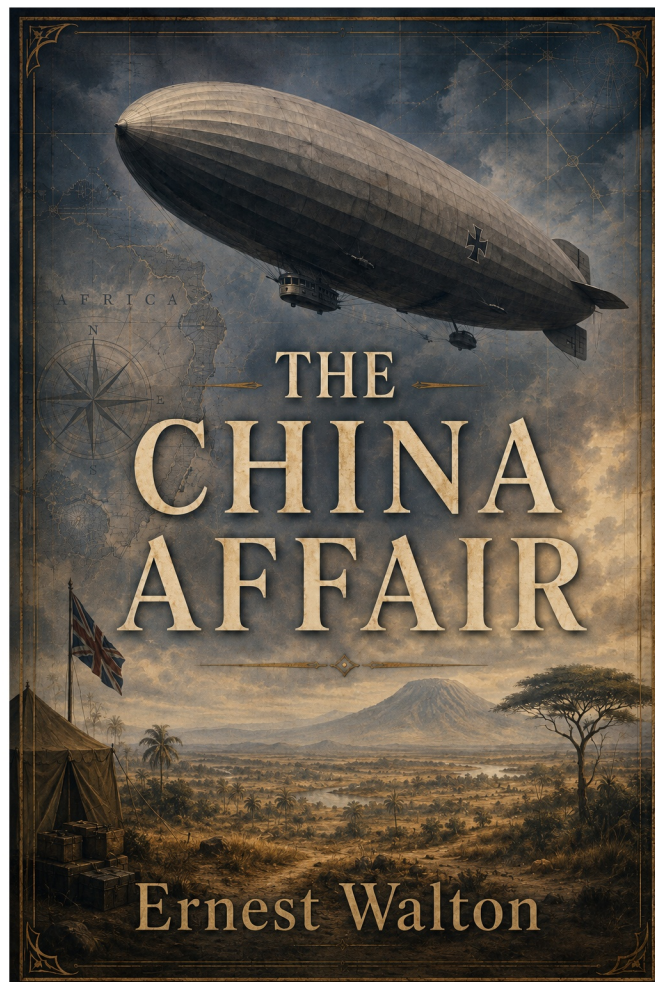




THE CHINA AFFAIR

by

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We must respect the past, remembering that once it was all
that was humanly possible.

George Santayana

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Prologue

AFTERNOON TEA IN AFRICA

In the afternoon of November 20, 1917, Commander Max Looff of the Imperial German Navy sat down to tea with the Chief of Staff of General O'Grady's forces.

Commander Looff was surprised by the invitation. After fighting the British in German East Africa for three years, and having just been forced to surrender, he did not expect an invitation to tea from one of His Majesties generals. However, archaic notions of courtesy and sportsmanship had survived in Africa. Commander Looff was, after all, the senior officer among the German troops who had just surrendered to the British forces. Scattered among a number of small camps and hospitals in the Lukuledi valley in the southeast corner of the German colony, a large number of sick, wounded and war weary soldiers had given up the struggle after three years of war.

At the outbreak of the First World War in 1914, Looff had commanded the light cruiser "Königsberg" just as she was visiting Dar-es-Salaam, the capital and main port of German East Africa. He had evaded the British squadron blockading the harbor and had taken the "Königsberg" into the Indian Ocean. He had cruised along the African coast, looking for prizes, and had surprised the disabled British cruiser "Pegasus" in the Zanzibar roadstead and sunk her. Soon after, British ships had driven him into the Rufiji river and bottled him up there. Looff had resisted vigorously but in 1915, two monitors penetrated into the mangrove jungle of the Rufiji delta and destroyed his cruiser. The men of the "Königsberg" had removed the 10.5 cm guns from the ship, mounted them on improvised gun carriages - one of them can still be seen outside Fort Jesus in Mombasa -

shouldered their rifles and joined the German forces defending the colony under the leadership of Colonel Paul von Lettow-Vorbeck.

It had occurred to the old sea captain that the invitation to take tea with his captors might serve for something besides social amenities. No doubt, there would be some subtle interrogation. Indeed there was. One question, however, caught Cmdr. Looff off guard. "I know that you expect a zeppelin to come to German East Africa. Where is it supposed to land?"

An airship? Here in Africa, below the Equator! Fly 8,000 kilometers from Germany, almost all of it over enemy territory, across a continent where no airship had flown before? What was this Englishman talking about? Then Looff understood. One of his fellow prisoners evidently had played an outlandish joke on the British. Looff decided to confuse the British even further.

Feigning reticence and inner struggle, Looff told his host: "I also heard something like that, but it is two airships. One is to land at Livale and the other at Masasi".

The English officer did not seem to be taken in by this story and changed the subject.

A few days later, on the 25th, Looff was driven past a flight of BE2 biplanes, squatting on the airstrip at Mtua. They were old, clumsy machines, but their machineguns were loaded and bombs hung in their wingracks. Looff recognized these planes of No. 26 Squadron. They had pestered the Germans since early 1917 when British had opened their latest campaign against the Germans at the end of the rainy season. Unrelentingly, the squadron had searched for the German troops, directed artillery fire upon them and

bombed and strafed them. The British officer escorting Looff pointed to the planes and said something about a "reception committee" but Looff did not understand what he meant. His mind was on the prisoner of war camp that awaited him.

What lay behind the mad teaparty Looff had attended a few days before, however, was every bit as fantastic as Looff had thought the question about zeppelins in Africa to be. It was a story of courage and bravery, of success and frustration - a singular adventure which will now be unfolded here.

Chapter I

AN IDEA IS BORN

The zeppelins about which Commander Looff had been questioned were the invention of Count Ferdinand von Zeppelin. We was born on July 8, 1838 in Constance, a pleasant, small town on the lake of the same name in Southern Germany. His family was of old Wurttemberg nobility, comfortably situated and well-connected.

The count's career began in the manner traditional to the sons of German nobility: service with the armed forces. He entered the military academy and was commissioned a lieutenant in the Wurttemberg army when he was 20. He quickly tired of the dull garrison duties assigned to junior officers in peacetime and obtained leave to study engineering at the University of Tubingen. Graduating in 1859, he chose to join the Corps of Engineers. It was an unusual move. Nobility traditionally chose the fighting services; cavalry and infantry were preferred. The technical branches were for the others. Apparently Count Zeppelin had no second thoughts about his self-imposed social demotion.

In 1863 the Wurttemberg army published new regulations for the training of junior officers. To Zeppelin, they promised more of the boring routine that was the lot of junior officers on peacetime garrison duty. To escape, he seized upon the idea of visiting the United States. A great civil war was raging there and Zeppelin proposed to observe the Union army in the Field to see what the American experience could contribute to the debate then current in Germany whether militia-type armies, of the type deployed by the Americans, could replace the standing, Prussian-type armies to which Europe was accustomed. He had another object in mind. "The Americans are especially inventive in

exploiting technology for military purposes", he wrote. Perhaps something could be learned there, too.

Family connections secured the necessary leave. On May 7, 1863, Count Zeppelin reached New York on the Cunard Liner "Australasian".¹ The Shipping News Reporter on the "New York Herald" did the best he could with the complexities of the Count's name. He reported the arrival of the "Comte de Zeppelin".

In Washington, the Prussian Ambassador arranged for an introduction to the President. On the morning of May 22, 1863, in morning coat and top hat, Zeppelin presented himself to President Lincoln at the White House. For a man who had absorbed court protocol with his mother's milk, Zeppelin was unprepared for the informality with which the President of the United States and his Secretary Reed (in another place Zeppelin said it was Seward) received him. He was later to describe the scene in great detail for his German readers, including the moccasin clad feet of Reed swinging rhythmically back and forth as he sat on the President's desk. He rounded out his impressions of the President in an interview with an American newspaper correspondent in 1915 in which he said: "The President made the impression on me that the Kaiser always makes on me when I see him." If Zeppelin was referring to Emperor Wilhelm II, one might take that statement with a grain of salt. There was little love lost between the two men regardless of their "correct" behavior in public. However, considering that Zeppelin was then speaking to a still neutral America and no doubt meant to stress the ties that existed between the two countries, one can accept this statement as a suitable expression of high respect for President Lincoln.

¹ Later, when recounting some of his adventures, Zeppelin wrote that he departed for America on the Cunard liner "Asia" on April 30, 1863. Zeppelin evidently had not consulted his diary and his recollection deceived him both as to date and name.

The President seemed to have liked the young man and granted him a pass to accompany the Union armies in the field. There is no official record of the President receiving Zeppelin. Lincoln undoubtedly had more pressing problems on his mind; the siege of Vicksburg, the threatening rebel moves opposite Joe Hooker's army and the politicians descending on Washington to demonstrate against published reports "reflecting upon the Eleventh Corps of General Hooker's army which is hurtful to the whole loyal German population of the country".² Even before Zeppelin had met the President, he had taken the precaution of obtaining a letter of introduction to General Robert E. Lee from his niece in Philadelphia. He carried it with him, sewn into the flaps of his field coat, to make things easier if he were captured by Confederate troops.

With Lincoln's pass in his pocket, Zeppelin left Washington for the battlefield. A steamer took him down the Potomac to Aquia Creek. From there a narrow gauge railroad carried him to General Hooker's headquarters near Falmouth. He rode on an open flat car, his legs dangling over the side, and thought this odd, but great fun, as were so many of his other experiences in this curious country. When he arrived on May 28, 1863, Zeppelin had to delay presenting his letter of introduction to General Hooker. The General was in Washington, perhaps to repair some of the damage which the recently lost battle of Chancellorsville had inflicted on his reputation. zeppelin made himself at home in the camp.

At the time, Zeppelin was a slight, trim young man. He sported a small mustache which, in later life took on walrus proportions in keeping with the more patrician girth which he had by then acquired. He possessed a pleasant, clear voice. The Hanseatic

² Carl Schurz' "German" division was part of the Eleventh Corps which had broken and fled in disorder under Lee's attack in the battle of Chancellorsville.

ambassador in Washington thought that for a cavalry officer, Zeppelin had an unusually inquisitive mind. Zeppelin wore his blue Wurttemberg uniform and his silver lieutenant's insignia resembled those of a lieutenant general of the Union Army. Zeppelin seldom took pains to clear up any confusion arising out of the resemblance. He got on well with the Union army officers. He was impressed by the West Pointers but disliked the military ignorance and pomposity of his fellow countryman, Carl Schurz.

After joining the Army of the Potomac, Zeppelin witnessed some minor engagements along the Rappahannock and later participated in the fighting between J.E.B. Stuart and General Pleasonton around Aldie, further north, in the early stages of the Gettysburg campaign. He indulged himself in the thrill of riding in one of the Union cavalry charges against Stuart's troopers without, however, drawing his sabre since this would have jeopardized his status as a neutral observer. Zeppelin later admitted that this legal nicety might not have protected him against rough treatment at the hands of the Confederates, had they captured an officer in a foreign uniform fighting on the Union side. In fact, it was a fate he only narrowly escaped on that occasion. His interest in observing the war soon flagged and he left the Army of the Potomac about June 22. His father had opposed his trip to America, apparently questioning his son's seriousness of purpose. He may have been right.

Since Zeppelin did not join the Army of the Potomac until May 28, it seems likely that he missed a sight that would have appealed to his curious, technically trained mind, that is, the use of balloons over the battle field for observation purposes. The U.S. Balloon Corps had last used one of its hydrogen filled balloons in the Battle of Chancellorsville which had ended on May 6th. If nevertheless Zeppelin did see one of the

chance ascents made by its balloons after the Corps had become inactive and before it was finally dissolved on August 1st, he never mentioned it in his journal.

The U.S. Balloon Corps, which sent its gossamer observation platforms aloft in the Battle of Chancellorsville, as well as in a number of other engagements in the Civil War, was the child of a man with the unlikely name of Thaddeus Sobieski Coulaincourt Lowe.

By profession, Lowe was a travelling science lecturer. His handsome French wife supported him by staging puppet shows. Whenever there was enough money on hand, Lowe returned to his real passion, the building and piloting of balloons. He believed that the upper air flowed in a steady current From west to east and he saw in this the means of using balloons to rapidly send mail and newspapers to Europe. To test this notion, he contracted for a very large balloon, "City of New York", to be built. He was persuaded by friends to first try his idea over land with a smaller balloon. It was good advice because it was not until August 1978 that a technically far more refined balloon, the "Double Eagle II", managed the hazardous journey across the Atlantic.

Lowe selected Cincinnati as the starting point for his test flight. When the wind was right, he made his departure. Lowe's eastern wind theory proved to be correct and within a Few hours he found himself on the ground in South Carolina. Unfortunately, he had, like many others, paid little attention to the news from Charleston where Southern guns had forced the Union garrison to evacuate Fort Sumter, and he now found himself looking into the muzzle of guns brandished by suspicious and angry rebel farmers. Fortunately, Lowe had with him copies of a Cincinnati newspaper, which had been printed while Lowe's balloon was being inflated, and which announced the impending

departure of the intrepid aeronaut. These papers helped to persuade local officials that Lowe's unlikely story was true and that he was not a Union spy. He was permitted to pass through the Rebel lines into Northern territory whereupon he promptly presented himself to Union authorities to try to interest them in the military use of balloons. He staged a successful balloon ascent from the White House lawn which persuaded President Lincoln that the army should avail itself of Lowe's services.

As a civilian contractor, with the grand title of Chief Astronaut of the Army of the Potomac, Lowe established the U.S. Balloon Corps on October 1, 1861. It consisted of five balloons and fifty men. Mobile gas generators, which Lowe had designed, made the use of balloons on the battlefield possible. The Morse telegraph and a simple code was used to send intelligence to the ground. The Balloon Corps proved itself very effective in scouting, observing enemy dispositions and directing Union artillery fire. The Confederacy was to pay Lowe the compliment of hasty imitation. It is said that a number of patriotic ladies in Petersburg sacrificed their silken finery to the manufacture of a balloon, but despite such well bred origins, it came to an undistinguished end. As it was being brought to the front on board a Confederate tug, the ship went aground in the James River where the Federals captured both the water-borne and the airborne ships.

The view which a civil war balloon observer enjoyed has been preserved for us by G. M. Osborne, a correspondent, in a dispatch which he sent to the "New York Herald" on May 20, 1863. He may well have participated in one of the last ascents made by the Balloon Corps and it was more likely set in motion by Mr. Osborne's energetic quest for interesting news than military necessity.

"Finding nothing on earth to write about, your correspondent determined to quit the sublunar sphere and take observation from a point in heaven. How to plan it so as to leave this planet was only the work of a few minutes. He asked and received, and at a later hour yesterday afternoon took advantage of, the courteous permission of Captain E. S. Allen, the aeronaut in charge of the balloon Washington, to accompany him in one of his aerial flights. The ascension was made from the ground in front of Major General Newton's quarters, and the view to be obtained at an altitude of one thousand feet, embracing the major portions of two mighty armies, was beautiful as well as grand. Suspended at this height, we leisurely surveyed the camps beneath us, the rivers winding toward each other on either side, and the broad expanse of territory within a diameter of thirty miles. We could plainly see in the rear of Fredericksburg and along the Rappahannock the rebel camps which are hidden from earthly vision on the long range of hills.

Opposite our extreme left Lee seems to have congregated a larger force than he had prior to the last movement, and it is estimated that in the vicinity of the 'Fitzhugh House' not less than twenty-five thousand rebels are now encamped. At intervals of two or three miles, as far as the eye could reach, the smoke of their campfire curled upwards, but only in isolated spots was there anything to be seen of their dingy shelter tents. In this regard, the rebel army fares much worse than our own. The rebels were bivouacked as best they could, while the canvass houses of the Union soldiers glittered in the evening sun for miles around us...."

"The broad acres of fallow ground which the troops have stripped for fuel, the deserted brown mud chimneys, the patches of forests, the green oases here and there, the

hard clay trails worn white with the constant journeying of wagon trains, the scattered camps, the little squares of men in regiments and brigades at drill, and the curious gazing at our little car, made up the figures of this mammoth pattern, and constituted a scene of mingled grandeur and minuteness. North of us were the waters of Aquia Creek and the Potomac River, glistening like silver in a sheen of the setting sun, and in the opposite direction the widening Rappahannock flowed silently down to meet them. Fredericksburg lay almost beneath us, dark and gloomy in the shadow of the forbidding hills beyond."

Soon after the battle of Chancellorsville, on May 8th, Lowe resigned from the Balloon Corps. The army persisted in refusing the Chief Astronaut an officer's commission and Lowe was tired of the petty jealousies and the bickering among his balloonists, some of who felt that the command of the Corps should have been theirs. With Lowe's resignation and the failure of the higher echelons of command to recognize the usefulness of the Balloon Corps, it quickly fell apart and was disbanded on August 1, 1863.

It has often been said that after joining the Union army, Zeppelin became an observation officer on one of the balloons of the Union army and that in the course of these duties he conceived the idea of building an airship. Typical is the account of one of the most respected encyclopedias: "(The) designer (of the rigid airship) was Count von Zeppelin, who, while serving as a balloon observer with the Union Forces in the American Civil War, conceived the idea of placing a number of balloons in line with a streamlined structure which could be propelled and steered".

As appealing as the story may be to some, it is probably false, though, as will be seen, his trip to the United States was indeed the source of his aeronautical inspirations.

Zeppelin specifically disclaimed that he had served as a balloon observer with the Union Army: "I made my first balloon ascension at St. Paul and not on the Civil War firing line as has been stated". Nonetheless, like old generals, some stories never die, they don't even fade away.

After leaving the Army of the Potomac, Zeppelin began to travel about the United States. He was a welcome guest in military messes, he tried American beer which he found too strong, flirted with the ladies, and joined an amateurish expedition to discover the sources of the Mississippi.

On August 17, 1863, Zeppelin checked into the "International Hotel" in St. Paul, Minnesota, a large five story brick structure at 7th and Jackson Streets. Across the street, a travelling balloonist was preparing to provide balloon rides to such of the public as were more daringly inclined. It was "Professor" John H. Steiner, professor being an honorific title freely used then, particularly by balloonists. Steiner was a German who had served as a balloonist in Lowe's Corps. He had seen action along the Potomac, at Cairo, Illinois and on Island Number 10 on the Mississippi. Steiner had left the Corps in December, 1862. The reason was probably the constant lateness of pay which was one of the chronic difficulties afflicting the Corps.

Ascensions were made on August 19 and on the morning of the 20th. Among those who availed themselves of this unusual opportunity was the rotund Governor Alexander Ramsey. But owing to his "specific gravity", the balloon would rise no higher than the housetops and he soon was forced to descend. His place was taken by his anxious looking, ten-year old daughter Marion. "I have no reason whatever to doubt that Count Zeppelin was a passenger on one of the ascensions made that day," she said many

years later, "Yet I cannot now seem able to remember anything about the other passengers". She had found the trip "not altogether pleasant" and what had impressed her much more vividly was "how horrified (her) mother was on learning that (her) father had permitted her to go up in the balloon".

Zeppelin took to the idea of a balloon flight with great enthusiasm. However, he desired something more exciting than the tethered flights which Steiner was offering the public. He made his arrangements with the balloon captain and bought 36,000 cubic feet of gas from the St. Paul Gas Works for an extended, free flight in the balloon. As it was, the gas Zeppelin purchased was of such poor quality that he had to settle for a less ambitious tethered flight.

With Steiner as his pilot, Zeppelin rose to six or seven hundred feet. The prospect spread before him led Zeppelin to an immediate appreciation of the military potential of balloons. Parallel to the Mississippi River, to the west, he saw a range of hills. They provided an excellent, natural defensive position to any troops intending to halt the advance of any enemy marching up the valley. There were no natural elevations, no towers or anything that would have permitted the attacker to observe the dispositions of defending troops, waiting behind the crests of those hills. From a balloon, however, they could have been easily seen and effective artillery fire directed upon them. "No method is better suited to viewing quickly the terrain of an unknown, enemy occupied region."

Zeppelin and Steiner talked about the military use of balloons. Steiner had some ideas of his own. At Edward's Ferry in Maryland, he said, he had taken a balloon on a free flight across the enemy lines before landing again safely behind the Union lines. Such flights, however, were dependent on the caprices of the wind. Steiner said that he

had designed a balloon that could better deal with the risks of free flight. He envisaged a balloon of a very long, thin shape, equipped with a "strong rudder".

Later, in the 1915 newspaper interview already referred to, Zeppelin said "While I was above St. Paul I had my first idea of aerial navigation strongly impressed upon me and it was there and then that the first idea of my zeppelin came to me." This seems inconsistent with what he wrote earlier in a biographical sketch for the 1911 edition of the German "Who is Who". There he stated that it was the speech of the German Postmaster General in 1873, in which he suggested the construction of dirigible balloons for speedier international mail service, which had inspired him to make his first plans for the construction of a rigid airship. Perhaps the statements are not inconsistent. The inspiration may have come over St. Paul, the impetus for action later. Too much can be read into such fragmentary statements. There is no doubt, however, that the flight over St. Paul made a lasting impression on Zeppelin. In this same "Who is Who" sketch, as he enumerated the many occurrences of a long and eventful life, he took pains to mention that "... near St. Paul,"³ he made his first ascent in a captive balloon. Zeppelin left New York on November 19, 1863 on the steamship "China". The ship's name could have no particular meaning for Zeppelin. When he returned to Wurttemberg, he sent a report of his observations to the king. It dealt mostly with the use of militia armies which he felt were unsuitable for European conditions. Balloons were not mentioned. He made some derogatory remarks about the lack of improvement in tactics of both armies during the war. In this view he was not alone. Count Helmuth v. Moltke, the Chief of Staff of the Prussian army, dismissed the war as "two armed mobs chasing each other round the

³ There is a story extant that Zeppelin made his first balloon ascent at Ft. Snelling, Minn. Careful research has found no support for this account but this, probably carelessly used word is likely to be sufficient to keep the story alive.

country, from which nothing could be learned". Other observers of the war did not share this view. Nevertheless, it is interesting to speculate about the extent to which the Kaiser's disdainful views of the American "mob" could be traced back to such reports.

In 1866, Prussia went to war with Austria, a war engineered by Bismarck to free the Germany he was building from Austrian domination. Wurttemberg sided with the Austrians and for his wartime services, Zeppelin was promoted to captain and Adjutant to the King of Wurttemberg. In 1870, he took the field again, this time on the side of the Prussians in their war against the French, the war which was to lead to the founding of the German Empire. Zeppelin led a reconnaissance in force deep into French territory. While his troops rested in a farmhouse, Zeppelin put out only one sentry and French cavalry was able to take the detachment by surprise. Zeppelin alone escaped and made his way back to the German lines. The exploit made Zeppelin of a national hero. Later, he was stationed at Villiers, near Paris, while the Germans besieged that city. There he must have seen many of the balloons which the encircled Parisians sent across the German lines with mail and important passengers. The operation was quite successful; 63 balloons rose of which only two were lost and five captured. Though no doubt the sight reminded Zeppelin of his St. Paul adventure, his diary was silent on this point but then, Zeppelin was never a satisfactory diarist or correspondent.

Yet during his military service, thoughts of aviation did not leave him entirely. On April 25, 1874, he wrote down some details as to what he required of a "balloon vehicle". To provide safe conveyance, he wanted a number of separate gas cells so that a flight could be continued safely even if one or more cells were punctured. Zeppelin specified 18 cells which were to be housed within a rigid, covered framework. Combining a

number of lifting cells in this way was an important innovation as up to that time designers had thought only in terms of single cell balloons and this put practical limitations on the size of the aerial vehicle. The ship was to carry twenty passengers, freight and mail and this necessarily meant a large ship, about 700,000 cubic feet, Zeppelin calculated. Steering would have to be dynamic and the space for freight, engines and passengers would be arranged under the lifting body. The form of the hull would be that of the body of a bird. Except for the bird shape of the body, it was an accurate forecast of the shape the rigid airship was to take. At first, his army service did not encourage Zeppelin to give his aeronautical ideas practical shape. Then in 1890, the situation changed. After the unification of Germany in 1871, the Wurttemberg army was integrated into the Prussian army. This meant that the welfare and promotion of Wurttemberg officers was in the hands of Prussian generals. To Zeppelin this was unfair and he finally sent a memorandum to Berlin to protest this arrangement.

The German Emperor considered Zeppelin's memo to be a provincialism which could not be tolerated. Probably as a consequence of the displeasure his memorandum had provoked in Berlin, Zeppelin was informed shortly after he had been given the command of a cavalry division, that he could expect no further promotion. Zeppelin resigned from the army and in the 52nd year of his life began a new career, the development of the airship. Fate had intervened. Zeppelin was not to be another retired general; he was to become a hero to millions and a household word around the world.

The time was ripe for the dirigible⁴ airship. The military potential of the balloon had been recognized immediately after the Montgolfier brothers had first flown their hot

⁴ An aeronautical term meaning may be steered. As a noun, refers to any balloon that may be steered. From the Latin *dirigereto direct*.

air balloon in 1783. Benjamin Franklin observed that balloons might be used for "elevating an engineer to take view of the enemy's army and for conveying intelligence into a besieged town". The Revolutionary French army successfully operated a hydrogen balloon in its campaign of 1794 but they gave little satisfaction to the Prussian and Austrian armies and when the French army used them again in Italy in 1859. The Austrian used balloons in 1849 to drop bombs into besieged Venice, but stopped using them when it became apparent that the vagaries of the wind were as likely to carry their explosive loads over the Austrian siege lines as over their intended targets.

