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CHRISTOPHER BIRDWOOD THOMSON, SECRETARY OF STATE FOR AIR: He envisioned a world in which fleets of lighter-than-air ships floated serenely through the skies of the British empire, linking everything British in a new space-time continuum. R101 would prove his vision by flying successfully to India and back.

2



GEORGE HERBERT SCOTT (LEFT) AND ERNEST L. JOHNSTON: They were buddies and shipmates, part of the hard-drinking culture of the British naval airship service. Scott was considered to be the best airship commander in England, and Johnston was thought to be the best navigator. Together they plotted R101's course to India.

HERBERT SCOTT AT THE PINNACLE OF HIS CAREER: An ebullient "Scottie" had just returned from his spectacular double crossing of the Atlantic. The risks he took were as large as the fame he achieved back home in England. By the time of R101's departure for India, Scott, who would make the "go, no go" call, had an advanced drinking problem.



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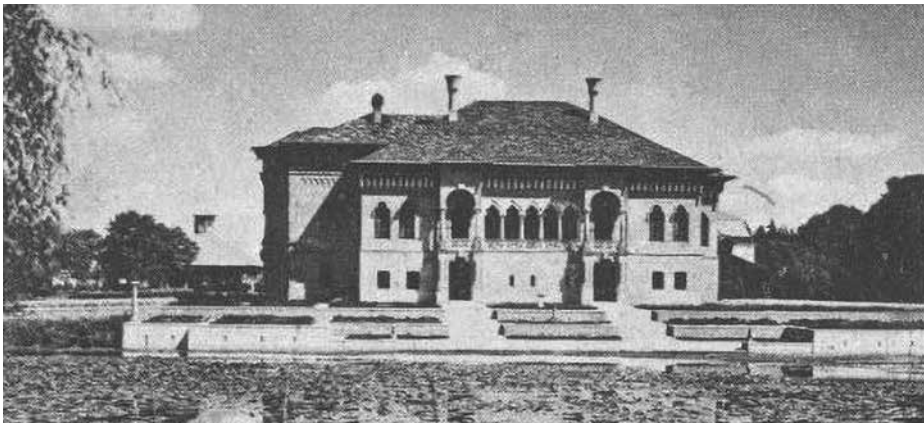


ONE OF EUROPE'S GREAT BEAUTIES: During World War I, Christopher Thomson met and fell in love with a real-life fairy-tale Romanian princess named Marthe Bibesco. With her striking looks, sparkling literary talent, aristocratic rank, and fluency in French, she became the toast of Belle Époque Paris. She stepped off the Orient Express and into a world that immediately loved her. Marcel Proust wrote a poem to her.

THE PRINCESS MARTHE BIBESCO AND HER DAUGHTER, VALENTINA: Though Marthe was married to a prince and raising a daughter, she managed to have love affairs with several prominent men in Europe in addition to her ultimately tragic relationship with Lord Thomson.



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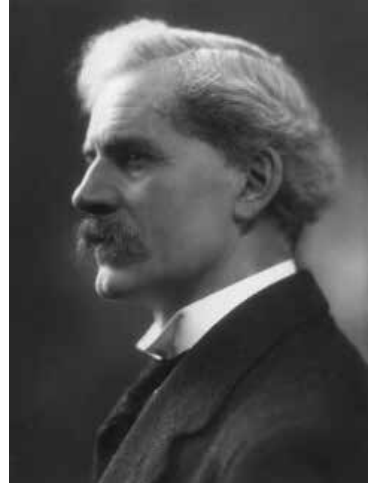
THE "SLEEPING WATERS" OF MOGOȘOAIA: Marthe Bibesco's eighteenth-century Venetian palace in Romania, where she entertained the beau monde of Europe. She restored it herself, financing the improvements largely with her own substantial earnings from her published books.

7



THE MAN IN CHARGE OF BUILDING AND FLYING R101: Reginald Colmore was perhaps more responsible than anyone else for R101's institutional failures. In the dapper forty-three-year-old's world, good news was pulsed out to the world in banner headlines, while bad news was bottled up, compartmentalized, and buried.

