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## The Historical Facts Behind Curly's Airships

The conquest of the air was a major preoccupation of the 1920s, and in Great Britain the development of a practical form of long distance air travel was considered to be of vital national importance. Aeroplanes would not develop sufficient performance for regular intercontinental passenger services until the '30s, and many believed that the future of commercial flight lay in the development of rigid airships. There was serious and at times bitter rivalry for government patronage between the supporters of lighter- and heavier-than-air transport.

The first British 'rigids' were copies of the German Zeppelins that had bombed the country during the First World War: recreations of crashed or captured airships. The culmination of this programme of imitation was the construction of the R.38: an ill-considered attempt to improve on the final class of wartime Zeppelins. These were high-altitude ships, originally intended to be used for the bombing of New York, gigantic and dangerously frail. However, the War Office set even greater performance targets for its team of designers and the result was the biggest airship of its time, hopelessly fragile in construction and perilously over-powered (to achieve the power-to-weight ratio demanded by Whitehall).

The ship was not delivered by the Royal Airship Works until 1921, at a time when resources and official interest in airship development were temporarily in eclipse. In America however, enthusiasm for airships was running high, and the British Government decided to dispose of this white elephant by selling it to the U.S. Navy as quickly as possible.

An American crew was swiftly trained to fly their new ship home and a perfunctory programme of tests and trials was carried out with unseemly haste. Some senior airship officers and officials were alarmed at the obvious shortcomings of the craft and the dangers of attempting a transatlantic flight in it, but their objections were overruled and the airship was formally handed over to the Americans. A final acceptance flight was in progress when a foolish attempt to carry out emergency turns resulted in the airship dropping to pieces in the air with the loss of most of the forty-nine lives on board.

Almost unbelievably, the Government then made attempts to obtain payments for the airship from the U.S.A.

After three years of official disinterest in lighter-than-air flight, the Government of the day adopted the so-called Imperial Airship Scheme and a horribly familiar cycle of events was once more set in motion. Two new and highly ambitious airships were to be commissioned, each capable of flying a hundred passengers to Canada or India in luxury: one to be built by the Royal Airship Works and one by private enterprise. These ships were to fly in competition with each other, with the 'winning' design becoming the forerunner of a national airship fleet. This initial concept, itself the product of a political compromise, meant that the country's available airship design expertise (never an over-abundant resource) would be split into two rival teams: teams who had good practical reason for secrecy and mutual distrust.



Sheds 1 and 2 at the Royal Airship Works, Cardington, home of R.101 and R.100 respectively

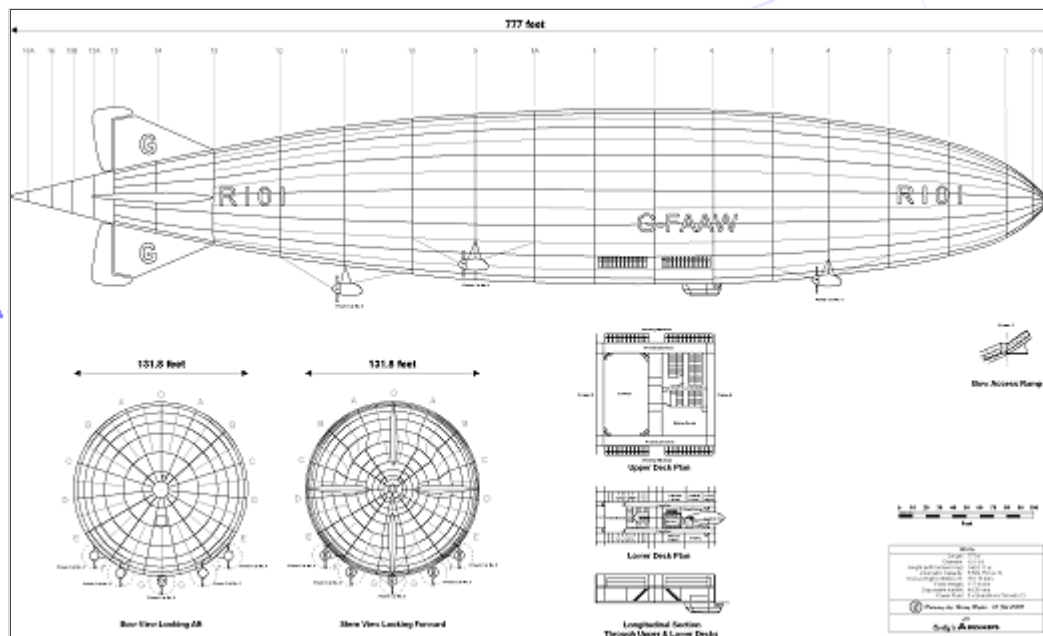
Once again a Whitehall design committee imposed potentially fatal demands on the designers, but, on this occasion, haunted by the memory of the R.38 disaster, they were determined that flimsy construction was to be avoided at all costs. Accordingly they laid down such over-stringent standards of strength and rigidity that it has been calculated that the new ships were each as much as 25% heavier than they need have been. In this new-found zeal for safety, it was also decreed that normal, petrol-fuelled aero-engines were unsafe for use in hot climates due to the increased risk of fire - a wonderful piece of official illogic in view of the fact that the airship would already be full of five million cubic feet of potentially explosive hydrogen gas.