With the successful use of balloons in the American Civil War, interest in the military use of balloons quickened. In 1870, the English army started to experiment with the use of balloons and aerial photography and by 1878 had established an Army Balloon School at Woolwich. The work of two French army captains, Charles Renard and Arthur Kreps, however, brought the development of the balloon to a decisive point. In 1884, they had built a balloon of elongated, teardrop shape and suspended from it a long gondola on which the ship's rudder and a 8 h.p. electric motor and its propeller was mounted. It was christened "La France".

The ship differed in one important respect from what Zeppelin had sketched out in 1874. Zeppelin's ship had its several independent gas cells housed within a rigid, fabric covered frame, eventually made out of duraluminum. This not only gave the airship its fixed outer shape but also formed the skeleton to which the ship's control surfaces, gondolas and engines were attached. It was the hull structure which caused airships built on Zeppelin's principles to be called rigid airships. The body of "La France", on the other hand, was formed by a single large gas cell which relied on the gas pressure within to

maintain its outer shape. It was the ancestor of the so-called "non rigid" airship, the blimp.⁵ On August 9, "La France" made its first flight at Chalais in which its inventors demonstrated that their balloon could be steered to a target and back to its starting point. Several more flights followed in which "La France" indeed proved itself dirigible and if the flights, because of the inadequate power plant, had to be made in practically windstill weather, the idea of a dirigible airship had been proved feasible. The lesson was not lost upon the Germans. They at once established an experimental airship detachment.

Meanwhile technology was laying the necessary foundation for further aeronautical developments. Steam and electricity were not suitable power sources for aerial vehicles but in 1876, the German firm of Otto and Langen started the production of the first modern gasoline engines. In 1886, a practical method for producing aluminum had been invented. When Zeppelin took his leave from military service in 1890, interest in aviation was active and the necessary technical foundation was being established.

Zeppelin now seriously set out to develop and promote his airship. In 1892, he hired a young engineer, Theodor Kober, to develop detailed plans. Zeppelin, however, found that his ideas were still too grand to be readily accepted. He sent a memorandum on military airships to the King of Wurttemberg, who took no action on it. The Prussian army was equally cool to the idea. A commission which the German Emperor appointed in 1894 to examine Zeppelin's design found the design "very notable" but impossible to execute. The German public turned a deaf ear to Zeppelin's appeals.

The door was opened a crack in 1895 when the German Engineering Society issued a favorable report on Zeppelin's plans. He was now able to form a corporation and

⁵ There is a third variant, the so-called "semi-rigid". Basically, it is a non-rigid airship to which a long, rigid built-up keel is attached which helps the gas cell to maintain its shape and gives the ship greater strength.

raise enough funds to launch a floating hangar on Lake Constance. In it, he built his first airship, "LZ 1". The "L" in the designation stands for "Luftschiff" (airship); the "Z" needs no explanation.

The ship had a rolling pin shape with parabaloid shaped ends. Two open gondolas hung under the hull. They were connected by a narrow cat walk which was suspended from the hull by wires. The crude ship had the hallmarks of all Zeppelin designs - a rigid hull formed by aluminum girders containing a number of separate gas cells; engines rigidly attached to the hull and a system of steering the ship in three dimensions which did not rely on the wind, the dropping of ballast or the discharge of gas as did aonveneionad balloons. Displacing 388,400 cubic feet, "LZ 1" was almost six times larger than the "La France". It was no less than 420 feet long.

It was a venture into many unexplored fields. Nothing was known about the proper shape For the propellors and the four Finally mounted resembled ships' screws. They were too small and ineffective. The design of the control surfaces was equally problematic. The rudders were small and mounted at the side of the hull. No elevators were provided and the altitude of the ship was controlled by shifting a weight back and forth under the ship. The engines zeppelin was able to obtain were feeble. Each of the two engines which he installed in "LZ 1" rated only 14 h.p. and the ship's best speed was just short of 20 m.p.h.

On July 2, 1900, the ship rose from the lake with five persons aboard and made an eighteen minute flight. After two more flights, the available funds were exhausted and the ship was broken up.

Zeppelin was determined to see his idea fully developed but the German Engineering Society refused further help and another public appeal also proved fruitless. Zeppelin finally prevailed upon the King of Wurttemberg to authorize a public lottery for his benefit. With the proceeds and much of his own fortune, Zeppelin constructed "LZ 2". It was damaged beyond repair after only two flights.

Although the German army had bought "LZ 3"⁶, it was only the success of the fourth ship which awakened any serious military interest. The army now laid down specifications for a military airship. While Zeppelin was attempting to demonstrate that his "LZ 4" could meet these specifications, the ship was forced to land at Echterdingen for eurereremny repairs. A squall drove the ship into a high tension line and it was totally destroyed by fire. This calamity and Zeppelin's bulldoggish persistence in the face of insufficient funds, inadequate technology and the caprice of fate, caught the imagination of the German people. A great, voluntary outpouring brought zeppelin 6,000,000 Marks with which he established the Deutsche Luftschiffahrts Aktiengesellschaft, (German Airship Transportation Corporation), or DELAG for short. Through this corporation zeppelin continued his efforts.

Zeppelin's trials were not over. More crashes, more frustrations followed. But Zeppelin would not be daunted. "LZ 5" landed at Göppingen and, through an error in handling, smashed its bow into a pear tree. Hops trellises were gathered from nearby farms, nailed together to form an improvised bow and the ship was flown back to its base. Impressed by the 38 hour flight "LZ 5" had made, the German army bought the repaired

⁶ It was used as a training ship. In 1913 it was considered obsolete and was dismantled.

ship, only to see it strand within the year. Two more ships, each named "Deutschland", came to quick and embarrassing ends.

Bankruptcy now stared Zeppelin in the face again but the next ship, the "Schwaben" (Swabia) was his lucky ship. It successfully completed 234 flights. The DELAG built three more ships which were used for pleasure cruises and for training army and navy airship crews. By the time the First World War broke out, the DELAG ships had completed 1588 trips, carried 10,197 passengers and flown 107,231 miles without injury or fatality.

The war which broke out in Europe in August 1914 was the bloodiest ever fought. It was to basically change the life and institutions of Europe and leave few countries in the world unaffected. Germany, Austria, Turkey and later Bulgaria formed the "Central Powers". Britain, France, Russia, Serbia Belgium which, through the German invasion was given little choice in the matter and a relatively inactive Japan rallied as the Allies, later to be joined by Italy, Romania, Portugal, the United States and others.

When Germany mobilized, the DELAG ships and their crews were taken into military service. The "Hansa" went to the army as a training ship, the "Victoria Louise" trained naval crews and the "Sachsen" was used first as an army training ship and later was turned over to the navy. The army already had six "frontline" ships in service; the navy had only "L 3".⁷ The war pushed Zeppelin out of the leadership of the Zeppelin Company. Neither the army nor the navy had been satisfied with the performance of their zeppelins. The old man, however, strongly resisted all suggestions for the improvement of his ships when they conflicted with his ideas of what constituted sound design. In a

⁷ The German navy assigned the prefix "L" to all airships built by the Zeppelin Company and numbered them in sequence as they were commissioned. The ships built by Zeppelin's competitor, the Schütte-Lanz Company received the prefix "SL" and the non-rigid airships built by Parseval carried the prefix "PL".

number of respects, the zeppelin airships were technically less advanced than those created by his rival in the rigid airship field, Dr. eng. Johann Schütte. Fortunately from Zeppelin's point of view, the Schütte-Lanz ships (Lanz provided the bulk of the financing) suffered two disadvantages. Their geodetic frames were built of wood. The wood soaked up moisture and the glue available could not adequately withstand the influence of the sea air. Schütte stuck to his ideas with even greater stubbornness than Zeppelin and it was only towards the end of the war that the first Schütte-Lanz with a metal skeleton was built. The second drawback which the rival airships suffered was the personality of their constructor. Dr. Schütte antagonized everyone with whom he worked including Admiral Tirpitz, the chief of the German navy.

Zeppelin's relations with the navy were not happy either. Tirpitz thought little of airships, particularly of their ability to operate in foul weather. The conflict came to a head with the crash of the navy's second airship, "L 2". The first navy zeppelin had gone down in the North Sea in a storm a few weeks earlier. Fourteen men of her crew had been drowned, the first loss of life suffered through a zeppelin. "L 2" had been built just as the navy wanted it, under the direction of its best naval architect, Felix Pietzker. He incorporated into "L 2" a number of his ideas on how the performance of a zeppelin could be improved. The engineers of the Zeppelin Company, and zeppelin himself, were skeptical of some of these innovations, including the idea of equipping the gondolas with windshields which extended up the hull. Airship captains should always have the feel of the wind in their faces, the count felt. Nevertheless, he felt obliged to congratulate the navy on constructing a handsome ship. On October 17, 1913, "L 2" took off for acceptance tests. About two hundred meters above the ground, a long spurt of flame shot

out of its forward engine car. There was an explosion, the gas cells, one after another, caught fire and the ship crashed, tearing itself apart in another explosion. None survived. The fire was attributed to the design of the gondola windshields which Zeppelin had disliked. The partial vacuum, which had formed behind them in flight, had sucked hydrogen into the engine gondola where it exploded.

At the public funeral, the old count encountered Grand Admiral Tirpitz and in public bitterly reproached him for the deaths.

Once the war had started, the navy could dictate to zeppelin what he had to do. The airship construction facilities were greatly enlarged and many men, most of them new faces to Zeppelin, were now building airships. Zeppelin disliked this new order of things and began to withdraw from the active management of the company and began to pursue a new interest - the construction of long range bombers.

Chapter II

BAD NEWS FROM LONDON

Since the great war had broken out in August 1914, the officials of the German Colonial Office had led a mixed life of pride, frustration and secret embarrassment. The source of their pride was the resistance which the German colonial troops in East Africa were continuing to offer to a vastly superior enemy and their frustration stemmed from their increasing inability to help these soldiers in their struggles or even to communicate with them. The very success which this small colonial army was achieving was also a source of the embarrassment of the Colonial Office. In 1913, it had turned down the commander of the African troops, Colonel Lettow - Vorbeck, as unfit for that post.

The Colonial Office was located in the government center of Berlin at Wilhelmstrasse 62. The Wilhelmstrasse was the address of a seat of world power, as were No. 10 Downing Street or the Quai d'Orsay. The street bespoke opulence, power and rank. The west side of the Wilhelmstrasse, where the buildings enjoyed an unobstructed view over the spacious "Tiergarten" park, was occupied by such senior institutions as the Ministry of the Royal House of Prussia, the Foreign Office and the Chancellory. The Colonial Office, as a more junior ministry, shared the less fashionable side of the street with the Ministry of Justice and the Emperor's Civil Cabinet.

In 1917, however, the Colonial Office was a ministry without anything to administer. In the first days of the war, Germany's overseas possessions had quickly fallen into enemy hands. The exception was German East Africa where Colonel Lettow-Vorbeck's troops were still holding out.

The Colonial Office was especially proud of the accomplishments of these troops. They were, after all, its particular responsibility, its own private army. The "Schutztruppe" (Protectorate Troops) answered only to the Colonial Office, not to the army or navy.

In public the Colonial Office joined in the Hosannahs to Lettow - it is hard to quarrel with success. Within the walls of 62 Wilhelmstrasse, however, his success was something of an embarrassment. In 1913, the Colonial Office had turned him down as unfit to command the East African troops. The rejection must have surprised many. The man had excellent credentials. He was the son of a Pommeranian family which for generations had supplied the Prussian army with officers. In 1881, when Lettow was eleven, his father, also an officer, enrolled him in the select Corps of Cadets at Potsdam. He graduated with academic honors and was commissioned a lieutenant in the foot guards. Training at the elite War Academy followed. He volunteered for service with an expeditionary corps sent to quell the Boxer Rebellion in China in 1900 and again for service with the force sent to German Southwest Africa (now Namibia) to suppress the Hottentot and Herero revolts in 1904 and 1905. A field command there gave him practical experience in bush warfare although a rock fragment kicked up by a bullet cost him the sight of an eye. In 1909, the army, which furnished the personnel for the German Marine Corps, appointed him commander of the 2nd Marine Battalion. The next step in the regular ladder of promotion would have been Commandant of the garrison of the Tsingtao colony in China. This promotion was not forthcoming. The reasons for this are not clear. There were stories that Lettow fell into disfavor by refusing to marry the daughter of a prominent officer. Lettow denied this. There may have been an affair with a

married woman, Perhaps he simply had irritated the wrong person, possibly the Commander of the Wilhelmshaven garrison where the 2nd Marines were stationed. The Commander had invited the station's officers to a reception, asking also the wives of the senior officers but not those of the junior grades. Lettow openly protested this discrimination although he himself was a bachelor.

Denied the promotion he considered his due, Lettow applied to the Colonial Office for the post of commander of the East African troops. The colonial troops tended to attract the restless and ambitious. Chances for advancement were better than in the regular army and the pay was higher. The Colonial Office rejected Lettow's application. In a strange turn about, Emperor Wilhelm II, not otherwise known as a keen judge of good officers, overruled the Colonial Office and appointed him to the position.

With characteristic energy, Lettow at once started to study Swahili, the lingua franca of East Africa. He arrived in Dar-es-Salaam in January 1914. A company of "Askaris", native soldiers, was drawn up to greet him. Accompanied by his new adjutant, Lt. Carl Ernst Göring, he inspected the troops and with a hearty shout of "Jambo Askari" (Greetings, soldiers), he assumed command.

German East Africa had become a German protectorate, the current euphemism for colony, in 1891. It consisted mainly of Tanganyika (before it merged with Zanzibar to become Tanzania) and the present Republics of Rwanda and Burundi. It was the most promising of Germany's late acquired and somewhat ramshackle colonial empire. The Berlin Convention of 1884 had made the Congo'Basin neutral soil and German East Africa was considered to be part of that basin. The colonial powers did not anticipate that Africa would become an important theatre of war. Maintenance of internal security,

rather than offensive warfare was the policy which Berlin had laid down for German East Africa in case of war. England had organized her African forces along the same lines. As a result, the German side was prepared to wage war in Africa in 1914 when hostilities began in Europe. The German troops consisted of about 200 white commissioned and non-commissioned officers and 2,400 Askaris. The troops were thoroughly trained and disciplined and well supplied with machine guns which had been found to be effective in suppressing native uprisings. They had no artillery, however, nor did they have up-to-date rifles. Although the German smokeless Mauser rifle had proved itself the queen of the battlefield in the Boer War of 1899 - 1902, the Askaris were still equipped with obsolete, black powder rifles which produced a cloud of smoke when fired and gave away the position of the rifleman. A militarized police force and whatever reservists could be drawn from the 4,000 white settlers backed the Schutztruppe. The German regular forces slightly outnumbered the neighboring British troops which, were widely scattered over Kenya, Uganda, Nyasaland and Zanzibar. Neither side had local facilities for producing arms, ammunition or any other accoutrements of war.

The purely defensive policies laid down by Berlin, and the insistence of the Governor of German East Africa that Lettow follow them, were not to his liking. Lettow was an aggressive man, middle sized, compactly built with piercing blue eyes and a hardbitten mouth. He was physically tough, leading his men in every weather and terrain. He set a rapid marching pace and in addition, was in the habit of personally coursing up and down his columns to keep them closed up. As Lettow was fond of telling, he once elicited the anguished outcry from one of his men: "That guy must have descended from a long line of rural mailcarriers!" He loved a good fight. He had volunteered for duty on

the two occasions during peacetime when opportunities for combat offered themselves — the Boxer and the Hottentot rebellions, though only in the latter was he able to get away from staff duty. But Lettow's combativeness manifested itself in many ways; one has the feeling that for him, almost any fight would do. He did not speak to his father for many years for reasons that he never disclosed. After his arrival in Africa, he told his superior, Governor Schnee, that he had no intention of obeying any order to declare Dar-es-Salaam an open city. This is what Schnee had planned to do in case of war, consistent with Berlin's policy, and Lettow's insubordination engendered a lifelong, bitter enmity between the two men. When he returned to Germany after the war, he ordered his troops to fire on strikers and, though most of the German generals had advised against it, Lettow took part in the 1919 Kapp Putsch, a right wing - military plot against the infant Weimar Republic, engineered by Ludendorff. Lettow was forced to resign from the army for participating in this abortive venture. He quarreled with the Nazis over slights he received at the hands of a local satrap, but took pains in his autobiography to mention how many good friends he had among the Nazis biography, a boast of questionable taste in 1957.

So it was that when war broke out in 1914, Lettow, with cocky selfassurance, took the offensive and carried the war into Kenya. He raided the Uganda railroad and mounted an ambitious, but unsuccessful attempt to capture Mombasa, Kenya's main port. In November, he repulsed a lackadaisical attempt of a much larger British-Indian army corps to land at Tanga. A swarm of wild bees rallied to the German side in this battle when a British company blundered into their nests, giving rise to the report of a new, perfidious secret weapon - trained bees!

After the defeat at Tanga, the task of clearing the Germans out of East Africa was assumed by the South African army. It was immediately diverted from its goal by a domestic rebellion. Some 12,000 Boers rose in armed protest against the Treaty of Vereeniging which, at the end of the Boer War in 1902, had ended Boer independence and had merged the Boer states into the Union of South Africa. By February 1915, the Boer rebels were subdued. The South African army then moved against neighboring German Southwest Africa lest the Germans there instigate further Boer unrest or other military diversions. In July, the Germans surrendered.

The Germans in East Africa made good use of the breathing space which the Boer uprising provided them to build up their army. Three thousand whites and eleven thousand black soldiers were brought under arms. There were parades; officers still brandished sabers, saber tassels and polished leather leggings. Pride and hope were still bright in East Africa.

When the rainy season ended in February 1916, the South African campaign against the Germans began in earnest. An operation around the flanks of Mount Kilimanjaro broke the German hold on the northern part of the colony. The South Africans continued their advance south but marched through the interior highlands of the Protectorate to avoid the fevers rampant in the hot, humid coastal areas. This forced them to move through covered, broken terrain which was supplied by few roads. It greatly hampered their campaign. Tse-tse flies, deadly to animals not native to the area, made the use of draft or pack animals impossible and it was difficult to keep motor transport moving over the dusty, rockstrewn paths which passed for roads. Even though the interior was healthier than the coastal area, malaria still took a serious toll among the white South

Africans. By the end of 1916, their ranks had been so thinned by the disease that they had to be withdrawn and replaced by African troops.

The Germans exploited the situation well. The slow retreat into which they had been forced permitted them to select the positions from which they chose to meet the enemy. The broken ground over which they were fighting favored the defenders and made concealment easy. When the British soldiers met the Germans, they deployed and laboriously began to outflank the Germans but before they could complete their maneuver, the Schutztruppe had disappeared into the bush again to fight somewhere else. The German formations were small enough to rely on native bearers to carry their supplies which gave them far greater mobility than the British could attain until they, too, began to use native supply bearers. Time and again, the Germans were able to escape the British attempts to encircle them. Nevertheless, casualties, disease and lack of supplies took a steady toll among the Germans and forced them to withdraw deeper and deeper into the colony. This did not matter to Lettow-Vorbeck,. His paramount aim was to tie down as many of the enemy troops as he could and to keep them away from the decisive European struggles. Battlefield victories and territory were of no account. Continuous diversion of enemy forces was. To that aim, all other considerations — military, political, human and personal ~ were subordinated. Lettow fully succeeded. In 1917, the Colonial Office estimated that a force of 1,400 white soldiers, "besides colored" as the Colonial Office chose to refer to the cutting edge of the Schutztruppe, still held 46,000 square miles of territory and engaged the attention of 100,00 to 120,000 enemy troops.

The assesment was quite accurate. After the war, the Allies counted the troops engaged in Africa on their side at 130,000 men and the cost of the campaign at £72,000,000.

Ironically, the Colonial Office in the Wilhelmstrasse had little first hand knowledge of it successes in Africa. The most reliable way of communicating with places overseas in those days was the submarine telegraph cable. However, the Germans had not laid such cables to their colonies. They would have had to be run through the English Channel, where they would be vulnerable to the English and French navies in the event of war. Indeed, within a day after England entered the war against Germany, midnight on August 4, 1914, all the German overseas telegraph cables had been pulled up from the Channel floor and cut. In peacetime, news was sent to German East Africa through the British cable running to South Africa. At Zanzibar, a branch cable took the messages to the capital of the German protectorate, Dar-es-Salaam. The Dar-es-Salaam line had gone dead even before war was formally declared.

Rather than laying submarine cables to get messages to their colonies, the Germans had begun to build a network of radio stations. Germany was a leader in the infant art of radio telegraphy and had given particular attention to the development of long range radios. In 1905, it began work on an overseas radio network with the construction of a powerful long distance station at Nauen, near Berlin. The second link in the chain was a station at Kamina in Germanland. In turn, it could reach stations in Dar-es-Salaam, at Duala in the Cameroons and at Windhoek in German Southwest Africa. The network, however, was slow in developing. Kamina was not completed until 1914

and the equipment for a new radio station, to be erected at Tabora in German East Africa, was still on the high seas when war broke out.

The English plan of operations against the German colonies aimed first at the destruction of these radio stations. On August 8th, two English cruisers appeared before Dar-es-Salaam and threatened to bombard the radio station there. To avoid useless bloodshed, Governor Schnee declared Dar-es-Salaam an open city, ignoring Lettow's opposition. The radio station was then dismantled. On the west coast of Africa, the Gold Coast Regiment began an energetic push into Togoland and the Germans blew up Kamina just before they surrendered on August 25th. Duala suffered the same fate on September 27th. The now isolated and useless Windhoek station was spared until May 1915. A few local stations remained in German East Africa. Under favorable weather conditions they could hear Nauen but they were far too weak to send messages to Germany. Berlin was now cut off from all regular communications with its colonies.

To keep itself informed the Colonial Office had to seek information about Africa in newspapers collected in neutral countries, in an occasional intelligence report and by listening to foreign radio broadcasts. The best source of news about Africa were the war communiques which Radio London broadcast at 11 o'clock every night. They were, of course, biased and often premature. A year earlier, headlines in London had already read: "The end of East Africa is near!" But whatever faults the English reports had, there was an inexorable logic and consistency about them. Place names appeared in the news, they became the focal point of fighting, they were reported captured and disappeared from the news again, to be replaced by new names further south on the map. Occasionally, reports of heavy British losses or the prolonged lack of forward moves by the enemy hinted at

German tactical successes. There were suggestions of detachments which had escaped encirclement or of miscalculations by the Allies, but, generally, since the end of the rainy season of 1917, the officials of the Colonial Office had had only bad news from Radio London.

Chapter III

PROFESSOR ZUPITZA'S IDEA

Late in 1916, Professor Maximillian Zupitza, a retired major in the colonial medical service, presented himself at the Colonial Office in Berlin. He had been taken a prisoner of war by the British when they occupied German Togoland in 1914. The British had turned him over to the French who had permitted him to return to Germany in 1916 on his word of honor that he would not again engage in hostilities against the Allies during the war.

Zupitza had had a long and distinguished career in Africa. He had served his tour of duty as an army physician and in 1897 had joined the German colonial forces. Most of his initial service had been in East Africa and had involved mainly the investigation of the bubonic plague. From 1905 on, he had worked on the eradication of the sleeping sickness in the Cameroons and in Togoland until he had been taken prisoner of war. He had received a number of decorations for his work.

The Colonial Office made it a practice to talk to those returning from Africa to fill in the gaps in the information it had about conditions there. Zupitza did not have much to add; he had been a prisoner too long. He in turn was curious about what had happened in the colonies while he had been imprisoned. The officers of the Military Department were glad to fill him in.

At the moment everything was quiet. The rainy season would begin any day now and neither army would be able to move in the fields of mud into which the torrential rains would turn the African soil. The Germans were holding an area which was bordered

on the north by the Rufiji river and its tributary, the Kilombero and the tributary of the latter, the Ruhudje. In the west, German control stopped at a line roughly 80 miles east of Lake Nyasa and in the south it ended at the Rovuma river, the border between German East Africa and Portuguese Mozambique. Germany had declared war on Portugal in 1916, but the Rovuma border had remained quiet. The Indian Ocean shore in the east, on the other hand, was now under the control of the British navy and the main ports, including the southern ports of Lindi and Kilwa, had been occupied by the enemy.

There was little doubt, however, that the war would be resumed when the rainy season ended next April. So far the German troops had been able to keep the field. Although cut off from Germany by the British blockade, they met many of their needs by making some of the supplies locally and two blockade runners had succeeded in reaching East Africa while stretches of the coast were still in German hands. A 1,600 ton freighter, the "Rubens" had arrived in Manza Bay in 1915. Before she could unload her cargo, she was discovered by a British gunboat which shelled her until she was in flames. Thinking its mission accomplished and troubled by pesky machine gun fire from shore, the British gun boat had left. The Germans, however, had set to work at once and had been able to salvage most of the "Rubens" cargo.