BRITISH PRIME MINISTER RAMSAY MACDONALD: Lord Thomson's best friend and staunch political ally. MacDonald wanted Thomson to take over as viceroy of India, the biggest job in the British empire, where he would rule over 319 million people and live in a 340-room, 200,000-square-foot Edwardian baroque palace in Delhi, the largest residence of any head of state in the world.

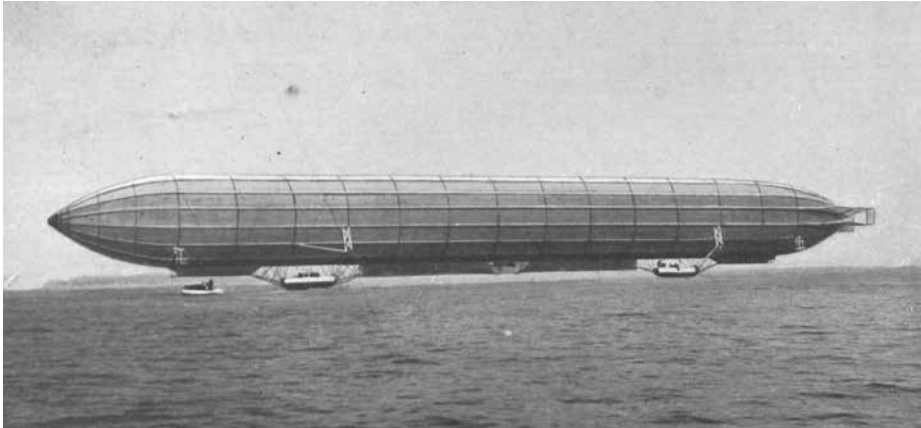


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MICHAEL ROPE, R101'S TALENTED BUT INEXPERIENCED DESIGNER: The shy engineer found that the airship's outer was so badly rotted that he sent an extraordinary memo to his bosses, telling them bluntly that the cover's condition meant that "there is no margin of safety for flight in a rough atmosphere." He recommended that they delay the flight. They refused.



10

THE FIRST GERMAN RIGID AIRSHIP, OVER LAKE CONSTANCE, 1900: The pencil-shaped ship was ungainly and underpowered. On her first flight her controls failed and she landed back in the lake. Critics judged the first zeppelin to be useless.

11



COUNT FERDINAND VON ZEPPELIN: He intended his radical, metal-framed airships to be used as weapons of war. After several unsuccessful attempts at flight, he was considered a failure. Many would have added modifiers: a clownish, bumbling failure, a caricature of a hopelessly inept inventor. He seemed, too, to be from another world, a place more like a feudal kingdom than Europe of La Belle Époque.



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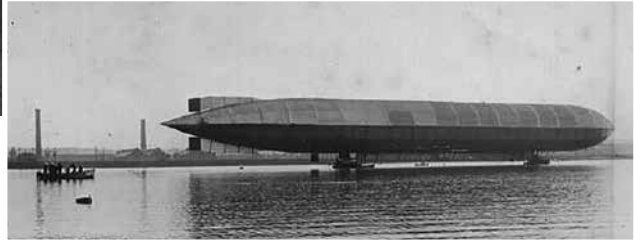
LZ-4, THE AIRSHIP THAT LAUNCHED AN INDUSTRY: On August 4, 1908, Count von Zeppelin attempted to fly LZ-4 continuously for twenty-four hours, thus smashing the Wright brothers' record of thirty-eight minutes. But LZ-4 never made it. She was destroyed in a hydrogen-fueled explosion. The German people responded, unaccountably, by making the count a national hero and showering him with money.

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SEARCHLIGHTS FIND A ZEPPELIN OVER LONDON: Zeppelins were the world's first long-range bombers. They introduced to humanity the notion that it could be obliterated from the sky by something other than a thunderbolt.