The 'private sector' ship, designated the R.100, was built on a restricted budget by a subsidiary of Vickers and designed by the brilliant young engineer Barnes Wallis. The Government ship, the R.101, was essentially designed by a committee, including some of the same team responsible for the ill-fated R.38, working with almost unlimited funds at their disposal but severely handicapped by endless official interference and bureaucratic obstruction.

Much responsibility for this must be laid at the door of Lord Thomson, The Secretary Of State for Air during the crucial periods of the project. A powerful politician with a reputation for getting things done, he publicly identified himself with the progress of the Government ship to the extraordinary extent of taking as his title 'Baron Thomson of Cardington', the site of the Royal Airship Factory. His political career was in fact irrevocably linked to the success of the R.101: a situation which was to have tragic consequences.

Whereas construction of the R.100 proceeded in relative obscurity, Lord Thomson's Air Ministry ensured that every stage of the R.101's development was conducted in a blaze of publicity. The airship was to be a symbol of National enterprise and every aspect of its design was to be a technological first. New and experimental techniques, materials and devices of every kind were announced in the Press as having been developed for the ship and, to the despair of the designers, when one by one they were found to be unworkable, 'national prestige', as interpreted by Lord Thomson, demanded that they be incorporated anyway.

Both airships, in fact, were highly experimental in design, larger and more powerful than anything that had been built before. Making a ship capable of carrying a hundred passengers from one side of the world to the other involved fabricating, of light alloy girders and wires, structures of gigantic size but minimum weight, covering them with a weatherproof skin and suspending within them immense gas-bags to lift them into the air. The sheer size of these creations is hard to imagine. The R.101 in its final form was a seventh-of-a-mile long and 130 ft. high, larger than the biggest ocean vessel afloat at the time. And all this had to be achieved without the help of computers, nylon, neoprene or even non-inflammable helium gas. Furthermore they were then flown and navigated without the benefit of radar or satellite weather forecasts. The giant airships represented the extreme cutting edge of the technology of the day and perhaps could only have been the product of the generation who had survived the slaughter of the Great War with their boundless public optimism and disregard of risk.



R.101c in her final extended configuration - 777 feet (237 m) long and 141 feet (43 m) high.

The two ships were not launched until the Autumn of 1929, two years behind the original schedule, and, as the first test flights proceeded, it became increasingly obvious that the privately built R.100 was the better ship. Though not without faults and despite carrying the over-engineered hull demanded by the official specification, it more than fulfilled its performance targets and clearly had the makings of a practical and airworthy vessel.

Barnes Wallis was helped by the fact that, at a relatively early stage, the R.101, as the favoured child of the Air Ministry, had been assigned to the prestigious India route and was therefore subject to the foolish official embargo on the use of petrol in the tropics. The R.100 was to fly to and from Montreal across the North Atlantic and so was able to use tried and tested petrol aero-engines.

The R.101, on the other hand, was obliged to fit diesel motors, which at that time were at a relatively primitive stage of development, and these proved to be both massively heavy and seriously underpowered. In fact the fundamental design of the whole ship, though highly ingenious and of supreme elegance, was simply too heavy and lacking in vital lift. It flew sluggishly and reluctantly in the relentless glare of a publicity machine which was busily proclaiming the ship's triumphant success.

For several months, working under great official pressure, the design team laboured to lighten the ship: stripping out many of the gadgets and systems so proudly announced earlier, ripping out much of the passenger accommodation and, increasingly desperate when this failed to improve performance sufficiently, over-inflating the gas-bags to a dangerous extent.

Obliged, as part of the ceaseless publicity drive, to appear at the Hendon Airshow, it cruised to and fro above the enthusiastic crowds who were quite unaware that the beautiful craft was virtually crippled and in danger of dropping out of the sky.

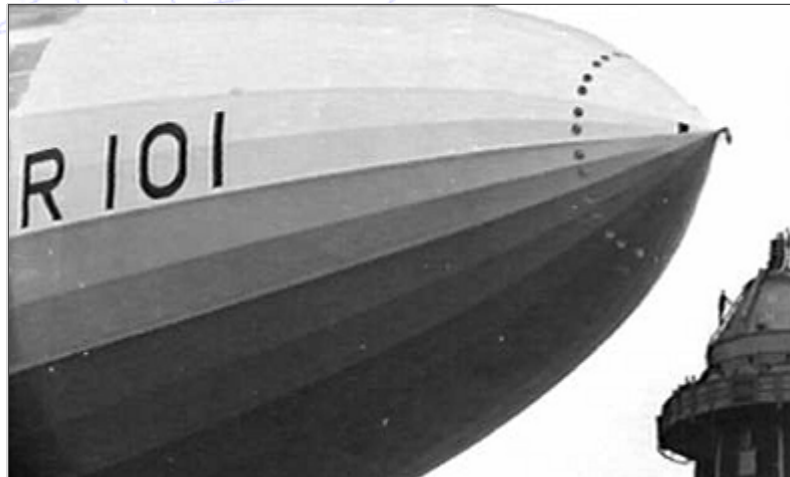
Meanwhile, despite some attempts at delaying tactics, the R.100 could not be prevented from making its maiden voyage to Canada. It crossed the Atlantic, overcoming heavy storms on the way, and made a tour of Canada to enormous popular acclaim before returning safely to a somewhat muted welcome at home.