Early in 1916, a visitor of neutral nationality, coming from German East Africa, had stopped off in the Colonial office in Berlin. He had been able to leave the beleaguered colony through Mozambique which then was still neutral. While he had been in German East Africa, Governor Schnee had given him some warehouse inventories and had asked him to deliver them to the Colonial Office when he got to Berlin. The inventories were an ingenious deception. The supplies listed on the "inventories" were

entirely imaginary but the numbers purportedly showing how much of each category was on hand represented code words of a German signal code and spelled out the supplies the African troops needed - rifles, medicine, four small mountain guns and artillery ammunition. Fortunately, the Allies had not bothered the innocent traveller about the inventories. The "Marie" sailed soon afterwards and successfully landed the supplies which Schnee had requested in Sudi Bay.

Now that the coast of the colony was in British hands, however, it was no longer snmmetinies tx send more supply ships there but, as Berlin saw it, the German troops were probably adequately provided with military equipment. Weapons and ammunition were regularly captured on the battlefield, keeping the troops supplied in a makeshift way. This was not the case with medical supplies. There was a shortage of medicines of every kind, particularly quinine. Interviews with Germans who had been taken prisoner in Africa and later sent back to Germany confirmed this.

Nobody had to tell Zupitza how important quinine was to the Europeans in Africa. It was the proven antidote for malaria, the disease which had already decimated the South African army. Without regular use of quinine, the white soldiers would quickly succumb and without their leadership, the colonial troops would fall apart. The native soldiers by themselves had neither the incentive nor the ability to continue the fight. They knew little about Germany; that was an abstract concept to them. Their loyalty was to the person of their commander. None of the askaris had been trained as officers. They had not even been taught how to handle a machine gun. If collapse of the war effort in East Africa was to be avoided, the directing and cohesive force of the white officers and non-commissioned officers was essential.

Since ships could no longer get through, why wen we not fly medical supplies there with zeppelins, Zupitza asked.

Zupitza had not been the first to suggest this, but for its day, the idea seemed almost unreal. Few could see aircraft as anything more than an adjunct of ground and naval forces. The air was but a vertical extension of the surface below. If planes and airships crossed the frontlines for raids into enemy territory, they were nevertheless obliged to return to their base behind the lines as if some invisible umbilical cord bound them to that patch of ground.

What Zupitza had perceived was that the air was an element independent of land and sea. It was, in fact, a bridge across these elements. What he envisioned was warfare in three dimensions - the use of airborne vehicles to effect distant military intervention across terrestrial obstacles that might be interposed between the attacker and his target. His idea was in a sense a precursor of the Israeli rescue Operation at Entebbe in 1976.

But what equipment was available to carry out this idea? Airplanes were out of the question. Even the "Riesenflugzeuge (Giant Airplanes), the "Gotha" bombers, were completely inadequate to the task. Under the most favorable conditions, they could carry a bombload of 1,300 pounds for 520 miles. The airline distance to German East Africa was about 3,600 miles and to make the flight worthwhile, much more than the 1,300 pounds the "Gotha" was capable of carrying would be needed.

The airship experts of the "Reichsmarineamt", the Ministry of the Navy, thought that zeppelins could not do the job either. What little was known about meteorological conditions in Africa suggested that they were very unfavorable for airship travel. Baron Max von Gemmingen, an associate of Count Zeppelin, had stated the problem in 1914.

"Too little is known of the meteorological conditions in the [German colonies in Africa] to permit a reasonably accurate estimate of the factors relevant to aerial travel there at this time. The high temperatures reduce the lift of the airship and strong sunlight leads to considerable loss of gas; that is to say, in just those regions which require the highest performance of the airships, they lag behind their performance in our latitudes... [Airship travel to the colonies] requires detailed preparations for several years or more, particularly meteorological observations. Fortunately, the Colonial Office has made the only possible start for airship travel to the colonies by initiating such observations. Any attempt to send airships to the protectorates before the completion of such preliminary work must be considered premature". The war had brought the weather studies of the Colonial Office to a quick end and little more was known about the weather conditions in Africa and how they would affect the airship than was known when Baron von Gemmingen wrote his assessment of airship travel to the colonies.

There were other problems - lack of ground support and vague and inaccurate maps. Equally important was that nobody knew whether an airship crew could withstand the rigors of such a long flight and whether the engines would hold up that long. No airship had ever been aloft continuously for four days and this is how long it would take to reach East Africa. The typical German airship operation involved a twenty to twenty four hour reconnaissance or bombing flight. Moreover, the airship would be a total loss. It was unlikely that the ship, in addition to the cargo it was to deliver, could also carry enough fuel to return to its starting point and there was no way it could be refuelled in Africa. Even if there was enough gasoline left in the small area still held by the Germans to refuel the ship, it could never be gotten to the zeppelin's landing place before it was

discovered by the British. Nor was there any way of replacing the hydrogen gas the dirigible would lose during the long journey there, The ship would have to be sacrificed. The judgment of the Ministry of the Navy that an airship could not successfully carry out the proposed flight to Africa lacked daring but it was consistent with what was known at the time.

Yet, the idea of making a flight to Africa with an airship had a tremendous appeal to those with a more vivid imagination. Dirigibles were now available which were almost equal to the challenge. On May 28, 1916, a young lieutenant with the mouthfilling name of Horst Freiherr (Baron) Treusch von Buttler-Brandenfels had ferried airship "L 30" from its construction yard at Friedrichshafen to its operational base at Nordholz. It was the first of the new "Super zeppelins", and was almost two and one half times larger and over thirty percent faster than the class of zeppelins with which the navy had started the war. Count Zeppelin had been on board; it had been the last flight which fate would allow him. A photo taken of the old count shows him in military uniform, his walrus mustache turned white, seated at a window of the command car of the 1,949,600 cubic foot giant, chatting animatedly with an aide. Closed gondolas had been anathema to Zeppelin. An airship commander should always have the feel of the wind in his face, he had insisted. Closed cabin or not, Zeppelin must have been impressed by this newest version of his idea. In the plains of the Main river, between Darmstadt and Frankfurt, where the great international Rhein-Main airport is now located, Lieutenant Buttler took "L 30" down to 100 feet altitude and staged an impromptu race with a northbound express train. With a maximum speed of 74 m.p.h., Buttler won easily. The theoretical range of the new super-zeppelins was 4,600 miles, enough to reach Africa without a cargo.

Intercontinental airship flight had been talked about for some time already. At the time the war broke out, Zeppelin had been at work on a plan to fly across the Atlantic. Major von Parseval, the leading German designer of non-rigid airships, had also considered the possible use of airships in future transatlantic travel and had concluded "[The] present performance of the [airship] is not too far removed from the task and it seems possible from the technical point of view".

Zupitza became aware of the practical potential of airships in the summer of 1917 when he was visiting the eastern front as a consultant on hygiene. Glancing through the "Wilnaer Zeitung", a paper published for the German armed forces on the eastern front, his eye was caught by a small item in the June 20th issue entitled "How Long Does A Flight Across The Atlantic Take?" It was a summary of an article published in a science magazine, "Prometheus", which had described the possibilities of reaching the world beyond the Atlantic by air. To fly the distance of 3,700 miles at 37 m.p.h. would take about four days. To carry sufficient fuel for such a flight together with a payload of 22,000 pounds would require a ship of 1,765,500 displacement "Since for some time already, the larger zeppelins have attained half this size or more, the technical possibilities of an America airship may be taken for granted", the article concluded. Zupitza thought of his suggestion to use a zeppelin to fly medicine to Africa. If it was now possible to build zeppelins which could fly to America, why could one not be built to fly to Africa? Zupitza clipped the item out of the paper and sent it to the Staff of the Protectorate Troops of the Colonial Office together with a short letter requesting that it be examined to determine whether this means could not be used to supply the Schutztruppe with rifles, ammunition, medical and other vital supplies. He suggested that the ship start

in the Balkans or in Syria. If the ship took advantage of northern trade winds, he added optimistically, enough gasoline could be saved to make a number of flights against the enemy in Africa. He probably did not know about "L 30" and the ships that had followed it which were already larger than the airship the newspaper article had postulated.

Concerned with the fate of the colonial forces in East Africa, the Colonial Office once more started to look for military sponsorship of its aerial relief plans. On July 24, it sent Zupitza's letter together with his newspaper clipping to the Army's Inspector of Airship Troops of the Army Airforce and asked for his comments.

Chapter IV

THE ARMY SAYS "NO"!

At the end of July 1917, the Colonial Office submitted its Africa plan to the Army Air Force and with this nearly aborted its cherished project. The army like the navy operated its own, separate air force which also included an airship division. The Colonial Office chose to approach the Army Airforce just as it was dismantling its airship service. The army's decision to give up the airship was widely known but perhaps the officers of the Colonial Office were so far in the military back waters of the times that they had not heard of it. It may be that they turned to the army because the Ministry of the Navy had previously reacted negatively to its suggestion; perhaps it thought that the army now could spare an airship for the Africa venture. Whatever the reason was, the Colonial Office ignored not only the awkwardness of its timing but also the hostility which many Army Airforce officers had developed towards the airship and which had led them to abandon their airship service.

For the army to get rid of its zeppelins seemed almost unpatriotic. These grey giants were uniquely German weapons. No other nation had built them successfully. England's "R 1", unofficially but, in view of its life span, appropriately called the "Mayfly", had broken apart as it had been brought out of its hangar for its first flight. France's "Spiess" was made obsolete by German progress in the construction of rigid airships before the French could complete their ship. The French had a unique opportunity to update their airship technology when the German army ship "Z IV" made a forced landing at Lunéville in 1913 and French engineers carefully examined it while

its crew was being entertained at dinner. However, the unplanned zeppelin visit did not engender any further interest in rigid airships among the French military authorities and they stuck with their small, nonrigid airships.

The Germans believed that in the rigid airship they possessed a decisive super-weapon. Its gigantic size, its great bomb carrying capacity and its range, compared to the existing, flimsy heavier-than-air machines, appeared to give substance to this belief. They took great pride in their airships and Count Zeppelin was a great hero to them.

Giving voice to the prevailing expectations, German children sang a ditty to the tune of an old nursery rhyme:

"Zeppelin flieg.
Hilf uns im Krieg.
Fliege nach England,
England wird abgebrannt.
Zeppelin flieg."

(Zeppelin fly.
Our side you must stand by.
To England you are bound.
Burn England to the ground.
Zeppelin fly.)*

To the parents of these children, the dirigibles had a more substantial meaning. The newspaper editorials explained it all very clearly: Let all airships be massed over London and let the British be summoned to surrender on pain of seeing their city wiped from the face of the earth if they refuse! If such a notion now seems absurd, it was quite in line with the sensational phantasies conjured up by H.G. Wells in his "War in the Air" and by others not too long before. So powerful was the hold which the zeppelin had on the German imagination that in 1917, when the airship had long defaulted in producing those decisive victories everyone had expected of it, a German doctor still warned an English

acquaintance: "I hope you have no friends within the flying radius of our Zeppelins for the time has come when we are going to punish England, as Sodom and Gomorrah were punished with a hail of fire from heaven, for this war of starvation she is waging against our women and children".⁸

When war came in 1914, the army had seven "frontline" airships. They were untried weapons; nobody knew what they could do or how to operate them under wartime conditions. The army sent airship "Z IX"⁹ on a raid on which it was to attack Antwerp, Zeebrugge, Dunkerque, Calais and Lille in turn. For this purpose it carried ten eight inch shells instead of bombs which were not yet available. The shells were dropped without the aid of a bombsight on targets of which all but one were fortified. That an attack which dispersed so few "bombs" among so many targets could accomplish nothing seems not to have occurred to anyone. The belief evidently was that the aerial leviathan could by terror accomplish what was otherwise beyond its technical capacity. Zeppelin crews crossed the enemy lines in broad daylight and at low altitude since airships were not yet able to climb very high, disdainfully ignoring the heavy rifle that met them from the ground. The disdain did not last long. Crude as the early anti-aircraft defenses were, four airships were shot down in the first month of the war. "Z IX", less than three months old, met its doom soon afterwards at its base at Düsseldorf when an enterprising English naval aviator

⁸ With apologies to the German children of the day, who surely had nothing to do with creating these lines which do not scan, the original verse, probably stemming from the Thirty Years War, was equally blood thirsty: "Junebug fly. Your father is in the wars. Your mother is in Pommerania. Pommerania will be burned down. Junebug fly". The reader may also recall from his own childhood the rhyme "Ladybug, ladybug, fly away home. Your house is on fire and your children will burn".

⁹ The German army assigned the prefix "Z" to all ships constructed by the Zeppelin Company and numbered them serially with Roman numbers. After January 1915, the army used the Zeppelin Company's serial numbers and in June, to confuse Allied intelligence, began to add the number thirty to the Zeppelin Company serial number to form the army designation.

destroyed it in a divebombing attack. By fall, the proud German airship fleet in the west was reduced to one zeppelin.

The performance of the zeppelins in 1914 should have led to a reconsideration of their use for military purposes but the rush of events in that year probably did not permit such a sober reappraisal. The airplane was not yet a suitable vehicle for most purposes and certainly, the airship battallions were not readily going give up their part in the great fight that was under way. So with the momentum that events tend to acquire by themselves, the continued need for airships was taken for granted. It was just a question of building better ones. Larger and faster ships were built and production facilities were enlarged. By 1917 a zeppelin was produced every two weeks.

Although the army and navy airships had fared poorly during the summer of 1914, a new task was assigned to them in October, the bombardment of England.

The rules promulgated by the Hague Convention were no obstacle to bombing attacks on England. The convention merely prohibited the bombardment of open town and villages. England was full of military targets, some truly military, many others not so. Originally, the Hague Convention of 1907 had decided to ban the launching of projectiles from balloons entirely. The saner judgment of the American delegation finally prevailed. The airship was yet untried; might it not soon become a weapon which by its terrible effectiveness could well serve to shorten a war? That was always a desirable goal. Until more experience with this new weapon and its potential for curtailing a war was available, the question whether balloons should be taken out of the armory of lawful arms should be deferred. In 1914, the belligerents were therefore legally free to attack military

targets from the air. When aerial weapons finally demonstrated what destruction they could wreak, it was too late to enact laws and conventions to ban them.

When the proposal to bomb English targets was put before Emperor Wilhelm II, he was reluctant to give his consent. He did not wish to visit personal injury upon his Hungarian cousins or damage their palaces or museums. Ultimately, he was persuaded that precision bombing could avoid such damage and he authorized the attacks. Buttlar - Brandenfels laughed: "As if, at attack altitude, I could make out whether a museum or a palace belonged to the English king!" In January 1915 the first zeppelin appeared over England. Soon London became a target and the attacks multiplied. Sir Alfred Ewing, a resident of London, left us a description of one of these early airship raids. As a zeppelin cruised over London one evening in September 1915, he left his office to join the throng in the streets and parks of the government quarters along Whitehall Street. Ewing had not expected that the German raids would have much effect. He had already confided to his diary: "I have no faith in a serious zeppelin raid, though they may do a bit of scaring that way". Fear of German airships and particularly heavy bombers was to grow later, but that night the crowd was in a jolly mood. It was grand entertainment! There was a faint, deep throated hum. Search lights stabbed into the night and at last caught the zeppelin. Anti-aircraft guns began to blast away, shrapnel exploded in the sky while the enemy continued his stately progress through the sky undisturbed. "The spectacle was stirring and rather beautiful", Ewing said. London got off easy that night. Two of the three zeppelins that had started for England did not reach it at all; the third was taken under fire the moment it broke through the cloud cover over the city. A shell pierced two of its

gas cells and it was forced to jettison its bombs and ballast to get away. There were were no casualties.

Four weeks later the zeppelins raided London again. Lt. Commander Breithaupt, commanding one of the German ships, carried away somewhat the same impression that Ewing» reported - a grand, beautiful adventure, divorced from death and suffering: "London lay darkly under us, only a few lights showing. Suddenly, from all sides searchlights leaped out towards us, and as we flew over Tottenham a wild cannonade from aiet~a ewe stations began... The picture was indescribably beautiful - shrapnel bursting around (though rather uncomfortably near us), our bombs bursting, and the flashes of the anti-aircraft batteries below... And over us the starlit sky!"

Ewing saw Breithaupt as he was coming over the city at about 10:30 p.m. and watched the anti-aircraft guns drive him off. The raid seems to have impressed him less than the September attacks, it rates little space in his diary. Nevertheless, seventeen persons were killed that night.

The anti-aircraft defenses of 1914 and 1915 were highly improvised affairs. Alfred Krupp, with a fine nose for new business opportunities, had already built a "balloon gun" in 1871 to thwart the French balloons which were escaping the German siege lines around Paris but the armies which took the field in the hot summer of 1914 possessed no organized anti-aircraft units. The infantry, of course, used their rifles and the huge ship passing slowly by presented a target which the rawest recruit was bound to hit. Don't worry about leading the target, the soldier was told, just aim for the nose. By the time your bullet reaches the zeppelin's altitude, there is still plenty of it coming by to be hit. Machine gunners were aodle to join as soon as they found the means of raising the

muzzles of their wean high een « The artillery dug special gunpits for their light pieces or placed them on ramps to point their barrels skywards and the redoubtable French 75 mm. gun was placed on all sorts of fixed and mobile mounts to become the first modern antiaircraft gun.

At the time of Breithaupt's attack on London, there were only 26 anti-aircraft guns in the entire London area and those stationed at Woolwich Arsenal lacked the range to join in the defense of the city proper. This changed rapidly. Anti-aircraft guns and searchlights multiplied and were soon supported by a web of observation posts and audio and radio direction finders. Anti-aircraft gun became more effective. Special shells and gunsights were designed for them. On one raid, Buttlar's ship was hit at 16,000 feet, a great altitude for its day. As his ship became unbalanced and threatened to break apart, Buttlar's Executive Officer tried to relieve the tension by inquiring whether the captain preferred to take charge of the bow or stern section in case the worst happened but it took Buttlar a while to recover his sense of humor. At the same time, Allied fighter planes steadily improved in performance and increased in numbers. The airplane of 1914 was no threat to the airship. It carried no armament and if a few of the more aggressive aviators tried to shoot their colleagues on the other side with pistols and carbines, these weapons could not have downed a zeppelin even if the limited speed and climbing ability of their machines had permitted them to intercept the German sky cruisers. But even as the combattants began to arm their aircraft, Count Zeppelin confidently predicted in 1915 that in aerial combat, the airship would have the upper hand as it was a more stable gun platform than the airplane. He chose to overlook the obvious - that the airship was also the bigger target.

Even then, it was not a simple matter for an airplane to shoot down a zeppelin. The airplane could carry only a limited amount of machine gun ammunition. The small holes which these made in the cover and gas cells of the airship let the gas escape only slowly and subdividing the ship into numerous separate gas cells limited the leakage to the cells actually hit. In fact, the first airship destroyed in aerial combat was dispatched by six 20 pound bombs dropped on it from above by a plane of the Royal Navy.

However, in 1916, when the British perfected the explosive and incendiary machinegun bullet, the balance irretrievably tipped in favor of the Allied aviators. Both types of ammunition were used in combination, the explosive bullet tore open the airship's gascells and the incendiaries ignited the escaping hydrogen gas. Hydrogen gas is highly inflammable and the resulting blaze was likely to transform the ship into a roaring furnace in a matter of seconds. Every airplane carrying the new ammunition became a deadly enemy of the airship. The Allied aviators also had learned to operate their planes at night and darkness no longer offered the airship protection. The army took various counter-measures to improve the operational capabilities of its ships. Their performance was constantly improved. Defensive armament was strengthened until, at the end, some ships mounted ten machineguns.¹⁰ An attempt was made to permit airships to operate hidden in the clouds by equipping them with a teardrop shaped, fin stabilized "Spähkorb", an observation gondola which the ship lowered beneath the cloud cover. From there, an officer telephoned navigation and bombing instructions to the commander. It is said that service in the Spahkorb was popular because it was the only place on a zeppelin where smoking was permitted. The observer on "LZ 107", however,

¹⁰ ed his mind about the advantages of manning the observation * In 1918, the navy experimented with a 2 cm. cannon to he

may have changgondola when the winch from which it was suspended jammed, leaving him dangling 900 feet beneath the ship for seven hours.

The turning point in the airwar came in September 1916. The month began with the spectacular destruction of the army's "SL 11" over London during the night of September 2nd. The victim of fighter planes, the ship plunged nose first into the ground in a huge mass of flame, a lightening bolt of awesome dimensions. With the ship died its commander, Captain Wilhelm Schramm, who had been born in London and who had come back to destroy it. Six more army and navy ships were destroyed in September, to be followed by what must have been to Strasser the most painful loss of all, the death in combat of Lt. Commander Mathy, a close friend of Strasser and the navy's most successful airship captain. In August, Strasser had thought that the new "L 30" type "Super zeppelins" would lead to the defeat of England. By the beginning of October, four of them had been shot down. Attacks on London had to be abandoned altogether and while the navy continued to attacks on central England, they had to confine to nights when the weather was particularly favorable.

By 1917, the gap between the airplane and the airship had widened even further. Allied fighter planes had twice the speed of the latest German airships and while they could not climb to high altitudes as fast as the dirigibles, the increase in the operating ceiling of the airplane forced the German airships to fly higher and higher with the consequent loss of operating efficiency.

None of the defensive measures which the army had adopted helped. By the Germans own count, only 188 of a total of 288 army bombing and reconnaissance missions flown were successful and on bombing raids, the accuracy of the aim generally

was poor. The cost of this, by 1917, was 20 out of 30 army combat zeppelins destroyed by enemy action or operational accident.¹¹ Moreover, by 1917, the reconnaissance and bombing missions allotted to the army airships could be carried out more cheaply and efficiently by new types of airplanes which the Germans had built. By a curious twist of fate, it was Count Zeppelin who was in a large measure responsible for the construction of these new planes. In 1914, the Count's restless mind had turned to the development of large airplanes.

Others had already started along this path. In 1914, a young Russian by the name of Igor Sikorsky, who later became one of the great American airplane builders, had constructed a four engine transport, the "Ilya Muromets" which on one of its early flights carried 16 passengers for five hours, reaching an altitude of 6,500 feet. In Italy, Caproni was working on heavy bombers. Zeppelin organized a division within his company which was to design and build large land and seaplanes. He encouraged his long time engineering aide, Theodor Kober, to undertake the design of large planes and took a financial interest in an airplane factory which was being established in Gotha to build "Riesenflugzeuge", giant airplanes. In April 1915, Zeppelin watched the first "Gotha", a twin engined biplane, struggle into the air. It was a great new weapon, superior to any Allied bomber then in existence. However, the German army was slow to put these planes into operation. It was not until June 13, 1917, "Gotha" bomber planes attacked London for the first time but then they killed more Londoners than had lost their lives in all the airship raids on that city up to that time. The "Gothas" were soon joined by the

¹¹ The army also operated a small number of Schütte-Lanz ships. Including these in the above casualty figures would not substantially change the loss ratio, 649

"Friedrichshafen G III" and the even larger, four engined "Zeppelin R IV", carrying twice the bomb load of the "Gothas".

Because of their vulnerability to Anglo-French airdefense on the western front, the commander of the Army Airforces, gaunt old General Ernst von Hoeppner, had already halved the army zeppelin strength in 1916 and had sent the remaining ships to the southern and eastern fronts. In the Spring of 1917, Hoeppner ordered the army zeppelin service disbanded altogether. Dismantling of the airship bases was begun, five ships were transferred to the navy and the rest were broken up.

Hoeppner's chief, General Ludendorff, if had not in fact originated the idea of disbanding the army airship division, heartily approved of it and in 1917, what General Ludendorff wanted was law in the army and most of Germany.

In the summer of 1917, General Erich Ludendorff had by virtue of his position as First Quartermaster General of the army, his prestige and the force of his personality become the dominant figure in Germany. His powers were second only to those of the Emperor when the monarch, who was gradually tiring of the war, chose to exercise them.

The son of a bankrupt East Prussian landowner who had been reduced to selling insurance, the army was for Ludendorff the road back to the respectability and status of which his family had been deprived. Though he lacked those qualifications which counted for so much in the army, noble blood and family name, he had by 1908, through sheer ability and energy, become the head of Department II of the General Staff. Its responsibilities included planning the deployment of the German army in case of war, a vital assignment which tagged Ludendorff as the Chief of Operations once hostilities broke out. Yet Ludendorff's aggressiveness in pushing his views on military policy and

his meddling in the complicated politics of the army had at one point threatened to cut short his career. In 1913 he was transferred to the 39th Infantry Regiment in Düsseldorf, not a step upwards for a department head of the General Staff. The fortunes of war presented him with a second chance in 1914. When the commander of the 14th Infantry Brigade was killed in Belgium, Ludendorff assumed command of the unit and led it in a surprise attack past the forts guarding Liege. Inside the town, he imperiously pounded on the gate of the old citadel and demanded the surrender of the astonished and frightened Belgians within. Liege was a major fortification astride the German route of advance into France and the capture of this key point gave new impetus to Ludendorff's career.