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THE ILL-FATED MAYFLY: Winston Churchill called her the *Won't Fly*, and with good reason. Cobbled together from the sketchiest of jury-rigged submarine technology and early zeppelin design, she broke in half on her first flight in 1911 and stalled the British airship program for five years.

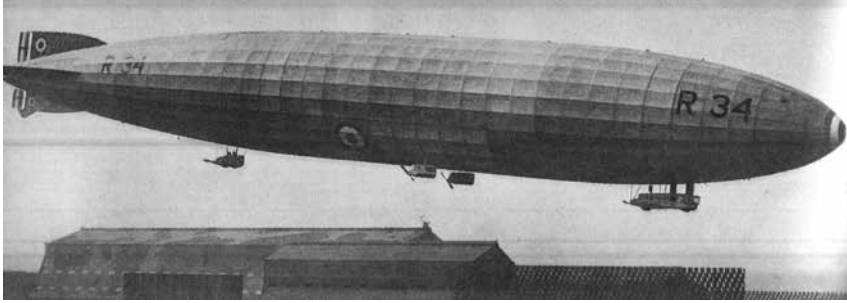
WARTIME BRITISH POSTER OF A ZEPPELIN IN FLAMES: The long-range zeppelin bombers came at night and released their bombs from great heights, terrorizing people across Europe. Most of their attacks took place in England. The war changed when British fighters learned to shoot the German airships down with incendiary bullets.

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GERMANY'S BRILLIANT HUGO ECKENER: This stout, undistinguished economics writer became the heir to Count Ferdinand von Zeppelin and the driving force behind the German airship industry. He was acknowledged by all to be the greatest airship pilot in history.

17



THE LEGENDARY R 34: In 1919, with Major Herbert Scott in command, she became only the second aircraft to cross the Atlantic, but the first to cross east to west and the first to make a double crossing. Though she had been built to mimic the German superzeppelins, she was in no way qualified to make such voyages and courted peril all the way.

18

CHARLES IVOR RAE CAMPBELL, GREAT BRITAIN'S GREAT IMITATOR: Unable to keep up with the Germans, British designers under Campbell stole their designs. They studied downed zeppelins and resorted to industrial espionage. Campbell's ultimate project, R 38, which supposedly had the speed and climbing ability of the superzeppelins, went down in a horrifying crash.

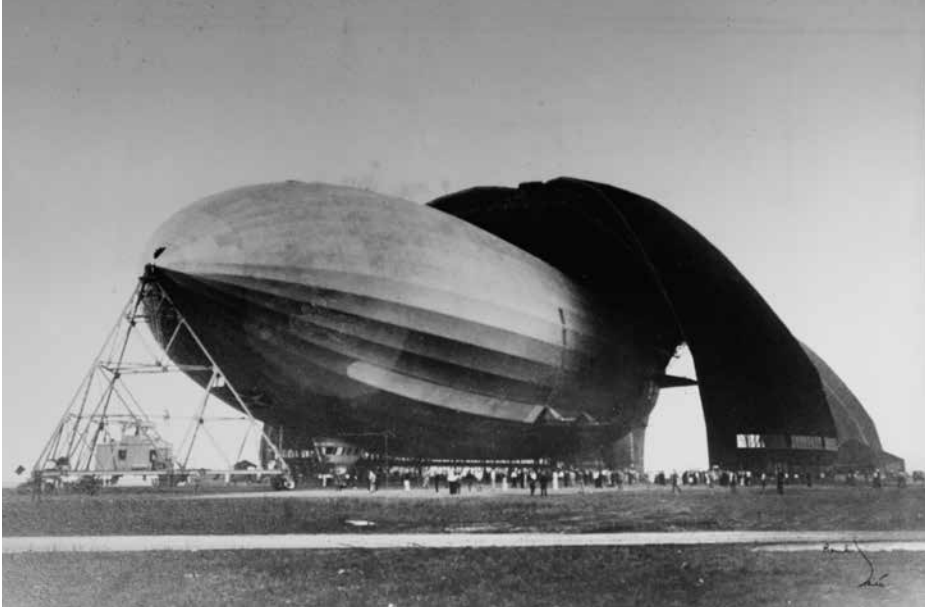


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THE TRAGEDY OF R 38: She was sleek, rounded, technologically sophisticated, Great Britain's bid for airship glory. But she was terribly flawed. In 1921, over the river Humber, she cracked open like an egg and fell burning into the water, killing forty-four of forty-nine crew in the worst airship crash ever.

