about 2,000 revs. and continued to do so for about 12-15 minutes, when they both began to lose revs. slowly, running roughly until just a tick-over was obtained.

As the engines began to lose revs. I tried opening and shutting the throttles, then the altitude controls and finally the hot air intakes themselves, but no recovery or appreciable response was evident from the motors.

The Comet lost height in the snow storm to approximately 11,000 feet where warmer air was again met and the instruments once again fogged over inside the glasses. A long break in the clouds running North and South with still no sky or ground visible, was glided along. No sooner had this break been entered than the engines increased in revs., up to 2,100 and ran smoothly.

It was obvious that either my petrol tank vents were icing up or hot air controls at the carburettor were strained owing to being forced on when

iced up when the engines first showed signs of failing.

As we were still in among the Alps below the highest peaks and ranges and surrounded by cloud, I had no option again but to stay in the cloud valley until quite sure my engines were functioning satisfactorily, then spiral up again into the ice and snow that had driven me down for the second time. Again I climbed the Comet to 17,000 feet and continued on course for Paris. The engines ran well for 15-20 minutes when they both dropped revs. slowly but evenly from 2,000 to just a tick over. The hot air controls at the carburettor were left on and the throttles full open. The Comet lost height to 8,500 feet and passed through a heavy snow, hail and eventually rain storm. At this height we found ourselves down in a valley in the Alps with clouds on either side but a rocky bottom was visible. The engines picked up slowly to 2,150 revs. and ran smoothly. I flew down the valley losing height to come out at 4,000 ft under 10/10 clouds that were clear of the mountains. The hot air controls were pushed off and the engines increased in revs. to 2,280 at full throttle. Occasional heavy rain storms were flown through but the engines continued to run smoothly until the finishing line was crossed at Le Bourget 1 hour 12 minutes later.

The experience gained on this flight leads to the following observations:-

(a) How and why the Gipsy VI Series II engines in the Comet failed repeatedly in icing conditions with the hot air controls at the carburettors fully on? My own suggestion is that either my petrol tanks vent pipe iced up or the hot air control was not closing fully owing to jammed or strained control leads caused by the excessive cold (the control levers in the cockpit could be operated to the fully "on" and "off" positions after several attempts) although on conclusion of the flight these controls were found to be functioning perfectly, both at the engines and cockpit.

(b) The colossal change in weather conditions flying through cloud over the Alps at 19,000 feet is interesting. While flying through a thick normal type of cumulus cloud in fairly calm air we would pass through a heavy hail storm, then rain, then again snow and back again probably to ordinary watery type cumulus cloud. This amazing change in the clouds I consider must be due to the varying wind velocities and air currents peculiar to mountainous areas. It is very disconcerting weather to fly through, as the bumps at times in some of the belts of hail and snow are terrific and there is no indication one is changing to rain, hail or snow, or *vice versa,* until such cloud has been entered.

When passing through the watery type of cumulus clouds ice formed quickly with rough jagged edges and with a clear glassy appearance. After passing through a heavy hail storm for several minutes at the same height, the jagged edge was knocked off the ice formation on the wings. This is a phenomenon I have never experienced on any de-icing flights over England.

I suggest some of the hail belts passed through housed larger hail

stones than experienced in England. The leading edge of the Comet main plane and tail unit was worn to the bare wood which indicates the continual beating of large and heavy hail stones.

In conclusion this flight over the Swiss Alps through the aforesaid icing conditions is the worst flight I have ever experienced during my flying career. The severity of icing on this flight was not as heavy as many I have experienced on the Northrop over England, but the abrupt and severe changes in meteorological conditions found over the Alps seems to indicate every precaution should be taken if flying over high mountainous areas when icing conditions are known to exist.

To have to sit in the Comet with no parachute, with both engines failed to a tick over, and to have to spiral three times between the mountains in ice, hail and rain clouds during the course of an hour, with nothing but three reliable altimeters to indicate that *terra firma* is around one, is the most horrible feeling I have ever experienced.'

(Sgd) A. E. Clouston
Flying Officer, R.A.F.O.
September 1937