During this time, the eastern boundary of Germany was only lightly defended in keeping with the overall plan drawn up before the war. The western front was to be the point of endeavor. A gigantic sweep through Belgium and northern France, around Paris, into the rear of the French armies facing Germany was to destroy the enemy in one vast stroke. The eastern front could be dealt with afterwards. However, as the Russians began to advance into East Prussia, German resolve to follow this plan faltered. An army to relieve East Prussia was organized and to command it, General Paul von Hindenburg was called out of retirement and Ludendorff was appointed his Chief of Staff. The disastrous defeat which they soon inflicted on the Russians elevated both into the pantheon of German war gods.

August 1916 brought Ludendorff to the apogee of his career. The Germans had commenced the Battle of Verdun to break the stalemate which had prevailed in the west after their advance into France in 1914 had been halted at the the Imperial German constitution. The Chancellor, Bethmann- Hollweg, deferred to the army on military

matters and in July 1917, Ludendorff arranged to have him replaced by an even more pliable man. The Minister of War was always a general and by tradition did everything the army wanted. The army had always seen to it that outstanding officers did not go into the Ministry of War, thus keeping it weak and ineffective. The Ministry had the unpleasant task of battling Parliament over appropriations but it was allowed to do little else. The Emperor's Military Cabinet, which had been intended to control the officer corps, had never regained its original stature after that regrettable incident in 1908 when its chief, General Count Hülse-Haeseler, had danced for the Kaiser and some fellow officers in a pink ballerina's tutu - danced "divinely" as everyone agreed — and had fallen dead of a heart attack at the conclusion of his performance. It was a great embarrassment to all concerned.

Thus largely unencumbered by any restraints upon his will, Ludendorff sat down in the Spring of 1917 to draw up plans for a grand campaign which was finally to bring victory to Germany. To this task he brought his customary energy and single minded devotion to duty. They were indeed needed. Time was pressing. Morale in the armed forces and at home was beginning to deteriorate. The British naval blockade of Germany was seriously hampering the German war effort. Shortages of critical raw materials and food were mounting. The United States. The unprecedented carnage of Verdun had brought no decision; the frontline remained unchanged and both the German and French armies had suffered tremendous losses. At the same time, the Austrian army in Galicia collapsed and Romania entered the war on the side of the Allies. In this crisis, the Kaiser decided to give the army a new commander. On August 26, 1916, Hindenburg was appointed Chief of Staff of the German army. Ludendorff was offered the position

of Second Chief of Staff. He declined the title - there are no second chiefs he said - and created the new title of First Quartermaster General.¹² As First Quartermaster General, Ludendorff held sway over the army. The position made him deputy of the commander of the army, Fieldmarshall von Hindenburg. The Field Marshall was physically imposing but aging and unimaginative, recognized Ludendorff's gifts and was content to rely on him in most matters. He signed nearly everything that Ludendorff's aides placed before him and rarely interfered. Ludendorff's prestige was such that the threat that he and Hindenburg would resign was sufficient to overcome any opposition, at least until the end of the war. The structure of the German government left it ill equipped to stand up to a resolute military leader. The notion that the civil branches of the government should control the armed forces was unknown to States that had declared war on Germany on April 6, 1917 and victory had to be won before America could bring its powerful industrial machine and great manpower potential to bear upon the European battlefield.

If it was to be victorious, Germany would have to mobilize all of its remaining resources, concentrating them on the goal of final victory. There had to be "Totaler Krieg" — total war. Whatever did not serve this purpose had to be diverted to something that served the cause of victory more decisively. In the Spring of 1917, the German army still operated about fifteen airships. They represented more than 300 tons of scarce aluminum, cotton, rubber, high performance engines and other valuable materials. Zeppelins required a handling crew of from 300 to 400 men to maneuver the cumbersome craft on the ground before take off and after landing, a host of radio and communications technicians, meteorologists, men to run the hydrogen generating plants, mechanics,

¹² In the German army, a Quartermaster was the head of a department of the General Staff; the title did not necessarily describe a logistical officer as it does in the American and British armies.

armorers, antiaircraft crews to defend the airfields, guards and all the supporting personnel from cooks to doctors which such an establishment requires.

Ludendorff decided that the raw material and sl Lic manpower which the airships required could be used more effectively in the airforce which he was striving to enlarge. Grandiose though they were and however much they kindled patriotic pride, airships had no place in Ludendorff's scheme of things; they had to go.

Consistent with the conclusions he had drawn about the usefulness of the army airshins, Ludendorff saw no further reason why the navy should continue its costly zeppelin fleet. On July 27th, Ludendorff wrote a letter to the Naval Command and suggested that it also abandon its Airship Division.

It was in this setting that the Colonial Office's proposal to send an airship to Africa came across the desk of General Hoepfner's Chief of Staff, Lt. Colonel Hermann von der Lieth-Thomsen. The colonel was a bald, pudgy faced man with a smudge of a mustache. His uniform jacket strained a little around his middle. Despite his unmilitary appearance, Thomsen was the driving force behind General Hoepfner and the true organizer of the German Army Airforce. His accomplishments were to be recognized with a "Pour le Mérite" and, in 1919, in a more covert form, by his appointment to chief of the Central Aviation Department of the Defense Ministry. This department was charged with the secret rebuilding of the German airforces in violation of the Treaty of Versailles which had just been signed.

Colonel Thomsen gave short shrift to the Colonial Office's mad cap scheme. This was no time to encourage further zeppelin adventures. Besides, it was clear to him that

the undertaking was unlikely to succeed. He turned down the plan. The Colonial Office and its Africa plan had made a powerful enemy.

Chapter V

THE CHINA AFFAIR

Repulsed by the army, the Colonial Office once more turned to the Ministry of the Navy (Reichsmarineamt). It was now the end of July. The Colonial Office's plan arrived at the Ministry at a fortunate conjunction of events - an idea presented just as the proof of its feasibility was being delivered and at a time when interest in it had revived.

Ensign Ernst A. Lehmann was at that moment aloft in "LZ 120" on an experimental flight intended to test the ability of airships to make flights of long duration.

The 24 year old Lehmann had been captain of the civilian airship "Sachsen" which the German government had requisitioned when war began. An ensign in the naval reserves, Lehmann put on his blue uniform and began to train army airship crews on the "Sachsen". Before long, he was put in command of army airship "Z XII" and assigned to the eastern front. His reconnaissance work was highly esteemed, so much so that the headquarters staff in Poland was at times treated to the unusual spectacle of a young naval ensign bending over operational maps in earnest conference with the forbidding Chief of Staff of the German troops in the east, General Ludendorff himself. Lehmann then commanded two other ships on the western front and in 1917, received the command of the army's newest and last airship, "LZ 120", a six engined mammoth armed with ten machine guns.

Soon after, when the army began to break up its airship service, "LZ 120" was transferred to the navy and stationed at the Baltic airship base at Seerappen, near Königsberg. The assignment offered Lehmann little challenge. The Baltic front was quiet.

The disastrous course which the war had taken for Russia had stirred up bloody strikes in St. Petersburg and in March these had mushroomed into the overthrow of the Tsar. Russia's military resistance was collapsing and patrolling the Baltic became a bore. "Nothing suspicious in sight" was the recurrent entry in the log of "LZ 120". In October, the naval airships were withdrawn from the Baltic altogether.

A fortuitous conversation in the officers' mess one evening steered Lehmann in a new direction. Could airships be used more efficiently by sending them aloft on long-extended patrol flights, say a hundred hours, rather than several shorter flights of equal duration? Could snip and crew withstand the strain?

Lehmann decided to put these questions to the test. He carefully organized a flight. Extra fuel tanks were installed in "LZ 120" and 37,265 pounds of gasoline and oil were put on board. Lehmann calculated that this would be enough for a 100 hour cruise. The crew of 29 men included six officers so that two officers could be on duty during each of the three watches. Special care was taken to ensure the comfort of the crew. Three double boilers, heated by the exhaust gases of one of the engines, were installed to provide them with a hot noon meal. There was plenty of drinking water and the officers even enjoyed the luxury of a shower bath, an improvised tipping bucket arrangement rigged up in the nose of the hull. July 26, 1917 was a clear night. At 11:00 p.m., "LZ 120" took off. It offered the farmers living on the hills surrounding the base the unique spectacle of an airship fly past, rather than over their houses. The ship was fully laden and Lehmann was loath to sacrifice any of his water ballast, intended to last him for a four day trip, to lighten the ship at take off. Instead, he had counted on the ship's dynamic

lift to get it off the ground.¹³ Although all six engines were racing at top speed, "LZ 120" was slow to develop dynamic lift and the thundering giant stormed over the hills only a few yards above the ground. Gradually it rose and once clear, Lehmann took it over the Baltic. The night brought numerous thunderstorms and as the temperature dropped towards morning, the crew became acutely uncomfortable. Once the storm subsided, however, the trip became uneventful. The ship zig-zagged over the Baltic, generally operating on three engines. These gave little trouble except No. 2 engine which, despite mid-air repairs, ran irregularly. There was occasional bombing practice in which floating logs served as targets; the ship had taken along 2,650 pounds of bombs. There also was time for some unaccustomed midair sunbathing. The best place for this was the rear machine gun position, cut into the hull behind the upper airship rudder. It was sheltered from the ship's airflow and far away from the droning engines. Food turned out to be the only troublesome part of the trip. Bad sausages and stale bread caused widespread indigestion.

When the weather began to worsen, Lehmann decided to return. At 4:40 in the morning of the 31st, "LZ 120" came down at Seerappen again. It had been aloft for almost 102 hours and covered a distance of about 2,000 miles. It still had enough gasoline in its tanks to fly another 33 hours. The men were in excellent condition and judged able to continue the flight another 100 hours. "LZ 120" had been in the air about as long as it had been calculated it would take an airship to reach East Africa.

¹³ When an airship is flown with its nose a few degrees above the horizontal, its hull acts like an airplane wing. A partial vacuum builds up on top of the hull and the normal air pressure below the hull, acting against the reduced pressure above it, pushes the ship up with a force of several thousand pounds, the exact amount depending on various factors including the forward speed and the angle of the hull.

There also was a more receptive mood which at the Ministry of the Navy now. The morale of the sailors was low and something had to be done to boost it. The fleet had been idle since the battle of Jutland and the sailors weren't restless. During May there had been mutinies on four battleships. The ground crew at the Ahlhorn airship base had come close to rebellion and only resolute action by their commander, Lt. Commander Mangelsdorff, had prevented an open outbreak. Even the elite airship crews were dejected. They had suffered heavy losses in men and ships. Of the sixty airships which had been built for the navy until then, 37 had been lost, 26 through enemy action. Losses were accelerating; twenty ships had gone down in the last year alone. Doubts began to gnaw at the souls of the men, doubts that the military results they were achieving justified the constant danger which they faced. The flight to Africa, if it were possible, would provide a much needed boost to morale. It would bestow new laurels upon the navy and raise the prestige of Germany.

The initial evaluation of the ministry was cautious but not negative. At first blush, the attempt appeared "fantastic and unreal", the Chief of the Airship Branch of the Department for Aeronautics wrote. Then he crossed out the word "unreal" and wrote over it "adventurous", fearing that perhaps that he might be guilty of unprofessional exaggeration. Possibly there were things which might make the flight feasible. He adopted two of Zupitza's suggestions: an interim stop in Syria and taking advantage of northwinds which tended to predominate during the winter months. Tradewindlike currents at higher altitudes might help during the second part of the trip (To be checked!" he added), To caution his readers against rejecting out of hand the notion of flying to Bast Africa, he reminded how the seamen of medieval times had been warned against

undertaking their great voyages of discovery because they would become hopelessly entangled in the weeds of the Sargasso Sea and would never be able to climb back to the northern hemisphere once they had descended to the equator and had dropped below it into the southern hemisphere. He recommended that the Colonial Office be allowed two hours to make a presentation of the project to the Ministry of the Navy. "If there is any possibility of success, perhaps the attempt is worth it", the memorandum concluded.

The Colonial Office made its presentation and with the favorable attitude which the Chief of the Airship Branch had displayed, it was not surprising that the Colonial Office was able to carry the day.

Working out a concrete plan for the flight presented a number of serious problems. It was clear that the Africa flight represented a quantum jump beyond the "LZ 120" experiment. The starting point for the expedition would have to be Yambol. It was the southernmost German airship base and was located in the central part of Bulgaria, an ally of Germany since October 1915. The distance from Yambol to that part of German East Africa where the Schutztruppe was now fighting, allowing for detours and a margin of safety, was roughly 4375 miles. Assuming an average cruising speed of 40.6 m.p.h., the trip would take 108 hours. "LZ 120" had demonstrated that a zeppelin and its crew could endure this long a flight but that flight had been made under much more favorable circumstances particularly in regard of meteorological conditions and weather reporting. There were other serious problems such as finding Lettow - Vorbeck's troops in the vastness of Africa and the danger of interception by the enemy. There was the question of how much cargo could be carried and whether these supplies, the boost to the morale of

the African troops and the propaganda impact which this flight would no doubt create would be enough to justify the sacrifice of the airship. The immediate problem was the cargo. The Ministry had initially thought of a cargo of two to three tons (the figure three had been crossed out in the first evaluation) but this figure would have to be increased. Even three tons would not give the colonial troops adequate assistance, Three tons of medicine alone would be needed.

Above all, it was necessary to carry out the project quickly. Since the rainy season had come to a close at the end of May, the British had been pressing the Germans relentlessly all around their perimeter, at Tunduru in the southwest, at Iringa in the northwest corner and from Kilwa and Lindi on the Indian Ocean. The Schutztruppe was resisting stubbornly but the enemy was greatly superior in numbers and equipment. The German troops had been forced to abandon their defense lines along the Rufiji river, north of Kilwa, and were giving ground along all of the fighting fronts. How dire their straits, how short their supplies were, nobody in Berlin could say for certain but obviously time was not on its side.

The Navy Ministry set to work. It submitted a plan of a supply flight to Africa to Commander Peter Strasser, the "Führer der Luftschiffe" - the Chief of Naval Airships. A saturnine, brooding man, with heavy, dark eyebrows, a mustache and a goatee, Strasser had led the naval airship service since it was established in 1913. Then it had consisted of only a few crews in training and had no airships of its own. At its zenith, in 1917, the Airship Division numbered 19 ships and had attained an unrivaled competence in handling them. On August 24th, Strasser decided that the chances of the Africa project were "not unfavorable". That was enough for the navy. Though it still had not given final

approval to the operation, the weather problem in particular needed further study, it decided that the preparation of an airship for the trip should begin immediately so as not to lose precious time once a decision was made. Lt. Commanders Sommerfeldt and Buttlar were sent to the zeppelin Works in Friedrichshafen to discuss the technical details with the factory. Sommerfeldt was the commander of airship "L 35" which was used to conduct technical experiments. Strasser relied on his technical expertise. Buttlar was the most experienced combat commander. After a detailed discussion of the technical and practical problems which could be foreseen, Sommerfeldt prepared a lengthy memorandum for the Ministry of the Navy. An airship larger than the existing types was needed to carry sufficient cargo. There was no time to design and construct a new ship and it was decided that an airship of the type then in use be enlarged by cutting it apart and inserting an additional section, 98 feet long, housing two extra gas cells. This technique had already been successfully used on other zeppelins. If the ship were rigorously stripped of everything that was not absolutely essential to the flight, say 4,200 pounds, the total lifting capacity of the airship could be increased to 114,660 pounds, double the useful lift of the zeppelins then being built. After deducting the weight of the gasoline, oil, ballast, crew and whatever else was needed to operate the ship, the engineers estimated that a cargo of about 34,000 pounds could be allowed. In addition many useful items could be salvaged from the ship itself once it landed. The waterproof outer covering could be used to make sleeping bags, ponchos or tenting, the gas cells could be used for cotton shirts after the lining which made them gas tight had been washed off, the generator for the radio could be used again for the same purpose and the

Zeppelin Company, which was asked to prepare a complete list of all salvageable items, could probably think of other things which the colonial troops could use.

Finding Lettow - Vorbeck's troops, Sommerfeldt felt, would be difficult. Berlin had only a rough idea where they were located. It thought that their headquarters were at Mahenge, a small town in the northeast corner of the German held territory. The Africa ship would have to make radio contact with the troops to coordinate its landing with them. They would have to act as a ground crew to help it land and unload it quickly.

Risk of loss by enemy action could be reduced in various ways. The Mediterranean was the most dangerous leg of the trip. It could be crossed at night during a period of a new moon when the visibility of the dirigible would be reduced to a minimum. This was the standard operating procedure for German airships when opposition by enemy anti-aircraft guns or aviation was expected. In October, the moonless period would occur between the 12th and the 20th. Areas, such as Crete, where enemy aviation might be expected, could be avoided or crossed at high altitudes. The ship could fly across the desert west of the Nile to avoid its many enemy installations. East Africa did not seem like a hazardous area. It could be crossed at 12,000 feet which would make interception by the British practically impossible. Ground troops would not have incendiary ammunition or anti-aircraft guns available. There was the possibility of machine gun fire from the ground or from an airplane, which, if intense enough, could lead to such gas losses that the undertaking might fail. The same thing could happen if the zeppelin were hit by small airplane bombs even if they did not explode. What would happen if they did explode, Sommerfeldt did not think necessary to discuss nor did he

waste words over the possibility of an encounter with an enemy aircraft carrying incendiary ammunition. His comment was simply: "Result: loss of ship".

On September 11th, the Ministry of the Navy sent Strasser the Sommerfeldt's report together with its own memorandum about the feasibility of the flight. The memorandum of the Ministry was more optimistic than Sommerfeldt's dry analysis. Where, for example, Sommerfeldt had noted the uncertainties in making contact with the troops in Africa, the Ministry saw no particular difficulties. It had learned from the Naval Command and the Colonial Office that several small radio stations still existed in Africa and it assumed that the ship would be able to establish contact with them with its own radio. Thus, the Ministry reported to Strasser "One of the main difficulties, 'meeting' in the large colonial areas, is therefore almost completely eliminated". Strasser, showing better sense, returned the memorandum with with a large question mark in the margin. The Ministry's memorandum concluded that a meteorological study, still to come, would decide whether the flight could be made; if no extraordinary weather conditions were encountered, the undertaking was possible. The completed weather study was to be forwarded in the next three or four days. In the meantime, would Strasser please furnish the Ministry as immediately with an opinion concerning the chances of success of the enterprise. Strasser was asked to refer to the operation by its code name "China Sache" ~ "Operation China" or the "China Affair".

The weather study which Professor Kohlschütter soon laid before the Ministry presented a mixed picture. During the first part of the trip, while the ship crossed the Mediterranean, storms could be expected in October but this was also the time of the year which was most likely to bring helping tail winds. Knowledge of weather conditions over

the North African desert and further south was fragmentary. Almost nothing was known about conditions at high altitudes. Some of the information was out of date. Nevertheless, Kohlschütter expressed the opinion that conditions in Africa were sufficiently stable so that the old data could be used to form a judgement of the average weather conditions there. While he could not say how the airship would react to the broiling sun and the cold nights which it would encounter over the desert, he felt that no serious difficulties result. He said little about what might be expected in the regions beyond the desert except that on the last leg of the trip across East Africa "the variations in the rainfall from year to year were so great that a little bit of luck would be needed".

Forecasting the actual day to day conditions would be more difficult. The weather stations in Bulgaria and Asia Minor worked with only incomplete information; they lacked data from the areas to the east and the south. These were in enemy hands and the radio stations there, under war time censorship, did not broadcast much weather information. Without this, no complete weather map could be constructed for the Mediterranean area and the North African coast. On the other hand, the German military weather service in Asia Minor could assist the ship while it was over the Mediterranean and a submarine stationed to the west of Crete could warn of storms which might approach from that direction. These weather reports would have to take the form of a report from one land weather station to another so that those radio messages would not lead anyone to suspect the presence of an airship. However, once the zeppelin was across the Mediterranean it could expect no further meteorological assistance.

Promptly on the 16th, Commander Strasser sent the Ministry his memorandum supporting the operation. With this he threw his great personal prestige behind the

project. He had just been awarded Germany's highest military decoration, the "Ordre pour le Mérite". Strasser stressed the morale factor: "Completion of the operation will not only provide immediate assistance to the brave Protectorate troops but will be an event which will once more arouse the enthusiasm of the German people and admiration throughout the world". There was, of course, the danger of interception by enemy aircraft, he added, but he thought that the probability of this occurring was low as were the risks from bad weather. "With a little luck the trip should succeed" he concluded.

The next step which the Navy Ministry had to take was to obtain the concurrence of the Naval Command (Admiralstab). It had the operational control of the fleet. It was an institution equal to and independent of the Ministry of the Navy and had direct access to the throne. The Ministry of the Navy was confined to administrative and budgetary matters affecting the navy. A third, independent institution was the Navy Cabinet. It handled the appointment, promotion and welfare of the naval officers. This unwieldy command structure was the result of Wilhelm II's endeavor to keep personal command of the navy by keeping it divided against itself. While the army was structured in a similar manner, the divisions within that part of the armed forces was bridged by the domination which the General Staff Corps exercised over all three branches of the army. The navy had no equivalent to this. The war had brought no unity to the splintered naval command structure nor had it brought a unified command to the German armed forces as a whole. The only tie between them was the person of the "Supreme Warlord", the Emperor himself.

While approval of the plan by the Naval Command was the necessary next step in carrying it out, the Ministry of the Navy did not wait for it. On September 17th, it went

ahead and ordered the Zeppelin Works to rebuild "L 57", then under construction at Friedrichshafen. It felt justified in taking this procedural shortcut because the ship could always be used as a fast, seven engined reconnaissance craft over the North Sea, an idea with which Strasser completely disagreed when he learned of it.

On September 19th, the Minister of the Navy sent its proposal, classified "Streng Geheim" - Top Secret - to the Naval Command. Since the relief of the African troops admitted of no delay, it requested an answer by the 27th. It underlined the urgency of the matter with a follow-up memorandum in which the Minister pointed out that the approval of the Emperor was still required and that this should not be unnecessarily delayed.

When the Minister of the Navy forwarded the "China" plan to the Naval Command, he mentioned that he had not informed the army of the proposal. The anti-airship attitude of Messrs. Ludendorff and Thomsen was only too well known and there was no need to stir up trouble prematurely. The Colonial Office, however, immediately let the cat out of the bag. It had been searching for an "Ortskundiger", a man who knew Fast Africa and who could accompany the zeppelin to help it find its landing spot or act as an interpreter in case of a crash landing there. There were few men with a suitable background available to Berlin. The Colonial Office considered two: Professor Zupitza and army captain Richard von Bentivegni. Professor Zupitza could be available at once. As for Bentivegni, it was thought advisable to await the Emperor's approval of the operation before asking the army for him.

Then the Colonial Office changed its mind and asked the army to make the captain available without waiting for the imperial approval. Bentivegni, like Lettow—Vorbeck and Buttlar-Brandenfels, came from one of those families which had for

generations supplied officers to the German army, whose stock in trade was war. The German branch of the Bentivegni family differed a little from typical military families. It descended from a distinguished Italian family of church administrators, judges and notaries. In the 1760's, Giralomo Bentivegni had crossed the Alps and enrolled as an officer candidate in the Life Guards of Frederick the Great of Prussia. He had apparently been an able soldier, retiring from the army as a major. His male descendants largely became officers and the females married officers. There were a few exceptions, a merchant in China, for example, and Romeo, a petty officer who met with accidental death aboard a sailing ship in the Pacific in 1868, but on the whole the Bentivegnis were military men. Since 1746 there had been three colonels, four lieutenant colonels, a major and eight company grade officers, not counting two who died as cadets, one only nine years old. What was unusual about the Bentivegnis as suppliers of military personnel was that the female descendants of Girolomo outnumbered the males 40 to 27. Fredericus, whom Girolomo had named after his liege lord, undoubtedly introduced a statistical distortion into the picture. He had nine daughters and no sons, a fate which must have been well nigh insufferable for a Prussian officer of his day.¹⁴ Richard von Bentivegni had been commissioned a lieutenant in a grenadier regiment in 1906. Five years later, Bentivegni was sent to the Oriental Institute in Berlin. Arabic, Swahili and practical courses in colonial administration were taught there. After graduation, Bentivegni was assigned to the troops in German East Africa. Bentivegni, however, apparently did it hit off well there since in 1914, he was back in Germany with the 153rd Infantry, still a lieutenant. Bentivegni's exposure to Africa had been short but it probably was sufficient

¹⁴ The Bentivegni family was not a particularly large supplier of officers. The so-called Younger Line of the Buttlar family, during approximately the same time, furnished three generals, field grade officers and company grade officers. 2

for the limited purpose for which he was being considered. On the other hand, it was likely that he was unfit for service in Africa. He had been wounded twice, once lightly in 1914 but more severely in 1915 when he suffered a fracture of the lower left leg and foot. This injury hospitalized him for three months. It would probably have made it difficult for him to participate in the long and rapid marches that characterized Lettow-Vorbeck's tactics in 1917. When the Colonial Office asked the army on the 20th, only one day after the Ministry had sent its plan to the Naval Command, to make Bentivegni available for the "China Affair", the Fat was in the fire again.