20



AMERICA'S BID FOR AIRSHIP GLORY: The helium-filled, 785-foot-long *Akron* was the biggest, most expensive, and most technologically advanced airship ever built. She was destroyed in a thunderstorm off the coast of New Jersey, having demonstrated one of the greatest weaknesses of airships: they could not land in a storm. Seventy-three of seventy-six crew died, the greatest airship disaster in history.

21



THE CRASH OF THE USS SHENANDOAH: She was copied from a downed German zeppelin. Though most of her technology was obsolete, she was the first rigid airship to use helium instead of hydrogen. That didn't save her from being torn apart in an Ohio thunderstorm, plummeting in a gruesome, twisting fall from six thousand feet.



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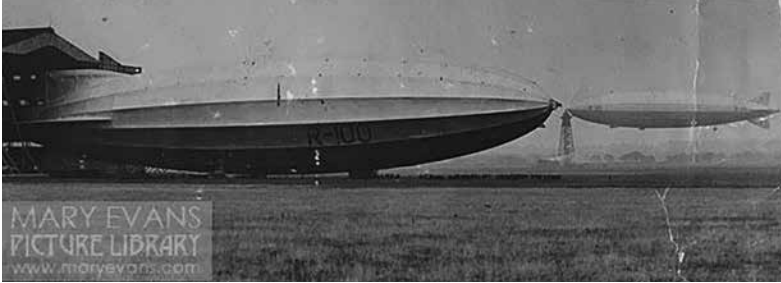
THE *GRAF ZEPPELIN* OVER BRAZIL: In the late 1920s the German *Graf* was the airborne symbol of everything the British aspired to and had failed to achieve. While R101 and R100 languished in their sheds, the *Graf* astounded the world with her swashbuckling exploits and globe-spanning flights. Her crew was given a ticker-tape parade in New York City.



23

A “BATTLEBAG”: Unlike metal-framed rigid airships, wartime blimps were frameless balloons filled with gas. They could carry only small crews but were useful in spotting U-boats. This one, Parseval No. 4, was once commanded by Herbert Scott, who made a name for himself escorting British ships carrying the British Expeditionary Force across the English Channel.

24



SISTER SHIPS R100 AND R101 IN CARDINGTON: They were the glittering flagships of the Imperial Airship Scheme, meant to stitch the far-flung British Empire together through the medium of the air. Their builders couldn't stand each other.

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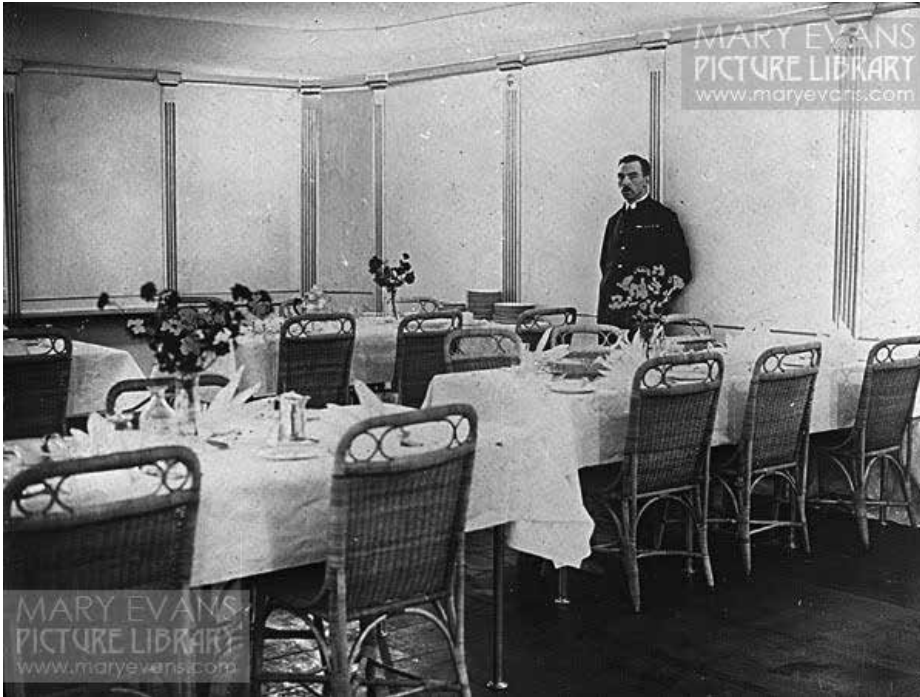