The relative success of the R.100 brought matters to a head at the Royal Airship Works. Lord Thomson's patience, never very great, was finally exhausted, and he set a deadline for a flight that would take him to India and back. He was in line to be appointed the next Viceroy of India and was determined to make this highly symbolic flight to his new domain and to return in time for the forthcoming Imperial Conference, which he was due to address



on 'Air Travel and the Empire'.

Thomson was both highly romantic and politically ambitious, willing to charm or to bully in order to get the job done. He had been a high-ranking military Staff Officer with the habit of command, while his Ministry officials and the personnel of the Airship Service were virtually all either serving or ex-officers of less exalted rank with the habit of obedience to their C.O.; the cult of the stiff upper lip still prevailed at every level of official and military life. Those who should and could have blown the whistle on this foolhardy venture were paralysed at the prospect of being thought cowardly. Furthermore the Depression was beginning to bite, and few employment opportunities for airshipmen existed outside their beloved Service.



R.101 leaving her mooring mast at Cardington.  
Note the ground crew on the masthead.

The R.101 team realised that failure to be ready for this flight would result in the cancellation of the whole project and went ahead at great speed with their final option for improving the ship's performance: cutting the entire thing in two and inserting another bay to hold an additional gas-bag. The work was completed only a few days before the flight to India was due to leave and there was only time for one test flight of what was now a radically different airship. The Air Safety Inspectors, alarmed at this and at the condition of the over-inflated gas-bags which had rapidly begun to deteriorate, declined to issue a Certificate of Airworthiness but, once again, the warnings of experts were disregarded and overruled. On 4th October 1930, the overburdened and leaky monster laboured into the sky and disappeared into gathering rain clouds, carrying a crew of forty-two and a dozen official passengers including the ship's senior designers and Lord Thomson.



The planned route of R.101's Maiden Voyage from Cardington to Karachi, via Ismailia, which ended prematurely and tragically at Beauvais, France.

It seems that many, if not most, of the crew and passengers had profound misgivings about the venture. Very few with any real knowledge of airships could have believed that they would have been able to fly back from Karachi as planned, even if they reached India safely. A common belief seems to have been that the ship would get as far as Egypt, its intermediate destination, but no further. The more pessimistic doubted the ship would achieve so much, and discreet and unofficial arrangements seem to have been made for an emergency landing at Orly Aerodrome outside Paris. There are numerous reports of premonitions and psychic warnings of disaster.

Deteriorating weather conditions sealed the R.101's fate. On the flight south across England, one of the engines failed and, by the time it reached the South Coast, the airship was wallowing in high winds and heavy rain. It seems incredible that the flight was not aborted at this stage, but the airship fought its way out to sea issuing a stream of cheerful radio messages. A few hours later the waterlogged R.101 glided, quite gently, into a hillside near Beauvais in northern France and exploded. Miraculously six men survived. No officers or passengers were among them.



The R.101 memorial above the mass grave at Cardington

The Enquiry which followed the State Funeral of the victims had many of the characteristics

of an official whitewash; no one was deemed to have been in any way to blame for the tragedy; no reputations of brave men were to be impugned. At this point, a bizarre coda to the disaster was played out when a celebrated Spiritualist medium received a series of lengthy and detailed messages from entities claiming to be officers of the R.101. These restless souls apparently wanted to set the record straight on the events of the flight and the months leading up to it. Sceptical friends of the dead men were able to conduct lengthy conversations with them through the entranced medium and became convinced of their validity. Some of the technical details which were disclosed were of such a sensitive nature that the Security Services investigated the medium but failed to establish any 'earthly' source for her information.

The R.100 was forbidden to fly again and was sold for scrap.

Such are the bare outlines of a complex and many-sided episode of recent history. These extraordinary events seem to have the inevitability of a Greek tragedy and I find the story as fascinating today as I did six years ago when I began this project. It is said that no one who ever saw a rigid airship ever forgot the sight; such was the remarkable spell cast by these enormous machines, surely the most surreal and dreamlike mode of transport ever devised. Nor is the climactic image of the story easily forgotten: a stricken airship, gigantic and ethereally beautiful, lashed and driven by the storm and carrying, to a fiery death, brave men trapped by an outmoded code of honour.

We were Service, d'you see?  
Follow orders. Don't make waves.  
Keep your eyes on your duty.  
We survived the War  
And now we're hopelessly, helplessly,  
Hideously brave.  
Anything else would be letting the side down.  
Anything else was never discussed.  
Anything else was the unspeakable thing,  
The final taboo.

It's the silence that kills you.  
Don't break the silence.  
It's the silence that kills you.  
Don't break the silence.

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