In July, Ludendorff had written to the Naval Command and asked it to abandon its airship service as the army had done. The commander of the High Seas Fleet, Admiral Scheer, however, rejected the suggestion. The affairs of the navy were none of Ludendorff's business. The navy reported to the Kaiser and not to Ludendorff. It was indeed one of the German institutions over which Ludendorff held no sway.

Scheer was not just squabbling over jurisdiction. He was convinced that he needed the airship. Because of the far greater strength of the British navy, zeppelins were needed for scouting over the North Sea and protecting the German navy against surprise attack. With their great range of observation in clear weather, airships were well suited for this. Every day, weather permitting, three airships were far out at sea, flying a protective cordon which stretched from the Dutch coast north beyond the Dogger Bank to the Grand Fisher Bank and east to Norway. Airplanes still lacked the necessary range and endurance for such an assignment. The argument between Ludendorff and the navy which ensued boiled on well into August until the Kaiser struck a compromise between the quarreling services. The naval airship service would be continued, but at substantially

reduced strength. This compromise was not to the liking of either party. The quarrel was still fresh in Colonel Thomsen's mind when he received the Colonial Office's request for Bentivegni.

Thomsen at once telegraphed the Colonial Office that the captain could not be made available as he was on special duty with the airforce. Bentivegni was in fact more valuable in his present position than he could be on the Africa flight. After he had recovered from his wounds in 1915, he had been trained as an aircraft observer and for the last year had commanded a heavy bombing squadron. Thomsen added to his telegram that he had already reported to Ludendorff that the proposed mission had little chance of success. The Supreme Command therefore requested to be present when the matter was presented to the Emperor for approval.

Worried that Col. Thomsen's opposition might abort the project, officers of the Colonial Office and the Ministry of the Navy went to see the chief of Staff of the Naval Command for advice. Commander von Knorr did not share their concern. He was sure that the Emperor would go along with the plan if it was militarily justified. As for Thomsen's telegram, he suggested that the Colonial Office write to him, after a suitable delay, and tell him that the Naval Command had been advised of Army's position and that it would be taken into consideration.

The Naval Command was favorably inclined towards the project but it was not convinced, despite Strasser's backing, that it was technically feasible. It suggested that an expert commission examine the idea again. Fifteen men convened in Berlin on the 27th of September. The officer who had been designated to command the "China" ship had been asked to participate but had telegraphed from Friedrichshafen: "Impossible to get

there now. Conference possible next week after transfer [of "L 57" to glterbog]". "L 57" was in the last stages of completion and he apparently felt that he was needed at the Zeppelin works more urgently than at a conference. The committee had already postponed its meeting for one day to permit Strasser to attend but it did not wait for the captain of "L 57". When the committee met, Knorr of the Naval Command at once raised the question which must have been on the minds of many. How reliable were airship engines? Malfunctioning of zeppelin engines on long flights was a recurring problem. Knorr had heard that they could not withstand the more than hundred hours of operation required to get to Africa. Strasser answered that the expected mode of operation would be on four engines with one in reserve and that most of the defects which might be expected could be repaired during flight. One by one the worrisome points were taken up - rainfall in Africa, sufficiency of the weather data, maps and navigation, enemy planes and so on. Many of the men had already worked on the Africa plan and remained optimistic about it. Despite his support of the operation at the conference, Strasser was less enthusiastic than he had been when he had first endorsed the operation. On September 19th, the Colonial Office had sent him a copy of a despatch in the "London Times" of the 10th which reported an attack on German troops at Mponda by six airplanes of the British East African Expeditionary Force. The news had a strong impact on Strasser. The success of the whole undertaking now seemed in question; enemy airstrength in Africa appeared to be greater than he had expected. Strasser, said little about this at the conference, however.

The discussion soon turned to more practical things. The agreed upon starting point for the flight was Yambol but this army base was in the process of being dismantled now that the army's zeppelin service was disbanding. How quickly could Yambol be

made operational again. There was nervousness about the Commanding General of the Army 'Airforces. Was it necessary to ask him for permission to use the base? Was not the Ministry of War responsible for such approval? Would it be better to obtain the Imperial approval first so as to foreclose any opposition to the to use the base by the navy. What about security? Of course, the troops in Africa would have to be told that the airship was coming. That seemed safe. The radio code used for traffic with the colonies was believed to be secure and not known to the enemy, but Strasser stressed the importance of secrecy. The Naval Attaches, who acted as liaison officers on naval matters to the governments allied with Germany, were to be told only of the presence of a German airship in the Balkans but not of its intended use. The Turks were to be told nothing nor were the Senussi tribes in Tripolitania who had aligned themselves with Turkey and Germany. A cover story was agreed on: the ship would be used for mine searches in the Black Sea and for attacks on Odessa.

The Naval Command approved the "China Affair" immediately after the committee concluded its deliberations. Telegrams went out to the Naval Attaches in Vienna and Sofia that an airship operation would start at the Yambol airbase after October 7th. The Naval Attache in Sofia was further instructed to obtain a ground crew of 500 men from the Bulgarian army for a period of two weeks.

On the same day, "L 57" made its first flight. The all important approval of the Emperor still had to be obtained. The presentation to His Majesty, however, could not be scheduled earlier than October 4th. That would be only eight days before the moon would turn dark, permitting "L 57" to carry out mission. On the day of the audience with the Emperor, Knorr took Thomsen aside and talked to him about the project. To be sure, the

"Africa Affair" was strictly a navy operation but Knorr knew Thomsen's attitude and it could be troublesome when Knorr presented the plan to the Kaiser. Besides, he would need the army's cooperation in running the Yambol base. Thomsen's reaction was a pleasant surprise. The colonel was "very correct", promised to keep Yambol available until the 20th and wished Knorr good luck.

Had Thomsen reconsidered and seen the possibility of a real German propaganda coup or was he giving the navy enough rope to hang itself, so that this airship business could finally be finished up? Whatever his reasons, Thomsen kept his word and raised no objections.

Commander von Knorr made his presentation. He stressed the factors which seemed to insure the safety of this unprecedented flight. "Success can be assured", he stated, "and there are no military dangers which require that this otherwise necessary undertaking not take place".

Whoever had prepared Knorr's presentation had gotten some of the facts wrong. He stated that an extra engine had been added to the ship to boost its speed by another 6.7 m.p.h.; in fact, "L 57" had the usual five engines and was slightly slower than the standard "v" type. It did not matter. For once, everyone was in agreement and the Kaiser gave his approval.

On October 6th, over the wires strung from the tall radio towers at Nauen, flowed a coded message for the Governor of German East Africa: " Beginning middle October you may expect the arrival of a naval airship, intended landing place Livale, which will carry weapons, munitions and medical supplies. Airship will try to make early contact by radio wavelength 600 meters...Airship is equipped with your signal code, will use code

key number 376. Please make all possible preparations. Advise airship as early as possible by radio or optical signal of suitable landing place". Added were the code call sign of the airship and the signal by which the airship would call the local radio station.

There was a curious omission from the message. It did not tell Governor Schnee how large a cargo the airship would bring. In fact, the planned cargo would require about 560 bearers and their usual number of camp followers to transport. It was not a force that could be assembled at a moment's notice. How were Schnee and Lettow — Vorbeck to prepare for unloading the ship if they did not know the size of the cargo to be carried away?

Chapter VI

KAPITÄNLEUTNANT BOCKHOLT

Commander Strasser found the choice of a captain for the "China" ship more difficult than he expected. The Ministry of the Navy was pressing him to make the appointment as quickly as possible so that the prospective commander could go to the Zeppelin works and become acquainted with the unusual features of his ship as it was being built. For Strasser the selection of the commander was a very personal task. He knew every officer of his command and took a close interest in their personal welfare. He was intensely loyal to his service friends, particularly to the old-timers, and this perhaps biased his judgment at times.

On the top of Strasser's list of possible commanders stood one of his inner circle, the slender, carefree, 29 year old Baron Horst Treusch von Buttlar-Brandenfels. Buttlar had entered the navy as cadet in 1907. In 1913, as the 16th ranking officer on the heavy cruiser "Moltke", he had grown restless in the anhill anonymity of service on board a capital ship and had applied for a transfer to a submarine. The navy had done him one better. It had offered him the post of airship commander in the newly formed Airship Division with a promotion to Lieutenant.

Buttlar had been delighted. Gone was the faceless crowd of the "Moltke". The new Airship Division was a small, select unit. There were only six airship captains, twelve officers altogether counting the engineers and the paymaster. None of the men selected for the unit had any flying experience and so its new commander, Strasser,

together with his adjutant, Lt. Hirsch (later killed when his ship exploded in a thunderstorm) and the airship captains to be underwent flying training together.

Eckener had been in charge of the training; Lehmann had commanded the training ship, Count Zeppelin's "Sachsen". The shared adventure of flying training and the experience of starting a new branch of the service together, no doubt, had forged a strong, personal bond between Strasser and his officers.

It is said that Buttlar had been on board of "L 2" before it started on its ill fated acceptance trials but had been ordered off the ship at the last minute when it was found to be overloaded. Fate thus had held its protective hand over Buttlar as it was to do again on a number of occasions, permitting him to die at the age of 74 while on vacations in Berchtesgaden.

When "L 3" was completed, Buttlar had been appointed its Executive Officer and on November 6, 1914, he had received his Own command, the newly finished "L 6". Since then, he had distinguished himself on numerous airship operations which later would earn him the coveted silver and blue "Ordre pour le Mérite". He had worked on the Africa problem with Sommerfeldt. Surely the honor of leading the Africa flight belonged to Buttlar.

When Buttlar learned of the prospective appointment, he was overjoyed. His place in history seemed assured.

However, Strasser reconsidered. Sending Buttlar to Africa meant losing his experience and abilities for the rest of the war. It might also mean sending the man to his death. During the past year, Strasser had lost some of his best airship leaders. He was not

eager to loose another one. Buttlar was now the "old man", the last flying officer of the Airship Division of 1914.

Buttlar's family circumstances also spoke against the choice. His father, a lieutenant colonel of artillery, had been killed during the first few weeks of the war. Buttlar's young wife was pregnant with their second child. His duties were hazardous enough without deliberately assigning him to a flight as dangerous as this one, at the end of which waited guerilla war, privation and disease.

Strasser consoled Buttlar with the promise of an even larger ship, 3,531,000 cubic feet then being planned for regular service to Africa. Displacing 3,531,000, it was to be bigger than the famous post war "Graf Zeppelin". In the final stages of the war, there was, in fact, a ten engined ship of that size on the drawing boards, the "L 100". The order for the ship was not actually placed by Strasser but by his successor. The idea for such a ship probably originated with Strasser, however. He consistently agitating for ships which could fly faster and could climb higher.

Lehmann also asked for the command of the Africa ship and his flight on "LZ 120" gave him a good claim to it. He, too, was too valuable to risk losing on a perilous adventure. He was supervising the construction of "L 57" at Friedrichshafen.

As "L 57" was being completed, another ship, "L 54" was being outfitted at the Tondern base. Its captain was Lieutenant Commander (Kapitänleutnant) Ludwig Bockholt. He was born on March 1, 1885 in Heerdt in the Rhineland. Heerdt was then a small village; now it is a bustling industrial suburb of neighboring Düsseldorf. His parents were catholic and he was baptized Johann Louis. Some time before his 18th year, for reasons best known to himself, he dropped the Johann and translated the French name

Louis, unusual in Germany at that time, into its German equivalent Ludwig. Bockholt's birth certificate lists his father's occupation as "Landwirt" (farmer) but he must have been prosperous enough to be able to send his son to the "Gymnasium", roughly the equivalent of high school, for which tuition had to be paid. Graduation from the Gymnasium enabled Bockholt to apply for a midshipman's berth in the navy at 18.

It was a good time to apply for a navy commission. The navy enjoyed the enthusiastic support of Emperor William II. It was his favorite service, his personal plaything. The Navy Law of 1898 had laid down the first plans for a large navy; in 1900 the Reichstag voted substantial funds for it and in the process, the naval strength projected in 1898 was doubled to 34 battleships and 70 cruisers, to be still further enlarged later. The demand for officers was great. At least in part by design, the navy was not solely the domain of Prussian nobility as were all but the lowest ranks of the army. Even though the top posts in the navy were mostly occupied by those whose names contained the prefix "von", a man without that predicate of nobility had at least had a chance to advance if he was so inclined and had something within him to back his ambitions. The creator of the German navy, Grand Admiral von Tirpitz, had himself been born a commoner. He was elevated to the nobility when he was appointed Secretary of State for the Navy after serving in that service for 21 years with distinction. The navy was the place for a young man like Bockholt who enjoyed none of the advantages assured by social status and family.

The new midshipman was a tall, round faced man. Life had not yet marked his face, he was too young for that, and character also had made only a slight imprint so far. He had a broad, thin mouth, almost tightlipped, that said nothing to the observer. The

formal portrait for which he sat at the Naval School, shows his eyes, set together slightly more closely than ideal proportion might call for, unfocussed as if he did not wish to look at the photographer and had chosen no other point upon which to fix his gaze. His hat was placed straight upon his head, in part hiding his face and increasing the anonymity of his features. To be sure, the occasion was not one which encouraged spontaneity or expression of individuality in a young midshipman but the resulting picture is one of a man feeling slightly out of place, who had retreated behind a wall of blankness.

His naval career began with the customary year at sea on a cadet training ship. Then followed Two years as a midshipman at the Naval School at Mürwick, near the great naval base at Kiel. After he passed his final examinations, he was commissioned an Ensign in 1907. Promotion to Lieutenant came somewhat more quickly than usual. During the next five years he spent two years on board a cruiser and a torpedo boat and the rest of the time he served as a company officer on shore at the naval base at Wilhelmshaven and in the German colony at Tsingtao in China. This was rather more shore duty than was customary for a junior officer but in 1914 he went back to sea in the new, 24,000 ton battleship "Prinzregent Luitpold". She carried a crew of 1073 men and Bockholt was one of a staff of thirty officers. The "Prinzregent" was not a happy ship. She had been put into service on August 19, 1913, with a patchwork crew that not yet been welded into a team. Her officers, like Bockholt, lacked big ship experience. Discipline was "mangelhaft" - inadequate. After the Spring exercises of 1914, she was rated not fully ready for combat because of the inadequacies of her crew.

The "Prinzregent" remained an unhappy ship. A later commander of the ship wrote that her captain was the "absolute master of his ship. The men were afraid of him,

very much afraid. That is no bond that lasts". When war was declared, life on board became an endless progression of drills, cruises that went nowhere and stand-by alerts that did not lead to action. During airship raids on England, the battleships were always put on stand-by in case it might be necessary to sally forth to assist a damaged airship. It must have been humiliating for the crews to see their iron battleships wait in harbor while the gasbags smote England. Finally, in 1916, came the battle of Jutland - the great collision of the battlefleets so long in building. The "Prinzregent Luitpold" claimed to have sunk two English destroyers but in the engagements with the heavier enemy units, she dealt no blows and rereceived none. After the battle, however, the "Prinzregent Luitpold", like the rest of the German battleships, again spent most of her time in harbor. Bored, Bockholt volunteered for the airship service. Shortly after Bockholt left the ship, her crew mutinied.

In the summer of 1916, there were twenty four Executive Officers, mostly with the rank of lieutenant, on flying duty with the Airship Division. The German navy, however, was chary with promotions and firm about the prerogatives of rank. Bockholt's rank of Lieutenant Commander, which he had in the meantime attained, entitled him to the command of an airship and so it came about that he, rather than one of the Executive Officers already on flying duty, was sent to be trained as an airship captain. In October, he was assigned to "L 11" which had been pressed into service after the one lost both of its training airships by fire on September 16th. The normal training course for an airship commander and his crew - they were trained together - was six months but the pressures of war and the new shortage of training ships shortened Bockholt's training time. After completing the course, he was, on January 30, 1917, given command of airship "L 23".

The Bockholt of 1917 looked little different from the young midshipman who had entered the navy in 1903. The face was still unremarkable but small diagonal folds had now formed at the corners of his mouth. They suggested firmness and determination. By now Bockholt had been habituated to the exercise of military authority.

Göbel, a meteorologist who later served with Bockholt, described him as a "Faust Natur" - a man like the Dr. Faust of Goethe's drama who sold his soul to the devil to obtain satisfaction of his earthly quests. Göbel added that Bockholt was a "very determined soldier who could not be moved from a decision once he made it; his eagerness to make decisions ("Entschlussfreudigkeit") was to lead him to his misfortune". This description calls to mind the scene in which Faust, searching for an apt translation of the first sentence of the Gospel of St. John, "In the beginning was the word", decides that the words "In the beginning was the deed" is the true German translation of the original. Bockholt's new ship, "L 23", was next to the last of the 1,264,000 cubic foot type "q" ships which had been built for the navy in 1915 and 1916. Its ceiling of only 11,500 feet and its maximum Speed of 57 m.p.h. made it semi-obsolete by 1917. "L 23" normally patrolled the eastern sector of the zeppelin screen which the German navy maintained over the North Sea every day when the weather allowed it. It cruised along the Danish coast and over the Skagerrak, reconnoitered, flew protective cover for minesweepers, kept an eye on neutral shipping and fishing vessels and watched for any sign of the British fleet. Bockholt never saw it. Once again, he faced a humdrum routine.

Less than three months after Bockholt assumed command of "L 23", however, he made himself a hero to the Airship Division while at the same time earning a stiff reprimand from the Chief of the Naval Airships. April 23, 1917 had been a day off for the

crew of "L 23". A report that submarine "UC 30" was missing in the North Sea sent "L 23" belatedly aloft at 9:36 a.m. with orders to search for the vessel along the Danish coast as far as Norway. At 10:30 a.m., "L 23" received a radio message, that "UC 30" had reported in, a report that turned out to be mistaken. Bockholt was ordered to reconnoiter over the Grand Fisher Bank instead.

At about two o'clock, Bockholt sighted to starboard a medium-sized, flush decked bark - a vessel Square rigged on the fore and main mast and fore and after rigged on the rear, mizzen mast. The ship was the 36 year old, 664 ton "Royal", flying the Norwegian flag. She was at a point about 90 miles south of Andeles Light, leaving the Skagerrak and heading into the North Sea. Bockholt would not have given this worn, graceless ship a second look except that she was sailing on a westerly course in the direction of England with a deck cargo of mining pit props. This cargo was contraband.

Bockholt approached the bark warily. A single incendiary bullet flashing into one of the airship's hydrogen cells would transform it into a blazing inferno instantly. He had to be sure that this harmless looking ship was not a British trap. A few months earlier, Buttlar had mistaken the English armed trawler "Ramexo" for a fishing vessel and flown over her at low altitude. "Ramexo" had opened fire and forced Buttlar to beat an ignominious retreat. Only by hitting "the panic button" (the Germans called it the "Sammelknopf" or Instantaneous Release Button), which sent "L 30's" bombload plummeting into the ocean and dropping most of his ballast besides, had Buttlar been able to get away. ship's crew lowered two lifeboats and rowed away from the ship. Bockholt's maneuvers had alarmed the captain of the "Royal", Lorentz Eriksen. He knew that the Germans were now waging unrestricted submarine warfare in the waters

surrounding England and France as well as in the Mediterranean. Disregarding previously accepted rules of warfare, U boats were sinking all ships intercepted, whether Allied or neutral, without warning and without regard for the safety of the crew. The number of ships torpedoed had grown rapidly, reaching a climax on the 19th of April when eleven merchantmen and eight fishing vessels went to their ocean graves. After that the new convoy system adopted by the Allies provided gradually greater protection. Captain Eriksen knew that "Royal" was carrying contraband cargo. Loaded on deck, it was in plain sight. With open season on all those trading with England, what would this "Zeppeliner" do? The prudent thing was to get away from the ship, clear of any bombs the German might drop.

The abandoned ship lay gently rolling in the calm sea. It was a temptation which Bockholt could not resist. Winterweather and frequent engine trouble had permitted him to make only eleven patrol flights during the eighty three days he had been on "L 23" and nothing worthy of note had occurred on any of the flights. The future promised no greater opportunities for distinction or excitement. Now he saw his chance - never before had an airship had ever captured a ship on the high seas!

"L 23" landed on the water near the Norwegian lifeboats, a delicate and difficult maneuver. First Mate Fegert and two petty officers, armed with pistols, boarded one of the boats. At gun point, they forced the hapless Norwegian crew to return to the "Royal" and set sail for Hamburg. "L 23" followed the ship for an hour and to make sure that all went well and then resumed its patrol. For some reason Bockholt delayed reporting the capture until 5:33 p.m. "L 23" returned to its base at 9:52. Instead of the expected praise, Commander Strasser handed Bockholt a "big cigar", as the Germans referred to a

reprimand. Open water landings were too risky and the threat of hidden guns too great. A ship like the "Royal" and her cargo were not worth the risk to which Bockholt had put "L 23", Strasser knew that the British were going to great lengths to hunt down German zeppelins. That very morning, he had instructed Lt. Bödecker in "L 30", searching for "UC 30" on a course to the west of "L 23", to check on some suspicious English fishing vessels that had appeared on the Dogger Bank lately but he had ordered Bödecker to "check with great caution. Do not approach too closely!" Having given these orders to Bödecker, Strasser must have been livid over Bockholt's disregard of what he considered common sense prudence. Strasser's fury could hardly have been dampened by the knowledge that Lt. Bödecker had sighted a Dutch three masted sailing vessel, the "Sirra", at about the same time Bockholt had found the "Royal". She had been northbound with a deck cargo Bödecker had been unable to make out and he had let her go.

The story of the "Royal" quickly made the rounds among the airship crews. It was a tonic for their low spirits. They could still confound the world with their courage and daring. With each retelling the deed gained in elan and valor. A bomb had been dropped to stop the unresponsive Norwegians, the machine guns had fired several bursts into the water to intimidate the crew, the prize crew had cowed the Norwegians by telling them they would blow the old scow sky high if they did not obey and similar braggadocio. By dint of repetition these tales later became "historical facts", faithfully reported by all manner of writers and historians.

Upon the safe arrival of the "Royal" in Hamburg, the German newspapers reported the "extraordinary accomplishment", adding that Fegert had "so highly distinguished himself" that he had been promoted to warrant officer on the spot. By grim

blunder - or was it Strasser's way of discouraging similar foolhardy quests for glory - the newspapers gave credit for the capture of the "Royal" to Lt. Commander Koch who had been killed several days earlier. Bockholt was not mentioned at all.

Despite the reprimand Bockholt had received, he made another waterlanding on May 23rd. He came down near some Danish fishing vessels to pick up two German airmen the Danes had rescued after they had crashed. Strasser said nothing about the matter, at least not officially. The rescue of two fellow soldiers is hard to criticize, although Bockholt could have relayed the Danish signal to some German ship in Heligoland Bay instead.

On June 14, Bockholt and his crew were reassigned to the newly completed "L 54", a much larger ship. Assignment to new ships went strictly by length of flying service but the heavy toll among airship crews brought Bockholt to the top of the list after only six months of flying duty.

To Strasser, Bockholt seemed to be the right man for the "China" ship. The assignment to "L 54" had given Bockholt and his crew a chance to acquaint themselves with the type of ship which was being used to build "L 57". Bockholt had proven his courage and as a junior officer he could be more readily spared than others. He would leave no wife or children behind; he was, like Maas, a bachelor.

Once he had selected Bockholt, Strasser backed him to the hilt. He gave him a free hand in getting the "China" ship ready and urged the Ministry of the Navy that it do so also, describing Bockholt as an "excellent, tested airship commander whom I judge, because of his personality, to be particularly suitable for the undertaking". Strasser's

clerk, however, was not yet familiar with the name of this airship commander, misspelling it every time as he wrote to the letter to the Ministry.

On September 20, with orders to lead "Operation China" in his pocket, Bockholt turned "L 54" over to his successor. It was the disappointed Buttlar. Then he hurried off to the Zeppelin Works in Friedrichshafen and his new command, "L 57". He was expected the next day.

Chapter VII

A QUESTION OF JUDGMENT

On September 26th, Bockholt assumed command of "L 57" at the Zeppelin Works in Friedrichshafen.

It was the largest airship that had been built until that time, measuring 743 feet in length and 78.4 feet in diameter. Stood on end beside the Washington Monument, "L 57" would have reached 188 feet beyond the top of that obelisk. Only three of the transatlantic oceanliners of the day, the "Mauretania" and the two outsized sisterships, the "Vaterland" and the "Bismarck", were longer than this latest progeny of Zeppelin's.