THE MEN IN CHARGE OF FLYING R101 FROM ENGLAND TO INDIA: (left to right) navigator Ernest Johnstone, Captain Carmichael "Bird" Irwin, Herbert Scott, Noel "Grabby" Atherstone, and Maurice Steff. The car behind them—a 20-foot-long piece of a 777-foot airship—housed the airship's main handling and engine controls and instrumentation.



26

A MASSIVE PRESENCE IN BEDFORDSHIRE: In the month before R101's takeoff for India, more than one million people came to see her, including the Prince of Wales. There was something strange and wonderful about an object bigger in volume than the *Titanic* that bobbed weightlessly at her mast. The gargantuan sheds at Cardington were also tourist attractions—they were among the largest man-made objects on earth.



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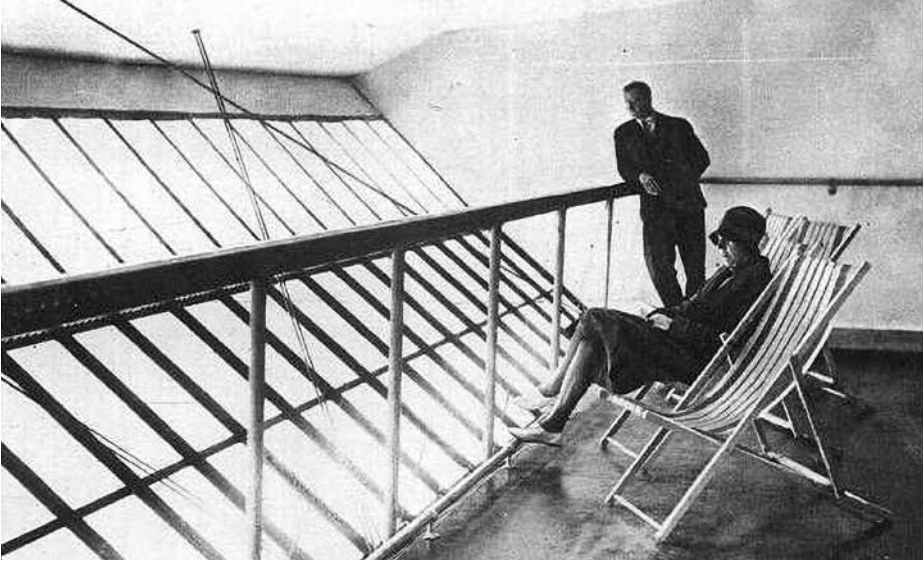
DINING IN LUXURY, OR THE ILLUSION OF LUXURY: R101 featured a sixty-seat Art Deco dining room trimmed in white, gold, and Cambridge blue, presided over by a chief steward. But the opulence was all surface. The pillars were not pillars; they were illusions of ultralight aluminum alloy, balsa wood, linen, and paint. Walls and ceilings were paper thin.



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THE SHIP'S LOUNGE AND PROMENADE DECK AWAIT MEMBERS OF PARLIAMENT: Lord Thomson invited more than a hundred members of Parliament to take a ride on R101, a move that R101's first officer called an "unjustifiable risk." For the occasion the lounge had been spruced up with curtains, tablecloths, ferns, and flowers. Foul weather prevented a likely tragedy.

29



THEY COULD SEE FOR MILES: One of the airship's great amenities was a promenade deck, just off the lounge, fitted out with thirty-two feet of cellulose-based windows. From here the passengers watched the spires of London pass below them and the sparkling lights of France loom into view. Another superb amenity was the flame-proof smoking room, a floor below, where smokers could puff away with enormous quantities of hydrogen a few feet above them.

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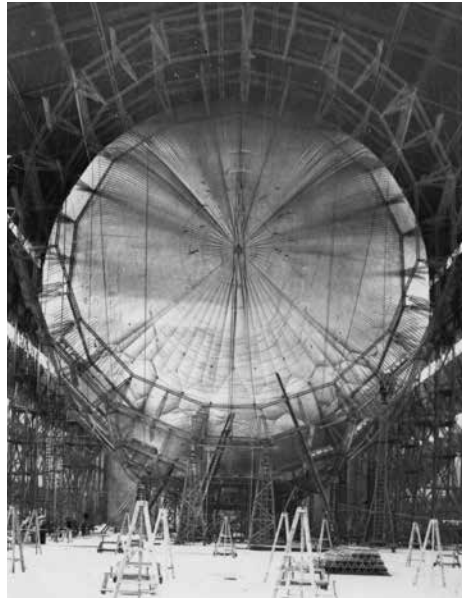
LASHING R101'S CLOTH COVER INTO PLACE: Her outer cover was her greatest weakness. It failed continuously over a year of test flights and was virtually untested before R101 left for India. The tearing of the cover at the top of the bow, which led to the rupture of a gasbag, was likely a primary cause of the crash.

31



CARDINGTON WOMEN REVIEWING THEIR WORK: Some five hundred thousand ultrathin pieces of cow intestines, known as goldbeaters' skins, were glued together to make the gas cells. The process was long, smelly, labor-intensive, and done exclusively by women.

GASBAGS THE SIZE OF TEN-STORY BUILDINGS: R101 got her 160-ton lifting capacity from seventeen enormous gasbags made of cotton-backed cattle intestines. The bags, which contained 5.5 million cubic feet of hydrogen gas, were leaky, easily punctured, and vulnerable to flame of any kind.