Because of the two sections which had been inserted into its hull, the ship looked more like a long, slender cigar than the elegant teardrop shapes of the latest German airships. Nevertheless, "L 57's" ancestry was patent. Its nose was a pleasing paraboloid, its tail slenderly pointed. Near the nose of the hull hung the control car. Unlike, the post-war airships, in which the control car was generally joined directly to the hull, it was suspended some distance below the hull by six struts to give the propellor mounted at the rear of the car sufficient clearance from the hull. The control car housed the rudder and elevator controls, which permitted the ship to turn and rise or descend, as well as the navigation and radio equipment. One of the ship's engines was installed in its rear. On "L 57", the control car was smaller and more streamlined than the standard design because the separate, sound proof radio cabin normally installed between the steering compartment in the nose of the car and the engine compartment in the rear had been left out to save weight. A series of flat windows was wrapped around the front of the control

car, reaching back about one third of the car's length. Near the front of the car, a streamlined bumper bulged out from its floor. Its function was to absorb the shock of any contact the ship might make with the ground during take-off and landing maneuvers. A similar bumper was installed underneath the rear engine car. An unprotected ladder permitted the crew to climb from the car into the hull. About a third of the ship's length behind its nose, hung two streamlined engine gondolas, one on each side of the hull and mounted high enough so that their propellers could turn freely while the ship was on the ground. Each of the gondolas contained one of the ship's five watercooled, six cylinder 260 h.p. Maybach gasoline engines.

The engine gondolas were large enough to permit two men to service and repair the engine in flight. Still further back hung a large engine car which housed two engines which were coupled in tandem to drive a single, large propeller. It was, like the other propellers, single bladed and made of wood. The rear engine car also carried an emergency steering post from which the ship could be controlled if the main controls in the control car failed. A ladder connected each engine car to the hull above it. The total engine power was 1,300 h.p. but this was to prove insufficient, leaving the ship sluggish. The "Los Angeles", which the Germans built for the United States Navy in 1924, was powered by 2,000 h.p. though it was not much larger than "L 57". On the hull, close to the tail, were mounted, cruciform, the horizontal and vertical tail fins which carried, hinged to their rear edges, the two rudders and elevators. The vertical stabilizer mounted on the top of the hull was somewhat larger than the one on bottom. The forward edges of the stabilizers were curved, the rear straight.

The covering of the hull was made of cotton cloth to which several layers of airplane "dope", a varnishlike substance had been applied. This waterproofed the cover and reduced the resistance to the air flowing past it in flight. Particular care had been taken in waterproofing the hull of "L 57". It was feared that heavy rainfall in Africa might waterlog the ship and make it difficult to fly and land. The silver-gray color that the ship's cover had been given reflected sun light and thus would help to keep down the temperature of the gas cells on bright days. The color was a compromise between the standard black camouflage color of the navy airships, which absorbed too much heat, and a sunreflecting white which would have made the ship too visible in the air and on the ground.

The only touches of color appearing on the outside of the gray giant were black teutonic Iron Crosses painted on each side of the hull near the nose and the tail and the naval ensigns painted behind each of the Iron Crosses in the rear.

The internal structure was made of duraluminum, a light alloy which is stronger and harder than regular aluminum. The main vertical structural members of the hull were strong round girders, placed 49 feet apart.¹⁵ Between each of the round girders were placed two rings which did not carry any structural load but helped to give the hull its shape. These vertical members were connected by twenty five longitudinal girders which, except for the more lightly constructed nose and tail — ran the length of the ship. Along the bottom of the framework formed by the ring and longitudinal girders, ran a keel which was formed by girders shaped like an inverted V. The bottom of the V rested on the bottom of the vertical round girders. The point of the V was connected with the

¹⁵ More accurately speaking, these girders were twenty-five sided regular polygons.

point of the V structure of the next ring for most of the length of the ship. Lateral braces, which ran from the apex of the V to the girder on which the V was mounted, gave additional stiffness to the structure. This keel gave the ship great resistance to bending stresses and served as a storage space for cargo, gasoline and oil drums while at the same time providing space for those of the crew who were not on duty. A catwalk, or more properly, a series of step plates, one foot wide and a pace apart, ran through the length of the keel.

Wrapped around the hull was a wide meshed net which kept the gas cells from pressing against the outer cover. An intricate system of guy wires completed the structure of the hull. Without its skin, the completed hull presented an amazing sight, a delicate, filigreed structure sweeping upwards, defining space with elfin, yet authoritative lines - a cathedral of aluminum tubing and fine wire.

The lift for the ship was provided by sixteen gas cells which were suspended inside the hull. These were filled with hydrogen gas. It is the most effective lifting gas available but, unlike helium to which the Germans had no access, it is highly inflammable. If mixed with air, it also becomes highly explosive. In this highly volatile nature of the gas lay the greatest weakness of the German airships, a weakness which the Germans were never able to correct.

The gas cells were made of cotton cloth over which several layers of so-called "Goldbeater's Skin" had been glued. This light and pliable material was made from the linings of cattle intestines and served to prevent leakage of gas from the cells. The intestinal linings of 30,000 cattle were needed to fabricate the cells of a large dirigible. Count Zeppelin had originally made his cells of rubber but switched to silk bags covered

with Goldbeater's Skin when he discovered that rubber cells rubbing against each other produced large sparks of static electricity which might ignite hydrogen gas leaking from the cells. In 1917, wartime shortages forced the Germans to switch from silk to cotton bags. They, however, leaked more easily.

At the top of each cell was installed a so-called "maneuvering valve" which could be manually operated from the control car. These valves were used for releasing gas to make the ship descend or keeping it at a steady altitude when the ship became lighter through the consumption of gasoline, the dropping of bombs or for other reasons. At the bottom of each cell was located an automatic valve through which excess pressure was blown off when the gas pressure in the cell became too high.

Scattered throughout the hull at strategic spots were "pants", water ballast bags which somewhat resembled the pants of an excessively obese person. Quick release valves, actuated from the command car, permitted their contents to be dumped quickly in an emergency maneuver.

The craft had a top speed of 64 m.p.h. and was theoretically able to climb to 27,000 feet. Actually, "L 57" would not have been able to fly higher than 13,000 to 15,000 feet since it carried no oxygen equipment. This would have been essential to sustain life at higher altitudes. So ingeniously was "L 57" constructed that it was able to carry a payload of 114,700 pounds though it weighed only 60,600 pounds itself.

Once "L 57" was completed, little time was wasted. Only four test flights were made. They were satisfactory - 530 miles were covered at an average speed of 54 m.p.h. However, the performance trials which the navy required before it could formally accept the ship were not completed. The Ministry of the Navy complained about this but there

was not enough gasoline available in the rear echelons to make all the Flights needed. On October 6th, "L 57" was flown to Jüterbog, an airship base south of Berlin. This spot had been chosen for the loading process as security there was thought to be particularly good. The cargo was ready to be put on board, except for 5 tons of ammunition which had been sent ahead to Yambol and was to be loaded there. Loading was completed by noon on Sunday, October 7th. It was no small feat to complete the ship, load it and have it ready to leave for Bulgaria by the 7th. It looked as "L 57" would be able to take off for Africa during the period of the new moon during October, just as the Ministry of the Navy had planned. Sommerfeldt had thought this to be impossible.

At Jüterbog the weather was calm. The morning weather map had shown a low pressure area over the English Channel. Normally, this foretold a storm later in the day. However, Bockholt judged that he would have time to make a short flight that afternoon and complete the acceptance tests of "L 57". During the last few afternoons the wind had always died down and two hours was all that Bockholt needed to conduct the tests and get the ship back into its hangar before the storm reached Jüterbog. The afternoon weathermap would not be available until 6:30 and Bockholt decided not to wait for it. He ordered the ship brought out. It was not until 5:10, however, that "L 57" began to move out of its hangar.

Bringing the ship out was always one of the critical phases in the operation of a zeppelin, particularly when there was a crosswind blowing. The difference in the air pressure acting on the ship, in part exposed to the force of the wind and in part still sheltered in the hall, together with the eddies of air which might build up at the mouth of the hangar made handling the ship difficult. A number of ships had already been

damaged or destroyed that way. If the wind exceeded 18 m.p.h., the zeppelin could not leave the hall at all. Ideally, an airship should be housed in a rotating hall which can be pointed in the direction of the wind when the ship is brought out of the hangar. There were two such hangars at Nordholz but they were expensive and took two years to build. Everyone had expected that the war would be over before additional rotating hangars could be completed.

To help maneuver the ship on the ground, its bow and stern were tethered to small trolleys which ran on rails extending the length of the hall and out into the field for two hundred yards. "L 57" had been secured to these trolleys but when it was two-thirds of the way out of the hall, a strong gust of wind struck it. The ground crew tried to loosen the shackles tying the tail to the trolley, but inadvertently released them completely. With the stern exposed to the wind, requiring every ounce strength of the crew could muster to hold it still, "L 57" had to be run out of the hall quickly before another gust slammed it into the hangar door. Buffeted by the wind, Bockholt took off as quickly as he could.

The gust heralded the storm that was travelling eastward across Germany. By 6:30, the wind blew SSW, a direction in which the ship could no longer be safely brought back into its hangar. Bockholt decided to continue circling the field and see whether the wind would die down. The wind direction, however, became even unfavorable and at 7:00 o'clock, Bockholt decided to bring the ship down.

The landing was made without incident. Weighted down by heavy rain, the ship lay steady but Bockholt was told that the weather would turn worse. Since the regular ground crew would have trouble holding "L 57" on the field in a storm, Bockholt asked for two hundred army troops to help them. He was told that it would take an hour to get

them to the field. Bockholt decided that he could not wait that long and that he had to take off again. He would ride out the storm in the air or, riding ahead of it, fly to the airship bases at Kovno or Yambol. Since it was to have been only a short test flight, Bockholt had taken no food or foul weather gear with him nor did he have the necessary? Maps on board. Kovno was 500 miles away. At normal cruising speeds, this meant a flight of eleven hours. Yambol was 900 miles or 20 hours in the air. Bockholt ordered warm clothing, food and maps to be loaded.

The delay proved fatal. Shortly before take off a gust slammed the ship into the ground. Most of the struts attaching the control car to the hull broke and the ship became inoperable. Vital controls, the signalling system connecting the control car with the engine gondolas, ballast controls and the elevator and rudder controls would no longer work. Fifty minutes later, at 12:40 a.m., the wind finally dropped a little and the ground crew began to march the damaged ship back to the hall. As it approached the hangar, the ship began to turn sideways into the wind. Bockholt jumped out of the control car, the crew having already disembarked. Just at that moment the rain stopped. Rid of the burden of the rain, the ship became light, tore out of the hands of the crew, floated up, hit the entrance and crushed its nose. Bockholt shouted for the men to shoot into the top of the gas cells to speed up the release of the now unwanted gas. Loose and at the mercy of the wind, the ship blew some 600 feet across the field while some of the men doggedly hung on to the handling lines. As the wounded giant became heavy again with the loss of gas, the crew managed to hold it, but to little avail. In a 32.4 m.p.h. wind, the rear engine car was smashed heavily into the ground again and again. At last the car collapsed. Pivoting on the starboard engine car, the tortured ship turned into the wind and broke apart. It tore

out of the hands of the ground crew, blew across the field and came to rest against a boundary fence. Sparks flickered along the hull, a red flame shot out of the top and at 2:00 a.m. a great explosion of gas, ammunition and fuel set the whole ship aflame. It burned for five hours. One man was killed, four seriously injured. The cargo was a total loss, a particularly painful loss as quinine was in such short supply.

An inquiry into the loss began the same day. Lieutenant Commander Sommerfeldt presided. He must have done so with mixed emotions. Bockholt had reduced the plan on which Sommerfeldt had worked to shambles; the "China" ship was a heap of burned out aluminum girders. Yet, in another sense he could sympathize. Sommerfeldt, too, had lost a zeppelin in a hard landing a few weeks before. Bockholt, his Executive Officer, Ensign Maas, Warrant Officer Grussendorf, Machinist Busch and First Mate Wald of the "L 57" crew testified. The inquiry delved at length into the details of the destruction of the ship, dealt lightly with the propriety of Bockholt's decision to make the flight in spite of doubtful weather information and did not go into Bockholt's actions after the landing at all.

Bockholt stated: "I blame myself for not having properly taken into account the threatening signs on the morning weather map before I started the trip". Having made this concession, he immediately criticised the lack of up-to-date weather reports at rear echelon airship ports. The testimony was put in writing and Bockholt put his bold, unshaken signature at the foot of his deposition. Maas' signature lacked Bockholt's selfassurance. The first three letters of his name were carefully penned as if it were a copybook exercise but the final "s" was tacked on as if the writer did not quite know what to do with it. It was an awkward and immature signature. Busch and Wald added short

statements supporting the testimony of their chief as did Grussendorf who had joined the crew only the day before. What shifted the balance of the report in Bockholt's favor somewhat was the deposition of "Volunteer Airship Captain" Dr. Hugo Eckener, Count Zeppelin's old associate. He was in Jtiterbog to join the flight to Yambol on "L 57" in order to study the performance of the new long-range ship. In the navy, he was known as the "Pope of Airships", a reflection of the high respect which he enjoyed because of his extensive experience with airships. Eckener testified that a low pressure area moving in from the Channel coast could be expected to cause bad weather, but there had been nothing to indicate that the storm would grow as powerful as it did. To the contrary, one should have expected it to die down before it reached Jtiterbog. There were some important questions which were left unanswered. Was there any justification for risking this specially built ship and its valuable cargo on a trial flight under the particular circumstances at all? Did Bockholt make his decision to leave Jtiterbog promptly enough. Did he play for time too long? These questions were a matter of judgment and difficult to answer at best. Since they were not the main focus of the inquiry, little evidence was produced by which they could be evaluated.

The Ministry of the Navy telephoned the Zeppelin Company on the same day and ordered it to convert "L 59", an airship nearing completion, into a "China" ship. The Zeppelin Company thought that this could be done by the 25th. The Kaiser was advised of the accident and that the attempt would be repeated in November. Such was the momentum of events that no thought seems to have been given to whether the attempt should be made in view of the delay and other setbacks that had just occurred. A few days earlier, the Allies had claimed that they had reached a point 35 miles from Mahenge, the

landing area proposed for the Africa ship. The prevailing spirit was: "Jetzt erst recht!" - no more than ever. Ludendorff, however, lost no time in rend nates the Colonial Office that he had predicted the project would fail and to complain that his objections had not been reported to the Emperor as he had requested. He ignored the fact that one of his own men, Lt. Col. Thomsen, had been present when the Kaiser approved the "China Operation". What seemed to rankle was that the Ministry of the Navy had not informed Ludendorff of the outcome of the conference.

Lt. Col. Thomsen gave his chief's pique more concrete form. He refused to let the Yambol crew remain at the airship base until November. " The new formations need every man", he wired the Naval Command. He did, however, permit the 50 men manning the hydrogen gas generating plant to remain. The navy was surprised by this outburst of ill will. Knorr speculated that dissatisfaction with the aluminum ration which had just been allocated to the army had caused it.

Strasser now faced a dilemma. He was highly displeased by the loss of "L 57" and the way Bockholt had handled it. A certain tension between the two men seems to have preceded the disaster. The Colonial Office had sent Strasser a clipping from the "London Times" of September 10th which reported attacks on German troops at Maconda by six British airplanes belonging to the East Africa Expeditionary Force. He had passed a copy of the report to Bockholt with a memorandum:

"For your information. According
to this, danger from airplanes is
considerable. Request comment.
Strasser"

Bockholt wrote his cryptic answer into the left margin of the memorandum and returned it to Strasser.

"Undertaking deemed feasible anyway.

The terseness of the correspondence was mocked by the flowery aye of address used by Strasser's secretary which even in protocol conscious Germany had by then become oldfashioned. The letter was addressed to: "The Imperial Lieutenant Commander Mr. Bockholt, Hochwohlgeboren¹⁶".

Although the brusque wording of the exchange between the two officers was within acceptable limits in military correspondence, its utter lack of any personal touch, particularly in Bockholt's answer which disdained a single word of explanation (though one was given later), suggests certain coldness between the two men. What was involved in the destruction of "L 57", however, was bad judgment, not the breach of any regulation or palpable lack of skill. There was no concrete evidence of wrong doing. It was a question of how good Bockholt's judgment had been. Nothing destroys initiative and aggressiveness in subordinate officers more quickly than being condemned for a disappointing result by a superior who was not obliged to make the decision and who judges it with the benefit of hindsight. Decisions must often be made when the available information is incomplete, when the likely outcome can be measured only by the roughest probabilities, and when time and circumstances permit no postponement of the decision. Yet, even an error of judgment can be so egregious as to become intolerable. The exact point at which an error of judgment ceases to be only that if often very hard to determine. Strasser was not prepared to publicly accuse Bockholt of being culpably negligent or incompetent. In a private letter to Commander von Knorr, Chief of Staff of the Naval Command, he wrote that Bockholt was not guilty of "vertretbare Schuld". That

¹⁶ "Hochwohlgeboren" literally translated means most. well born. There is no real equivalent for this honorific title in the English language.

expression is at best obscure. "Schuld" means guilt or culpability. "Vertretbar" could mean defensible. Thus "defensible guilt" is what Strasser seemed to say Bockholt was not guilty of. Had Strasser merely clumsily expressed the thought that Bockholt was tainted by "indefensible guilt"? This would have been consistent with the tone and tenor of the rest of Strasser's letter.

The confusing phrase, however, was repeated by others, perhaps as a convenient way of avoiding expression of their own misgivings. If Strasser did not want to censure his subordinate directly, he made his feelings clear when he complained to Knorr in the same letter that Bockholt should have known that his weather information was inadequate and that he should have checked with him before making the flight. To Strasser misjudging the weather may have seemed particularly inexcusable. His instinct for weather was unusually keen. It had even been mentioned when Admiral Scheer recommended that Strasser be awarded the "Ordre pour le Mérite".

The crux of the matter is that Bockholt seems to have applied ordinary judgement and have taken ordinary risks in an extraordinary situation with a one-of-a-kind ship, at a time when time for the venture was running short. The newspapers that day brought the unwelcome news that Mahenge, assumed to be the site of German headquarters in Africa, had been captured by Belgian troops and that British airplanes had attacked Masasi.

The loss of "L 57" and the capture of Mahenge left Strasser depressed. "Early clarification is necessary because the whole enterprise depends on the situation down there" was his final comment in the letter to Knorr. Despite his doubts, Strasser did not withdraw from the project but he did want to replace Bockholt as the commander of the mission. "L 59", which was being rebuilt for the Africa flight, had been assigned by

reason of flight seniority to Lt. Cmdr. Herbert Ehrlich, a veteran commander. He was already at Staaken, where "L 59" was being built, ready to take command of the ship. Ehrlich was anxious to make the flight. To deny him his request, Strasser felt, would be seen as a snub and a demotion; giving Bockholt another ship would not.

The Naval Command overruled Strasser. Even though Bockholt could not be absolved of blame in loosing "L 57" when so much at stake, what was done was done. Bockholt was now familiar with the undertaking and it was better to keep him as commander. However, the airship was made directly subordinate to the Naval Command with Strasser retaining responsibility for technical matters affecting the flight. The move avoided friction between the two officers and minimized Strasser's need to deal with the man who had been given command of the flight over his opposition. The Naval Command set the date for the take off for November 10th, contingent on the situation then prevailing in Africa.

Strasser turned to other things. For several weeks bad weather had prevented offensive action against England. He hoped that the upcoming moonless period would permit him to mount a massive strike against England. Interior industrial cities like Sheffield, Manchester and Liverpool were to be the target. The morning weather map on the 19th looked favorable although the report from Ostende, the most easterly weather station, was missing. Strasser ordered fourteen ships to be readied for the attack. Late in the morning, he telephoned the captain of "L 45", Lt. Cmdr. Waldemar Kölle. "Kölle. The weather is good. Push deep into the interior. Good luck!" Twelve ships took off, two could not be brought out of their hangars because of cross winds.

For once, Strasser's gift for predicting the weather and the meteorological service failed. Strong air currents at high altitudes had gone undetected. The ships, flying at great height for protection, found themselves drifting rapidly and soon out of control altogether. The howling storm drove them southwards over France. Radio communications broke down because too many ships tried to get their bearings by radion triangulation at the same time. The crew became exhausted by the cold and lack of oxygen. There were numerous engine failures in the freezing temperatures. They were aggravated by the inability of the engine mechanics, left dazed and sluggish by the rarified air, to take timely corrective action. "L 44" went down in flames over St. Clement, the victim of French antiaircraft guns. "L 55" set an involuntary altitude record of 24,990 feet while trying to escape French planes and was wrecked on landing in Germany. "L 50" crashed at Dammartin, knocked off its control car and, thus lightened, rose and drifted off into the Mediterranean.

Kölle reached the English coast at 16,400 feet but much further south than he had planned. He set his ship on a course for Sheffield, got lost in the clouds and was unable to get a radio fix on his position. A light pattern in the clouds suggested industrial smoke stacks beneath and Kölle dropped six bombs on this "target". Yielding to the wind, he turned south for London and travelling much faster than expected, reached the English capital at 20,000 feet. He dropped more bombs as the weather turned into a storm and his ship was being helplessly pushed southward. At 3 a.m., one of the engines failed and soon afterwards a second. The ship was down to 40% of its normal speed. The helmsman asked for a course that would take the ship to Spain but Kölle refused. He hoped to turn east and slideslip back into Germany. With the oxygen supply exhausted, the crew

suffered headaches and felt weak, was slow to react and befuddled. At dawn, the Swiss Alps appeared to the east and Kölle realized that he would be unable to reach Germany. His ship did not have the power to turn back and breast the winds. The end came over the steep Buech valley, north of Sisteron, in the south of France. With only one hour's worth of gasoline remaining in the tanks, Kölle steered the ship over a small island in the Buech. With superhuman effort the crew landed it. Kölle and the crew got out of the ship. Kölle armed his signal gun, a flare arched into the ship and it was in flames. Large crowds of people had by now collected on both sides of the river to watch the amazing spectacle and there was no hope of escape for the Germans. They waded across the stream, Kölle being carried by one of his men, and surrendered.

Behind Kölle, "L 49", under the command of Lt. Cmdr. Hans Karl Gayer, was also being washed southward. Near Bourbonne les Bains, fighter planes of No. 152 "Crocodiles Escadrille" attacked "L 49". They had no incendiary ammunition but the planes shot so many holes into the black zeppelin's gas cells that the ship began to gently settle down into the woods beneath. It landed with negligible damage. Gayer tried to set the ship on fire with his signal pistol but it did not work. Adding insult to injury, he and his crew were captured by a French hunting party which had hurried to the scene. All the ship's secret papers, radio code, table of call signs and radio navigation logs were captured and the elite of the navy was locked up in a barn in Mirecourt.

Gayer seemed to have jinxed the ships he commanded. His first ship, "L 9", accidentally burned at its base at Fuhlsbüttel only eight days after it was assigned to him. His next command, "L 16", also burned shortly after he left to take over "L 49". That ship's nose collapsed as Gayer flew it from its construction yard to its base at Ahlhorn.

Reinforcing the nose section laid up the ship for so long that Gayer was able to make only two patrol flights before he took it on its first and last bombing raid. Now "L 45" was in Allied hands in practically perfect condition, to be studied by English and French engineers at leisure and in detail.

Gayer and Kölle soon had visitors. The gentlemen of the French Deuxième Bureau - Counterintelligence - interrogated Kölle three times, not very skillfully he thought, and he had no trouble keeping his silence. They seemed to be mainly interested in whether he had intended to attack Lyons. The situation changed a week later, however, when a British major appeared. He spoke German fluently. He said that he had worked at the Spandau munitions works for a long time, an explanation which Kölle considered reasonable, but he was dumbfounded when the English officer began addressing petty officers in "Plattdeutsch", the difficult dialect of the North Sea coast.

The major was without doubt Major Bernhard Trench of the Royal Marines. In 1907 he had gone to Wiesbaden, a charming spa in central Germany, to learn German and had qualified as a German interpreter. In June 1910, he was sent to Denmark for language studies. In the Fall, he left Denmark to travel to Kiel in Germany with his friend, Lt. Vivian Brandon of the Hydrographic Office of the Royal Navy. From Kiel they moved on to Heligoland and the German North Sea Islands until on August 22nd, they were finally arrested at Borkum, the last German island in the off shore chain, on charges of espionage. Whether they were guilty of spying in a legal sense until they reached Borkum, is open to question. They had bought maps which were on public sale, made notes about objects on public view, often on picture postcards bought on the spot, hired a guide to show them around Heligoland and determined the location of the

shallows of Sylt by bathing there. In Borkum, however, Brandon was caught inside a barbed wire fence surrounding a gun position, and he and Trench were arrested. It was not until the two were tried later that the Germans learned from Trench's testimony that he had entered the battery even before Brandon.

Whether these amateurish activities had official sanction or were a private venture is not clear. Brandon admitted that he was planned to turn the information over to "Reggie" and Trench added that "Reggie" was connected with the Intelligence Bureau of the Admiralty. Who "Reggie" was or what his connection with the Intelligence Bureau was, neither prisoner would say. Brandon also admitted at his trial that the "John Birch" mentioned in correspondence the Germans had found was the covername of Trench. One wonders if the founders of the John Birch Society would have ever chosen that name had they known that it was also the pseudonym of a "limey" spy! After a two day trial before the German Supreme Court, most of it public so that the Germans could demonstrate to the world that it was the British, not they who harbored aggressive intentions, Trench and Brandon were convicted and sentenced to four years incarceration in a fortress. Trench was sent to Glatz in Silesia and he had much time there to practice his already excellent German. In 1913, on the occasion of the state visit of King George V to Germany, the Kaiser pardoned Trench and Brandon. While the Germans had treated Trench well, they had not, by this episode, endeared themselves to him. In 1915, Trench became the head of the German section of the Naval Intelligence Division.

Trench found Kölle a hard nut to crack. The French had already provided him with some practice how to resist questions and Kölle hated the British. Trench did not esteem his prisoner any more highly but he did not let his feelings interfere with his

work. The interrogations were much longer and better organized now. The tactics changed quickly, at one moment veiled threats that airship captains had been guilty of war crimes by bombing open towns, at another attempts at friendly, personal conversation and then suddenly a brusque, overbearing onslaught. The tactics worked with the crew. Much valuable information about the state of the airship fleet was obtained. Kölle, however, knew his rights and refused to answer questions. The major switched to another approach, the time honored "I know everything anyway so there is no harm in your answering a few questions". In a confidential, man to man tone, Trench started to chat with Kölle about the Naval Airship Division. The bits and pieces of information which the major dropped nonchalantly showed that indeed he knew the airship service in great detail. "Why did Bockholt replace Buttler as commander of 'L 57'," Trench mused. "Did Kölle know that 'L 57' had been destroyed?" A few more questions suggested that the major not only knew that "L 57" had been lengthened but also why this had been done.

Later, faint tapping signals in the walls told Kölle how his petty officers had been interrogated. The English major had singled out one of them, told him the date on which he had brought a defective engine to Friedrichshafen and added that later he had seen that engine. Whether truthfully or by design, Trench told another airship captain a similar story — that he had spent a day in Friedrichshafen during the war.

The tapping went on: the face of the man taking notes during the interrogation was so familiar that the crew was certain they had seen him before. It was at the Zeppelin construction yard at Staaken and the man had been dressed as a workman!

Kölle and Gayer surreptitiously wrote reports about their interrogations which were smuggled out of the camp where they were being held. The reports reached Germany far too late. Had Kölle's report reached Strasser in October of 1917, he certainly would have taken immediate, vigorous measures to tighten up security in Staaken, the airship factory at which Kölle's crew had seen the English "worker" and where the new "China" ship was then being built.

Chapter VIII

A CLOSE CALL

"L 59" was completed on schedule. On October 25, it rose from the Staaken airfield and made its first flight. Four test and shake down flights followed, not enough to test the ship adequately but all that time permitted. Operations orders were prepared on the 30th. By authority of the "All Highest", Bockholt was to proceed across either the Aegean or Asia Minor, whichever he chose. As he approached the Protectorate, he was to establish contact with German headquarters, believed to be southeast of Mahenge and obtain its assistance in choosing a landing site. A morning landing in the area southeast of Livale, a village 120 miles to the southeast of Mahenge and the same number of miles inland from the Indian Ocean, was recommended. The order was not to fall into enemy hands. Livale was the site of two rubber plantations and a fortified police post which in peace time had accomodated thirty native policemen.

Major Wilhelm Göring read the order with concern. He was the head of the Military Department of the Colonial Office and there in charge of the "China Affair". He was the oldest son of the first marriage of Dr. Heinrich Gdring. The son of a judge, the elder Göring had studied law at the universities of Bonn and Heidelberg and had entered the judicial service to become a district court judge (Landgerichtsrat). In 1885, Chancellor Bismarck selected him for a new career. Bismarck had always seen the Germany he had helped to create as a continental power. Colonies were of little interest to him. However, commercial interests and expansionist sentiment had forced his hand. Trading companies had concluded treaties with various African chiefs and had begun to acquire territories

there. German interests and the abuses of the trading companies required a governmental presence in these areas and Bismarck had decided to appoint a number of local representatives including a "Reichskommissar" (Resident Commissioner) for Southwest Africa. Dr. Göring was chosen for the job. In 1885, he was sent to London to be trained for his new responsibilities. While in London, Dr. Gdring, a widower since 1879, married the 26 year old governess of his children, Franziska Tiefenbrunner. The new Mrs. Göring returned to Germany and soon gave birth to her first son, Carl Ernst. He was later to join the German troops in East Africa where in 1914 became the adjutant of Colonel Lettow - Vorbeck.

Meanwhile, Dr. Gdring had been sent from London to Southwest Africa, (shortly to become German Southwest Africa and now Namibia), to serve as Reichskommissar until 1890. The main street in Windhoek, the capital of Namibia, is still named after him. In 1892, he was appointed Consul in Port au Prince and while he was there, Franziska, at the family home in Rosenheim in Germany, gave birth to another boy. He was to become the highest ranking soldier in German history - Reichsmarschall Hermann Gdring.

Wilhelm Gdring, or Willy as he called himself, had followed a colonial career. He had served eleven years with the Schutztruppe in East Africa, the last four years as District Officer in Usumbura and Udjidji. This involved the care of administrative affairs of the district and adjudicating legal disputes among the natives. He had been stationed in the colonies well beyond the usual time when he returned to Germany in 1912. He married Frieda Schulz, twelve years his junior, and expected to settle down to a well deserved retirement.

Fate had made other plans for him. When war broke out in 1914, the chief of the Military Department of the Colonial Office joined the army in the field and was killed a few weeks later. Göring was called out of retirement to take his place. Promotion to major and an Iron Cross, Second Class were his ultimate rewards. Göring had no experience with the operation and navigation of airships, but he knew Africa and he could read a map. The changes that he had seen taking place on the map of East Africa in recent days were far from reassuring. A Belgian force, coming from the Congo, had fought its way across the northwestern part of the German colony and had captured Mahenge on October 9th. Since then, there had been reports of fighting in the Mbemkuru valley to south of Livale and of steady British progress into the Lukuledi valley even further south. With the enemy south of Livale, an airship landing in that area had become a questionable proposition. The Operations Orders of the 30th, which lay before Gdring, had been overtaken by events before the typewriter had punched its last period into place.

If Gdring had doubts after studying the map that the African operation was still feasible, he faced a delicate problem. The Colonial Office favored the project; it was for the benefit of its troops. The Ministry of the Navy, the Naval Command and Commander Strasser had all endorsed the flight. One zeppelin had already been sacrificed in the attempt and another rebuilt for the trip. Though the enemy was steadily advancing in Africa, it was a gradual process that provided no visible guide posts marking a definite turning point. Every news bulletin about East Africa spoke of more ground lost, of more villages captured but had anything occurred that clearly said that the line had been crossed, that the operation could no longer be carried out? If the risk had grown beyond acceptable limits, who would declare this in the face of so much positive support?

On the morning of the 31st, Göring learned of the capture of Livale from a summary of enemy newsreports of the prior day. The place which the Operations Orders had named as a suitable landing place was in enemy hands. The old questions arose again. Where was Lettow? Could his troops hold out long enough for Bockholt's ship to reach them? Göring at once went to the Ministry of the Navy on Königin Augustastrasse to confer with the navy. With the capture of Livale, he explained, the situation in Africa had deteriorated somewhat. Still, was this sufficient to call off the mission? Would not Lettow need help now more than ever? If Göring looked for a clue that the Navy officers saw the problem differently, apparently it was not forthcoming. The Navy agreed with Göring. It summarized the conversation in a memorandum for the files, a memorandum which very much sounded like whistling in the dark.

To save time, "L 59" had been loaded at its construction yard in Staaken rather than bringing it to Jüterbog first. At 7:40 a.m. of November 3rd, it left Staaken for Yambol. Dr. Eckener, Lehmann and other airship experts were along to study the long distance ship in operation. Flying east along the Sudeten mountains, it became lost in a dense fog for a time. Unwilling to break radio silence, "L 59" descended to 900 feet to search out a navigation check point. Back on course, while still over Germany, it broke the drive shaft of its front engine and then the chains of both the main and emergency rudder controls. Out of control, Bockholt stopped the engines and while the ship floated free like a balloon for two hours, the crew jury rigged the rudder with a spare chain. As the broken front engine was coupled to the generator which powered the radio, Bockholt was unable to report his mishap. Loath to lose time, he dropped a message to the ground, requesting that spare parts necessary to repair the engine be shipped to Yambol. The

emergency repairs completed, "L 59" resumed its trip and turned south through the Moravian Gap towards the Danube valley, past the ancient towns of Bratislava, Budapest and Belgrade. At Svishtov it left the river to turn south into Bulgaria. At 5,200 feet, it crossed the Stara Platina mountains into the Tunja river valley. To the eastward, located in the easily identifiable bent of the Tunja where it turned south, lay the Yambol airship base. "L 59" landed there at 12:50 on the 4th. Despite the various mishaps, everyone was very pleased with the trip.

The crew was doubtlessly thankful that "L 59" was scheduled to make final preparations in Yambol for no more than six days. Yambol was a town of about 10,000 people. It offered no amenities or distractions. It was a minor airship port. Only two ships had been stationed there. "SL 10" had disappeared without a trace over the Black Sea while under way to bomb Sevastopol. It was followed by "LZ 101" which had been withdrawn within less than two months when the army demobilized its airship division. The wooden barracks were low and crowded together. The place was full of flies and rife with malaria in summer when the sick rate went as high as 35%. In winter it was plagued with spotted typhus and dysentery.

As "L 59" was made its final preparations, the Colonial Office began to read its map differently. By November 6, it concluded that the bulk of the German forces was not in the Mahenge area but 225 miles to the southeast near Lindi on the coast. "Recommend approach of the Makonde Plateau north of the Rovuma" the Colonial Office advised the Naval Command. The Makonde Plateau was in the extreme southeastern corner of the Protectorate. Naval Command forwarded the message to Bockholt later in the day without comment. The Makonde Plateau contained neither settlements size nor military

installations of any size nor were there any German troops to speak of. Why select it as the landing place for the airship? The Colonial Office, of course, had no inkling of Lettow's actual plans since it had lost all contact with the colony. It could only try to put itself into Lettow's shoes. What would he do under the circumstances? If Lettow chose to make a last stand on German soil, a natural assumption, the Makonde Plateau was the best place to make it. It formed a natural bastion, towering over the surrounding countryside, 1,600 to 3,300 feet high. Steep escarpments on its northwestern, the western and the southern sides gave it particular defensive strength.

The Makonde Plateau, however, also had its drawbacks. The area was too great to be held by the available German forces. Its interior was not well explored and the maps were vague and inaccurate. The area was hot, ranging from a low of 65° to 75° to a high of 85° F. There were few wells as the sandstone composition of the plateau permitted the otherwise adequate rainfall, thirty to forty inches per year, to drain away in its draws and valleys. It was covered with dense shrub, in some places 18 feet high. "Very dense bush, alternating bush and native clearings, dense bush" were the markings all over the map. The bush destroyed visibility on the ground and would have made it difficult for an airship to land and establishing contact with ground troops. Whether the small fields which the Makonde people had cleared would have supported the troops is questionable and there was little wildlife from which the soldiers could have supplemented their rations. The Makonde, living in scattered, well hidden villages, were hostile to the Germans. They had risen against them in the "Maji-maji" revolt of 1905 and by the time the uprising had been suppressed in 1907, some 100,000 natives had lost their lives. There had been unrest on the plateau again recently and there had been reports of German

soldiers being ambushed. A punitive expedition had been sent there to suppress the unrest. "Stern but just punishment" had been meted out though one may wonder how, under the circumstances, the guilty could have been identified. More likely, justice was rather summary. Willy Göring had described such justice in a letter to his grandmother in Rasselstein. "At 9 a.m., a tribal chief was hanged. He had attacked a caravan, plundered it and killed several people. The garrison took up its position around the gallows, the already aging criminal was brought up in fetters. First Lieutenant v. R. read the judgment of execution, the chief was placed on some crates, the noose was placed around his neck and the crates were knocked over. Dr. A. was able immediately afterwards to confirm death. A sentry guarded the [the body of the] hanged man until evening; until that time he remained as a deterrent example".

A number of colonial officers, Governor Schnee and Commander Loeff among them, in fact favored making a last stand on the Makonde Plateau as envisaged by the Colonial Office. They thought that the troops could hold out there until 1919 by which time the war in Europe would surely be over. The Germans would have a stronger bargaining position when it came to colonies, if some African soil were still in their hands. Some also thought that Lettow's strategy of tying down enemy troops in Africa was not as effective as he thought because they believed that few of these troops could be used on the European battlefields. At best fifty thousand would be fit for that service and that would be a drop in the bucket. Lettow, however, insisted on continuing the hit and run warfare he had so far conducted and prevailed on this point.

The recommendation of the Colonial Office that Bockholt land on the Makonde Plateau gave him little guidance. The plateau encompassed well over 200 square miles.

Bockholt had no information where he could find German troops on the plateau. There were no places which recommended themselves as logical landing sites. The responsibility for selecting a landing point for "L 59" had been quietly passed into Bockholt's hands. There was no reason why he or Zupitza could make that decision better than the Colonial Office or the naval staffs in Berlin could but by morning of the 9th, the telegraph demanded to know where Bockholt had decided to land.

Whatever Bockholt and Zupitza thought of the Naval Command and the Colonial Office at this point, they asked no questions and proceeded with the project. There were still many details to attend to. Some parts were still being removed from the ship to further lighten it. The German Mission to the Turkish General Staff was given the prospective flight plan and was requested to see to it that local Turkish authorities were informed that an airship was coming. It meant lifting the veil of secrecy drawn over the operation a little but insuring the safety of the ship warranted it. Machinist Mate First Class Schulz was court martialled for gross dereliction of duty, sentenced to five days imprisonment and returned to Germany. Somebody discovered that the paylevels of the colonial troops was less than those of the navy of the same grade and Bockholt had to wire Berlin to make sure that his men would not suffer a reduction in pay when they joined the "Schutztruppe" after they arrived in Africa. Among the telegraph messages which kept flowing back and forth between Yambol and Berlin, the telegraph was the preferred means of communications as the telephone was so unreliable, was one which may have startled Berlin a little. On the 6th, Bockholt asked for the birthdates and birthplaces of General Lettow-Vorbeck (he had been promoted in October), Governor Schnee and Chief Surgeon Hugo Meixner. He did not say for what he needed this

information - social amenities in the bush perhaps — but the Colonial Office duly obliged.

A new radio message was sent to Schnee: "Airship mentioned is to arrive in Protectorate about 14 November 1917".

Changes in the crew of "L 59" were made even while the ship was already at Yambol. The normal crew of a five engined naval airship consisted of twenty three men, a Commander, an Executive Officer, a Machinist who was in charge of the engine crew and ten Machinist Mates. A First Mate was in charge of the deck crew which consisted of two Elevator and Rudder Helmsmen each, two Radio Operators and a Sailmaker Mate who was charged with maintaining the gas cells and the hull cover.

Among the first things which Bockholt had done after assuming command of "L 57" was to replace Warrant Officer Fegert, the man whom the newspapers had so praised for sailing the "Royal" home after her capture. He wanted him replaced with a more reliable man, someone skilled in navigational computations. First Mate Wald, from Gayer's "L 49", took his place. At the same time, an elevator helmsman was dropped because he lacked sufficient skill. A newly assigned man, Seaman First Class Schedelman, was to act as elevator helmsman along with his other duties. A radio operator was also removed from the crew. Only one would be needed on the flight; there would not much for him to do until the time came to establish contact with the Germans troops in the last phase of the trip. An additional officer had been added to the ship's company, Army Warrant Officer Emil Grussendorf.

The photographer arranged the men in a formal pose in three rows along a hangar wall. Bockholt took the place of honor in the middle of the center row, his hands thrust in

the pockets of his coat to show the necessary insouciance of the flying officer. On his left stood Grussendorf in his army greatcoat, his double cockaded visor cap set at a rakish angle. Ensign Heinrich Maas, in full flying gear was placed on Bockholt's right. He, too, assumed the hands in pocket pose but it was at odds with the pensive expression in his face. The Chief Petty Officers, Busch and Wald, flanked the officers and as a token of their rank wore their naval visor caps. The rest of the men were arranged around this group. Most wore their fur collared, leather flying jackets, leather pants and boots with felt soles which would not strike sparks from the metal parts of the ship. They carried the peculiar escutcheons of their branch of the service, map cases, large thermos bottles and flashlights. Some of the men were serious, some stiff and selfconscious, but the high spirits of the rest suffused the picture.

With the changes already noted, this was the crew which had already served with Bockholt on "L 23" and "L 54". The Airship Division tried to keep officers and men together as a team, even when they were when they transferred to new ships. They had all volunteered for airship service. Buttlar-Brandenfels has written that he was told to select an all-volunteer crew for the flight. Bockholt's crew had been examined for their fitness for service in the tropics but the record does say whether they had been asked about their willingness to serve on this particularly hazardous mission. If they had been asked, it would have been difficult for a member of the crew to now step aside without seeming a coward or a shirker in the eyes of his messmates which many shared dangers had knit into a tight, intimate group.

Bockholt's Executive Officer, Maas, had entered the navy in 1914 as an 18 year old Midshipman. He had graduated the airship training course with Bockholt and had

served with him since that time. The normal table of organization for airship crews called for a lieutenant to fill this post but Maas had not yet served the time normally required for promotion to this rank.

Maas' youth was balanced by the thirty five year old Grussendorf. He had served as a petty officer on Count Zeppelin's civilian airships and upon mobilization joined one of the army's airship battalions. He was given the rank of "Feldwebelleutnant", a hybrid rank which entitled him to wear the insignia of a master sergeant and the shoulder straps of a lieutenant. A Warrant Officer in the U.S. Army is close to the rank but whatever the American equivalent may be, a Feldwebelleutnant performed the duties of an officer. For a while, Grussendorf had commanded the army training airship "Z IV". On October 7th, the army had made him available to the navy. The two services at times lent personnel to each other and the army, having disbanded its airship service, had crewmen to spare. His assignment to "L 57" and "L 59" was an anomaly. Airships normally carried only two officers, He may have been assigned to "L 57" and "L 59" so that one officer would be on duty with each watch; perhaps he was added because no replacement for the elevator helmsman Bockholt had dropped had been found. His experience would be of value the mission and his rank, a grade less than an Ensign, avoided any conflict with Maas over precedence and protocol.

Machinist Karl Busch headed the engine crew. He was a career man who had served in the navy since 1896 on every type of ship from gunboat to battleship. The original plans for the flight had provided for only nine machinist mate. One of the engines would not be used at normal cruising speeds and the normal complement of two machinists would not be needed for it. However, in the end the engine crew reverted to

their normal number of ten. They were Machinist Mates First Class Bruno Heiman, Peter Broeker, Gustav Proll, Ferdinand Holland, Karl Schmitz, Heinrich Pabst and Friedrich Engelke, Berthold Schilling, Max Schmieder and Seaman First Class Kurt Hocke.

First Mate Emil Wald, 30 years old, served as navigator and was in charge of the deck crew, all those not concerned with the engines. Under him served Signal Mate Albert Nolte as elevator helmsman. Boatswain's Mate Bernhard Wisserman and Seaman First Class Adolf Fuchs were the rudder helmsmen, Signal Mate Kettner functioned as radio operator. On November 6, Bockholt had ordered Kettner off the ship but evidently had been unable to obtain a replacement for him and Kettner had stayed. Richard Schulz was the sail maker who, on this trip, would also be in charge of the gasoline supplies.

At Yambol, Bockholt's former clerk, Schedelman, now a member of the ground crew, volunteered for the mission and Bockholt took him on as a spare elevator helmsman and to assist Sailmaker Schulz in supervising the gasoline supplies. It was not a position normally provided for on an airship and the original Africa plans had not provided for such a crew assignment. The crew was now larger than had originally been planned for and it is hard to escape the impression that Bockholt had added this berth only to please a favorite subordinate.

The men's ages ranged from Maas' twenty two to the thirty nine years of Busch, the average age being about thirty one years. They were mostly from the northeastern part of Germany, the usual recruiting grounds of the navy. Fuchs came from Constance on the lake over which Zeppelin had first flown his airships. Perhaps Fuchs was fulfilling a dream of his youth. The older half of the crew was married, the younger ones were Single.

Professor Zupitza was not included in the photograph. He was only a "passenger". When the army had refused to make Captain von Bentivegni available for the flight, Zupitza had been chosen to accompany the flight as an Africa expert. The Colonial Office had originally planned to send a physician and an interpreter; in Zupitza it got both. He was given two days to get ready and then he was to report to Jüterbog to take part in the flights of the experimental airship "L 35" which was stationed there. This was to give him his "airlegs", so to say.

In his fiftieth year, long removed from active army service and not having lived in East Africa for the last 12 years, Zupitza was not the ideal choice for this flight; certainly he was not a good recruit for Lettow-Vorbeck's hit and run army. Zupitza's participation in the flight presented another problem. When he had been released from war captivity he had given his parole, his word of honor, that he would not engage in further acts of hostility against the Allies for the duration of the war. Zupitza was about to assist in the transportation and landing of guns, ammunition and other military supplies aboard a craft operated by the Imperial Navy. This clearly violated his oath. Only the year before, Dr. Wilhelm Knorr had written a learned treatise on the "Parole of Prisoners of War" in which he casually remarked that those who violated their parole were to be hung or condemned to life imprisonment in a fortress.

It is unlikely that the British would have hung poor Professor Zupitza had they captured him again, but obviously somebody was concerned about the matter. Zupitza was dubbed a "passenger" and was "forbidden" to participate in the operations of "L 59". It is not clear who the Germans thought they would fool with this flimsy legal fiction. Perhaps it was meant to reassure Zupitza.

The Naval Command had calculated that allowing for necessary parations, the ship would start for Africa on the 6th or 7th. These dates passed while "L 59" waited for parts to repair the front engine drive which had broken on the trip to Yambol. The weather, too, was bad.

The Naval Command tried to be patient but it had its own kibbitzers. On the 6th, the Kaiser's headquarters phoned to find out how the "China" operation was going.

On the 9th, the Naval Command finally telegraphed Yambol: "When can we expect departure?" Bockholt answered the next day: "Monday morning in case of weather. Please encipher as whole Balkans know". The cipher clerk in Berlin dutifully added that Bockholt probably meant "In case of favorable weather". Bockholt's answer either got lost in Berlin or the Naval Command pretended that it had because there was the same exchange of messages two days later.

Delay not only increased the threat that the mission would come too late but it also endangered the security of the operation. There had been leaks at the Zeppelin factory already and at Jüterbog, the base personnel and the crew had openly bragged about the flight. German officers in Sofia talked freely about the operation. An airship officer, wearing the insignia of his service, travelling to Yambol on business, was approached by a fellow officer and asked whether he was a member of the Africa expedition. When he claimed ignorance about the matter, he was told with a laugh that the proposed trip was common knowledge in Constantinople. The Bulgarians could not be depended on. Many of them had opposed their country's entry into the war and were hostile to the Germans. Prisoners of war were working on the base, a large group of hostile eyes and ears. Prisoner of war camps somehow never could be made leakproof.

More messages, more activity simply increased the chances that the enemy would pick up some clues about the plan.

On the 11th, the repairs of the engine drive were finally completed and Bockholt sent a short report about his flight plans to Strasser. It did not reach him until the 20th. Meanwhile, Berlin was in the dark as to what Bockholt meant to do. Its previous inquiries had elicited no satisfactory replies and so on the 12th, the Naval Command went on a new tack. It asked the Naval Attache in Sofia whether the ship had left and, as if suspicious about what Bockholt was doing, what the weather in the Balkans was. Arnim, the Naval Attache, probably thought he had better things to do than collect weather reports - wasn't there a meteorological service for this - but he telephoned the naval substations throughout the Balkans to ask. The next day he reported back that the weather had been none too good but added a more cheerful note. "L 59" had made a good two hour trial flight.

Arnim had the weather right but not the news about "L 59". It had taken off on the 13th, probably not without causing muttering among the crew as airshipmen tended to be superstitious.¹⁷ The ship had risen directly into an air inversion which had sucked it downward until the ship's bow had come to rest on top of the airship hangar. Well over 7,000 pounds of ballast and ammunition had been hastily thrown out of the ship to lighten it and get it free again. Fortunately, "L 59" had suffered no damage but with so much ballast lost, Bockholt could not proceed with his journey. Once up, however, he had used the opportunity to cruise near the field for two hours to test the newly repaired engine. To avoid missing a favorable take off opportunity, Bockholt previously had decided not to

¹⁷ This did not prevent the German navy from commissioning "L 13" which survived a near record number of 17 bombing raids on England until it was decommissioned as obsolete in August 1917.

flight test the engine drive. He had planned to run it during the early hours of the flight and, if it proved to be in sound condition, to continue to Africa, otherwise to turn back. Now Bockholt had an unwanted chance to test the drive. It had functioned satisfactorily. Bockholt had landed safely and "L 59" had followed its groundcrew back into its hangar like a docile elephant, to wait for another day.