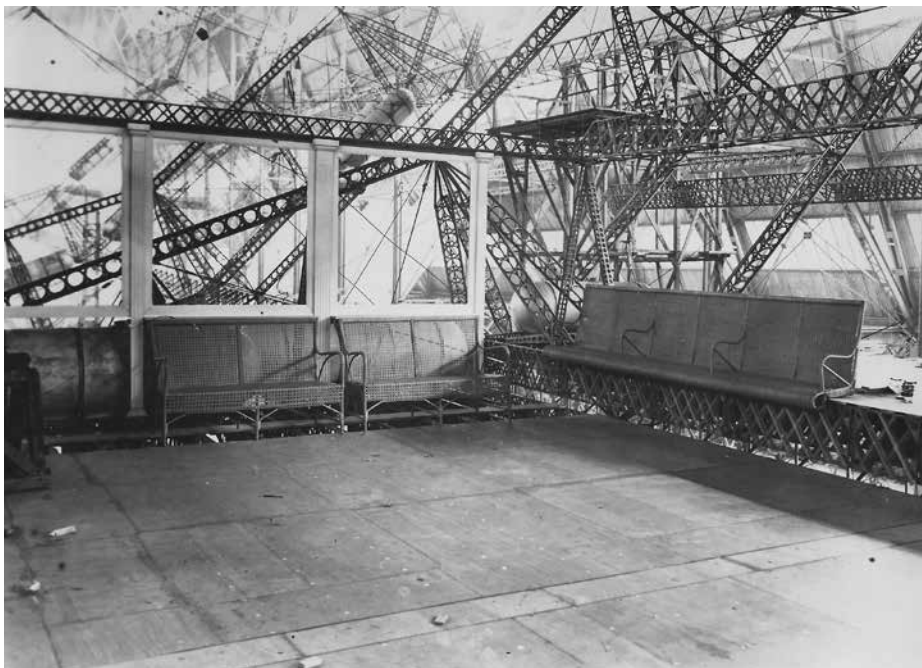


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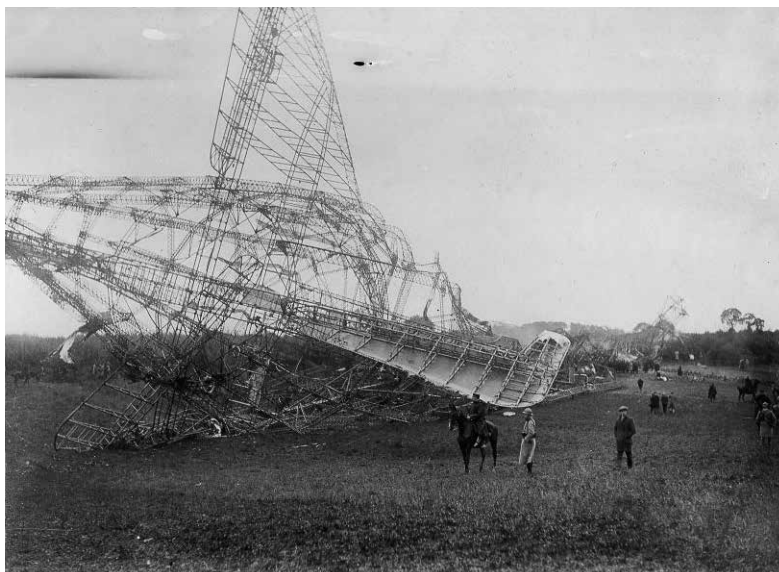
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LORD THOMSON AND ASSOCIATES, MOMENTS BEFORE EMBARKING FOR INDIA: (left to right) navigator Ernest Johnston; Director of Civil Aviation Sefton Brancker; Thomson's powerful secretary Louis Reynolds; Thomson; and chief designer Vincent Richmond. They are standing at the foot of the mast, waiting for the lift, happily unaware of what was about to happen to them.



THE LOUNGE UNDER CONSTRUCTION: Behind the ultralight balsa-wood pillars was the metal frame that held R101 together. The ship contained more than five miles of girders and tubing and miles more of electrical and bracing wire.



R101'S TAIL SECTION, WITH GIRDERS LARGELY INTACT: Since the airship hit the ground bow-down, and burned from front to back, the duralumin frame in the stern survived. It provided the clues that enabled an investigator to solve the mystery of the crash ninety-seven years after it happened.



36

AFTERMATH OF THE HORROR: Splayed across the Bois de Coutumes like the skeleton of a long-dead animal, R101 posed a problem familiar to crash investigators since the dawn of manned flight. Most of the evidence had been destroyed. Fire had swept the vessel in seconds, burning away with ruthless efficiency almost everything that was not made of steel, duralumin, or alloy, carbonizing human flesh, vaporizing the vast organic expanses of her cover and gas cells.



37

ANOTHER LEVEL OF HORROR: Many of the corpses were frozen in the postures of their final agonies. Some had their arms raised, as though to block the fire. Others had arms outstretched, as though reaching for help. Still others showed spine arched and head thrown back, as though burning to death on their beds.



40

SURVIVORS OF THE R101 CRASH: When R101 exploded into a giant hydrogen-and-gasoline-fueled fireball, which swept the length of the airship in a matter of seconds, these men somehow emerged alive. Their survival was seen as a miracle. (Left to right) Arthur Bell, Arthur Disley, Alfred Cook, Joseph Binks, Victor Savory, and Harry Leech.



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THE FUNERAL CORTÈGE: After a memorial service at St Paul's Cathedral, coffins containing R101's dead were taken by horse-drawn artillery carriages through Whitehall in London to Euston Station. The pomp, circumstance, grandeur, and sheer scale of the events were equivalent to a royal funeral. The last such outpouring of national grief had taken place after the sinking of the *Titanic* in 1911.