Chapter IX

ORDEAL OVER TURKEY

The flight of the 13th led to an important discovery. When calculating how much the ship could carry at take off, the Germans had assumed that the air temperature at Yambol at 1,500 feet altitude would be about 43 degrees F. It was, in fact, as high as 62 degrees F. which meant that in the warmer, less dense air, the airship would not be able to lift as much as had been expected.¹⁸ The ship was overloaded. After the flight of the 13th, Bockholt had already unloaded 7,060 pounds, 5,300 pounds of it was cargo, mostly ammunition, but as he saw it, a safe start could be made only by unloading another 4,400 pounds. Bockholt was not keen on leaving more cargo behind; the alternative was to wait for colder air. It would be denser and give the ship greater support. He had lost one ship already and had come close to losing this one too. He could not gamble again by taking off under marginal conditions. Bockholt decided to wait for colder weather. The present weather pattern had lasted eight days already; it would soon have to change.

Events, however, generate their own pressure. The English news reports about East Africa of the 12th, 13th and 15th continued their doleful litany - 142 Germans and 1,400 askaris surrendered; many rifles and machine guns captured! Captain Tafel's detachment, near Mahenge, was desperately trying to break through to reach Lettow's force. The British forces, which had advanced from Lindi and Kilwa had met at Ndanda Mission, possibly trapping Lettow between them. Numerous hospitals had been captured,

¹⁸ Readers interested in an explanation of the laws governing airship flight are referred to the Appendix of this book.

Mahina, Masasi and Malembwe had been taken. The report of the 13th placed the British south of the Makonde Plateau. "Enemy breaking up in East Africa" proclaimed the London Times on the 15th.

On the 14th, the Naval Command sent an urgent wire to Yambol, advising that the landing should take place south of the Makonde Plateau, somewhere between Kitangari and the Rowuma River, the border between the German Protectorate and Portuguese Mozambique. At best, this was a strip 25 miles wide.

The moon was new again on November 14th. There would be only a few moonless nights now and if "L 59" was to have the cover of these dark nights, the start would have to be made soon. On the 15th, the Naval Command telegraphed Bockholt again: "When is take off planned for. Everything OK?" to which Bockholt once again replied: "According to weather. Ship ready".

The morning of November 16th was overcast and rainy. The weather forecast was for westerly crosswinds at low altitudes, changing to stiff headwinds higher up. Despite the unfavorable weather, Bockholt took off at 8:48 a.m. Drawing on the experience gained on the 13th, he had increased his ballast to 15,400 pounds at the expense of his cargo which now stood at 30,200 pounds.

Under a low lying dense cloud cover, "L 59" flew east to the Black Sea. Near Burgas, the ship was approached by an airplane of the German squadron at Varna. The Varna station should have been notified that a German airship would be operating in the Balkans but somehow this had not been done. There were some tense moments as the plane flew alongside "L 59" but then it dropped away in acknowledgment that it had recognized the ship as a friendly craft.

The ship turned south and flew towards Constantinople. The most direct route to East Africa which it could have taken was directly south across the Aegean Sea, well to the west of its present course. This was in fact the route envisioned in the original "China" plans. The many islands which dotted the Aegean Sea, were mostly under Greek, some under Turkish sovereignty. Pushed by internal and external pressures, Greece had gradually shifted from a German-friendly neutrality towards the Allied camp until Greece formally declared war on Germany in June 1917. As a result, Allied bases and airfields were now spread across the Greek as well as some captured Turkish Aegean islands. The Allied airplanes stationed in the Mediterranean were a mixed bag of obsolete Farmans, Bristols and Short seaplanes but the German planners were well aware of the potential threat which even these elderly planes represented and had carefully studied the disposition and strength of Allied air squadrons. Among the reports in the German files was one about the interrogation of a Flight Lieutenant Alcock. Flying a large, twin engined Handley Page 0/400 bomber, Alcock had greatly annoyed the Turks by singlehandedly attacking such targets as Constantinople (Istanbul)¹⁹ and Adrianople (Edirne). On June 17th, when he raided Hayda Pasha on the Gallipoli Peninsula, his plane lost one of its propellers, forcing him to come down in the water a half mile from the beach. Alcock and his companion swam ashore but were obliged to surrender to the Turks the next morning. They were interrogated numerous times, once by the commander of the German forces in Turkey who told Alcock that he lied well. Alcock's name was to appear in the annals of aviation history again when in 1919 he first challenged the long

¹⁹ In this book, the place names used are those of 1917. Modern place names are added in parenthesis.

distance capabilities of the airship by flying a Vickers "Vimy" bomber across the Atlantic.

Despite the presence of Allied air units in the Aegean, Strasser had approved the original plan to fly directly across the Aegean because he was of the opinion that it could be done safely during a moonless night. As far as the Germans knew, none of the Allied flying fields in the Aegean were equipped for night operations. Flying across the Aegean directly would have been preferable to flying across the Turkish mountains of Anatolia, up to 7,000 feet high, which would require the "China" ship to discharge a great amount of ballast to attain the necessary altitude. This was inadvisable at the beginning of the flight already since no one could predict how much ballast would be needed during the next three days.

In the end, the operations orders issued to Bockholt gave him the choice of crossing the Aegean or flying across Turkey. Bockholt, for once more cautious than Strasser, decided against crossing the Aegean. Perhaps he thought of the successful use the British had made of the new American Curtiss flying boats in harassing and shooting down zeppelins along the Dutch coast earlier in the year. He may have wondered how his former ship, the "L 23", was destroyed along the Danish coast, also a "safe" area.²⁰

Bockholt chose the Turkish route, but plotted a circuitous path through Anatolia to avoid its highest mountains. When he reached the Sea of Marmara, which divides Europe from Asia Minor, he began to follow the railroad which zig-zagged south from Panderma (Bandirma) through the valleys and passes of Anatolia to Smyrna (Izmir). As

²⁰ The Germans did not know this, but "L 23" had fallen victim to a Sopwith "Pup" fighter plane which had been carried to the Danish coast by an English cruiser. The airplane had taken off from a short flight deck erected over the cruiser's foredeck. "L 23" had not observed the airplane and had continued to shadow the English squadron for over an hour, long enough for the "Pup" to climb to the zeppelin's altitude, close with it and shoot it down in flames.

the ship penetrated the valleys southward, headwinds became more troublesome and low lying clouds hindered navigation. Heavy cumulus clouds signaled thunderstorms. At Soma, about ninety miles south of Panderma, the furies descended upon the ship. What everyone had so much feared happened. On the 7th, German headquarters in Constantinople had been requested to advise the Turks of the planned flight and the projected route over Turkish territory. "Firing on the airship by own forces must be avoided at all costs". The lessons learned by the army ballast still on board and 2,200 pounds of cargo tumbled out of the ship, followed by 14 drums of gasoline. The ship shot up to 2,300 feet. Bockholt decided that he would have to turn back. With the setting sun, he rose out of the treacherous valleys and came about at 4,800 feet.

At 7:30 p.m. "L 59" reached Constantinople. Bockholt attempted to contact the ground to obtain a weather report but his radio was not working. Rain had penetrated the electrical generator which powered it. The crew signalled with a searchlight but received no answer. Fearful of losing his way in the storm, Bockholt decided to ride it out over the glimmering city until day break.

With dawn came a short respite and "L 59" started north again. Soon the ship was once more tossing in a thunderstorm, bouncing up and down between 3,900 and 6,500 feet altitudes. Clouds enveloped the ship. Patches of darkness among the clouds suggested mountains below and Bockholt turned his ship in the direction of the Black Sea to escape them. He tried to climb above the cloud layer, which he estimated reached up to 6,900 feet, but did not succeed.²¹ When the storm at last abated, Bockholt cautiously took "L 59" down through the clouds to determine his position. He finally broke through the

²¹ This account is based on Bockholt's official account which he prepared belatedly on November 28, 1917, after he had returned from the Africa trip. In a number of minor respects, it differs from the account given by Göbel, who had a copy of Bockholt's diary and also from the altimetric record of the trip.

clouds and found the coast at Midia (Midye). Anxious not to lose this sure guide, he followed the coast line at only 1,000 feet until he reached Burgas. From there, a short dogleg of 50 miles, almost due east, took him home to Yambol. This time the ship was lucky. When it reached the base at 4 p.m., the wind died down sufficiently to risk a landing. The ship was safely brought into the hangar and as soon as it was secured, the storm began to rage again. Frozen and rainsoaked, exhausted by a wild 32 hour flight, the crew stumbled out of the ship. The storm had torn loose fourteen guy wires and broken some of the lateral braces of the hull. Five bullet holes were found in the gas cells.

The Naval Command allowed Bockholt three days to refit. On the afternoon of the 20th, when it had no report of a take-off, it lost its patience and fired off an ultimatum to Bockholt: "Trip must begin without further loss of time or attempt must be abandoned".

Chapter X

EAVESDROPPER EWING AND HIS CREW

While Bockholt was waiting in Yambol for the weather to improve, in German East Africa an orderly entered the tent of Captain Gurdon during the night of November 20 — 21 and shook him awake. The captain, an intelligence officer with the British East African Expeditionary Force, sat up and took the paper the soldier handed him. It was a coded message. As he had done so often before, the captain sat down and decoded it at once. It was a direct message from the Director of Military Intelligence in London: "Airship will attempt to land at Kitangari".

This was nothing new. Early in November, the captain had first decoded a message from the War Office that an enemy airship with supplies might try to land at Kitangari on about the 20th of the month. All radio stations were instructed to jam radio signals from the airship. Local headquarters were to be advised of the time and place at which the airship had been observed and of the direction in which it was flying. Speed was of paramount importance. The message was to be sent as a priority message without encoding it. British air squadrons were instructed to attack the zeppelin with bombs; there was no incendiary ammunition in East Africa.

Since that first, startling message, Captain Gurdon had been awakened more than once to decode "immensely long cyphers" from London, instructing the British forces in great detail about action to be taken with respect to the airship.

How had London known about the plan to fly an airship to Africa? How had Major Trench known that Bockholt had replaced Buttlar as commander of "L 57", that

the ship had been lengthened and then had been destroyed? Where had he learned that Kölle's ship had shared a hangar with Buttler's "L 54", that Kraushaar was married to an English woman (was he considered reliable, the major had asked) and that Kölle had married while on two weeks leave in January? Trench had indifferently scattered these details about in the interrogation as if he were accustomed to regularly exchanging gossip with German airship officers over a glass of brandy.

Some of Major Trench's information had no doubt been supplied by those men and women who followed the ancient profession of spying and treason, motivated by almost every emotion that dwells in the human breast - greed, lust for excitement, revenge for hurts, real or imagined, fear of blackmail and in some cases, a sense of patriotic duty.

Human beings have an almost atavistic fear of spies - the unseen watchers, the readers of sealed letters and locked files, the betrayers of confidences and friendships. Spies are the breach in the wall of community into which men retreat for safety and reassurance. A spy does more than steal information. He sunders the fraternal ties, he undermines the feeling of trust and solidarity of the group and leaves each man alone, without support, because he no longer knows whether his brother is a friend or a secret foe. That is the unforgivable treason. In war, it traditionally demands the ultimate penalty. If war makes the danger of espionage more immediate, the cry of "spy" in peacetime can also produce a reaction tinged with hysteria. This is not confined to current times and the Iranian militants who seized the American Embassy in Teheran as a "nest of spies". The Europe of the early 20th century contracted its own form of spy fever.

There had been truly notorious espionage cases and these served to excite the fever. The Dreyfuss case became the vehicle of a right wing political and antisemitic campaign which deeply divided France, perverted the French judicial system, led to the acquittal of the real traitor and the transportation of the hapless Captain Dreyfuss to Devil's Island. There was the case of Colonel Redl whose sexual preferences the Russians levered into a betrayal of the mobilization plans of the Austrian army. But there was also a steady stream of lesser incidents to keep the fires stoked. Two weeks after Trench and Brandon had been arrested, two English officers on an afternoon ride on the heights overlooking Portsmouth observed a gentleman making sketches. As they drew near, he stopped and the officers asked to look at his sketchbook. The stranger obliged and when asked to identify himself, presented his calling card. It read: Lieutenant Siegfried Helm, 21st Nassau Engineering Battalion, Imperial German Army. The English officers informed him that he should call for his sketchbook at the local police station in the morning when he could probably have it back. The sketchbook contained details of the fortifications of Portsmouth, some of which were, to be sure, quite venerable, but also details of the harbor and dock yards. Helm was arrested.

To several German newspapers, the case was immediately clear. Helm, a picture of naivety, would never have been arrested had it not been for the recent arrest of two real English spies. " Lt. Helm is simply nothing but a hostage.. less of a mistake than somewhat malicious revenge". Unlike Trench and Brandon, who were to be tried by the German Supreme Court, Lt. Helm was not arraigned before the House of Lords but faced the awesome authority of the Police Court of Farnham instead. He had to appear for a preliminary hearing to determine whether he should be held for a violation of the Official

Secrets Act. The case was an instant sensation; only a favored few of the crowd clamoring for admission obtained tickets for the few seats in the small courtroom. Strict decorum was maintained. A photographer had to give up his plates when he attempted to take a picture of the defendant and an artist lost his sketchbook while drawing the portrait of a witness. After four hearings, the Police Court reduced the charge to a misdemeanor but held Helm for the Winchester Assizes. Bail was set at £200. Lt. Helm did not win his conditional freedom until October 4th. While Helm's case was proceeding, two German lieutenants were imprisoned in Moscow for spying on Russian army maneuvers. The charge was without substance and they were quickly released. The Winchester grand jury indicted Helm and the case came on for trial on November 15. Leading counsel for the defense rose and informed the court that, the offense being undeniable, the defendant wished to plead guilty. The mitigating circumstances, favoring the prisoner, including the possibility that a conviction might ruin the career of the young officer, were laid before the court. The Attorney General stated that he was satisfied because the case had established the principle that the acts committed by Lt. Helm constituted an offense under the Official Secrets Act. Since Lt. Helm had admitted the offense and had already been confined to jail for four weeks and if the prisoner was prepared to express his unfeigned regret and undertook never to repeat these acts again, the Attorney General was prepared to recommend the utmost leniency to the court. Helm was discharged.

The release of Lt. Helm stimulated much discussion in the German press concerning the pending espionage case of Capt. Trench and Lt. Brandon. It was assumed that the Englishmen were guilty and to the Germans the only question was how England could be deprived of the information they had gathered. The Berliner Neue Nachrichten

suggested long imprisonment "with appropriate mental diversion (entsprechender geistigen Zerstreuung) so that the recollection of what they had seen would not remain too clear and vivid". The London Times translated the phrase "mental diversion" as "mental treatment", a translation which literally speaking was not justified although the original German sentence carried with it, whether intended or not, somewhat sinister overtones. The translation became the subject of several letters to the editor, some critical, but the Times stuck to its guns.

During the trial of Capt. Trench and Lt. Brandon, the German Supreme Court forbade any reference to the Helm case on the specious grounds that it did not have jurisdiction over it. Five days before the trial, Baron von Ungern-Sternberg, a Russian who was a correspondent for the Austrian Correspondence Bureau in St. Petersburg, was sentenced to four years of hard labor after a closed trial. It seems that the baron had given the Austrian Military Attaché a copy of the minutes of the meeting of the Duma, sitting in secret session on the armament budget. In fact, five hundred copies had been printed and distributed to every member of the Duma and the London Times reported that these could be obtained without difficulty in St. Petersburg!

We now know that at least one of these soldiers in the shadows, Sgt. Tony Mortimer, played his part in the "China" drama. In the Fall of 1917, Sergeant Mortimer of the British Intelligence Service travelled to an airfield near the Italian front. An airplane took him into Austria where he landed by parachute. He made his way to Vienna and at a designated hotel waited for an American businessman from Bulgaria. He was to bring information about a zeppelin which, it was said, was being built there. Mortimer was to find out what its destination was and what cargo it was to carry. He returned from

his mission but what he learned has been extinguished by the secrecy that surrounds most intelligence operations.

Yet the information about the Naval Airship Service which Maj. Trench possessed was so detailed, comprehensive and up-to-date that it does not seem to have been collected by conventional espionage methods. So extensive a spy network and such ready means of transmitting information even the fabled British Secret Service was unlikely to possess, even assuming that the British were willing to devote such large resources to what was, in the grand picture, of only secondary importance.

To unravel the mystery of how Major Trench knew so much, we must turn back to a slightly hazy summer morning, August 25, 1914, when a small German squadron, consisting of the light cruisers "Magdeburg" and "Augsburg" together with the destroyers "V 26" and "V 185", left Gotland off the Swedish coast in the Baltic, and steamed northward towards the Gulf of Finland. Their mission was to attack Suitable Russian war vessels likely to be found at the entrance of the gulf, in order to demonstrate to the world that the German flag flew even over those far reaches of the Baltic.

As the day wore on, fog settled over the sea and grew steadily thicker. By 9:00 p.m., "Magdeburg" had lost sight of the squadron leader "Augsburg" though she was only 3000 feet ahead.

At 11:07. near the Finnish coast, the captain of the "Magdeburg", Commander Habenicht received radio orders to steer southeast by east. It was a course which would take his ship across the mouth of the Finnish Gulf towards the Estonian coast. Habenicht felt uneasy steaming blindly into the fog but he had no choice but to follow the orders

issued when the squadron set out: " In case of fog, keep on course until you receive radio signal".

The fog was very thick. No stars showed by which Habenicht could determine his position. He had only a rough idea where he was. His escort, "V 26", kept disappearing and rematerializing. The lead, thrown out every ten minutes, kept shortening - 58 meters, 43 meters, finally 34 meters. The 50 meter line marked the edge of the deep channel extending from the Baltic into the Gulf of Finland. "Magdeburg" was well out of the channel and approaching land. "Augsburg" remained silent. Commander Habenicht made up his mind. If by 12:30 a.m. "Augsburg" had not radioed new orders, he would, on his own responsibility, put the ship on a new course, away from land. A minute or two before the self imposed deadline, a coded radio message started to arrive. Habenicht held his course while it was being decoded. At 12:34 decoding was completed. It was a new, northerly course, away from land. The signal came too late. As "Magdeburg" made her turn, she ran hard aground on the rocks off the northern tip of Odensholm Island, near the Estonian coast.

Attempts to get the cruiser off the rocks began immediately. Despite an all night effort, they were of no avail. At 8:30 in the morning, two Russian torpedo boats found the "Magdeburg" and "V 26", which had rejoined the cruiser during the night. Soon afterwards, two Russian heavy cruisers crept out of the fog and 6" and 8" shells began bracketing "Magdeburg" and "V 26". Even while "V 26" had tried to tow the cruiser off the rocks, the crew had begun preparations for disabling the ship and destroying her secret documents. Indecision and confusion attended these efforts. After a carelessly executed demolition of the foredeck, the order to abandon ship was given. Panic now

gripped the crew. In a mad rush, many went overboard, heedless of their duties or the safety of others. Despite shouts that the afterdeck of the "Magdeburg" would also be blown up momentarily (Habenicht had given the order but somehow it was not carried out), the captain of "V 26" courageously laid his destroyer to the stern of the cruiser and saved most of the remaining men. Nevertheless, 102 of her crew were drowned, killed or were unaccounted for. Among the missing was Commander Habenicht and Lt. Bender, the officer who had been in charge of destroying the ship's secret papers.

A court of inquiry decided that the loss of the "Magdeburg" and the handling of the secret materials involved no culpability on part of the crew. It recommended that the inquiry be closed. The Commander in Chief of the Baltic, Prince Henry, however, was not satisfied. He ordered a further inquiry into the disposal of the secret documents and recommended to higher authority that as a matter of caution, the naval signal codes be changed. The second inquiry came to a less reassuring conclusion:

"...{I}t must be taken for almost certain that the maps were fished out of the water by the Russians. The code key probably fell into Russian hands in the same way. Finally, one must count on the possibility that the Russians, diving in the shallow, clear waters, may recover one of the signal books. The war diary, too, was probably captured by the Russians as it apparently was left on the deck of H.M.S. "Magdeburg".

In short, none of the important, classified papers could be accounted for as having definitely been destroyed. Nevertheless, the navy did not change its signal code. It would have been well advised to follow Prince Henry's recommendation. The Russians had found at least one of the secret code books.

The "Magdeburg" code book was brought to London and on October 13, 1914, the Russians handed it to Rear Admiral Sir Henry Oliver, R.N. and Sir Alfred Ewing.

Admiral Oliver was the head of Naval Intelligence. Sir Alfred had been active in naval education until the outbreak of the war but few knew what he was doing now or why he was with the admiral that day. The explanation was simple but for many years highly secret.

Soon after the outbreak of the war, The English radio station at Stockton had begun receiving radio signals which it could not read and which were not of British origin. Assuming that they were coded German messages, it sent them to Admiral Oliver. The Marconi Company and the Post Office had begun to intercept similar signals. Admiral Oliver was curious about them but discovered that the navy's mobilization plan had made no provision for personnel to intercept and decode enemy messages. Oliver remembered that Ewing had been vaguely interested in constructing ciphers and had recently built a "futile cyphering mechanism" as Sir Alfred had described it. The admiral sent for him. Ewing was intrigued by the puzzle which the admiral handed him. Yes, he would try but he was not sure he could succeed. Relieved to be rid of that business, Oliver issued orders that henceforth all intercepts were to be delivered to Sir Alfred. Soon hundreds of messages, addressed to "Ewing Admiralty" piled up in his small office, sometimes more than two hundred a day.

Meanwhile the soft spoken, genial Scot borrowed codebooks and books on ciphermaking from the British Museum, the Post Office and Lloyds and assiduously studied them. He often sat in his office in the Old Building of the Admiralty with two discreet friends who spoke German well, to find the key to the meaningless jumble of letters in the messages which lay before them. Ewing thrived on the challenge. "My present work makes me feel younger" he confided to his diary.

A few bright, young men with a flair for numbers or languages and men from the Naval Colleges at Osborne and Dartmouth and others with more arcane skills were gradually added to the staff and it was moved to a larger office in the building, Room 40. Unfortunately, they made no progress towards breaking the German codes.

In the meantime, German radio messages gushed through the air. The Naval Command was talking with its ships and the long distance station at Nauzen was sending an endless stream of directives overseas to embassies, colonies and naval units on the high seas. "Der Feind hört mit!" (The enemy listens in) the Germans were to remind everyone in the Second World War but in the summer of 1914, the thought seems not to have troubled them. There was no cause for concern. All messages were carefully enciphered. The key to the ciphers was changed every three months so that there was no chance that the enemy would be able to decode the messages. Besides, the traffic for the fleet in Heligoland Bay went out on a radio band which was too weak to be intercepted in England.

With the "Magdeburg" cipher book, the Russians handed Ewing the key to the inscrutable messages which were flooding his office. It was also a fitting climax to Admiral Oliver's duties in Naval Intelligence. He went on to a new assignment the next day and his post was taken over by Captain Reginald Hall (not the "Reggie" to whom Trench had planned to pass his information before the Germans caught him). "Blinker" Hall, his nickname was derived from a tic that afflicted one of his eyes, took a great interest in the work of Intelligence Division 25, the code breaking group in Ewing's charge. He further enlarged its staff and moved it to still larger quarters but the bland anonymity of the name "Room 40". so ephemerally disguised the purposes of Ewing's

band that it stuck with it for good. The volume of its work increased once again when two radio amateurs showed the Royal Navy how it could listen to the radio traffic of the German navy in Heligoland Bay.

By November, I.D. 25 was able to read the messages exchanged between the various naval staffs, the fleet and naval attaches. Yet reading the messages was not enough. For security reasons, important orders did not go through the ether. They were delivered by hand, wire or visual signal. Room 40 still had to learn how to use the information it had obtained, how to correctly interpret the subsidiary messages, the warnings to outposts, last minute changes in orders to squadrons already at sea, orders to minesweepers and submarines and the like. This would provided the mosaic pieces from which the larger picture had to be constructed.

On December 14, 1914, the first fruits of Room 40's work were gathered. A message was deciphered which stated that German battle cruisers were to leave their anchorage in the Jade river early the next day and that they would return the following evening. Sceptical of the value of such intelligence, Admiral Jellicoe, who was in command of the British Grand Fleet, nevertheless sent the Second Battle Squadron to the Dogger Bank. German ships bombarded Scarborough and Hartlepool on the 16th and turned home. The British forces were in a perfect intercepting position athwart the German return route and only bad weather prevented them from engaging the Germans. On January 25, 1915, I.D. 25 decoded another message. A German squadron was to reconnoiter the Dogger Bank. Once more an English squadron put to sea. This time, it found the Germans and in the ensuing fight sank a heavy cruiser and damaged two battle cruisers.

It was a period of great activity for Room 40 and "Eavesdropper Ewing", as some of his informed friends were calling him now. "My work goes on blithely and keeps me engrossed - so much so that it is difficult to find time to get my hair cut", Ewing noted in his diary.

Possession of the German naval code demonstrated the great possibilities inherent in the newly developing art of electronic intelligence. To extend its reach, more German code books were needed. A copy of the "Handelsschiffverkehrsbuch" (Commercial Shipping Code) had been found on a German merchantman in Australia at the beginning of the war and sent to England by the fastest means possible. Such was the state of communications then that the book did not reach London until the middle of September. The Commercial Shipping Code, however, was of little help to the British; it only permitted them to listen to radio traffic with auxiliary vessels and airships and yielded little of importance about German operations.

A copy of another code was smuggled out of Brussels in 1915 and later in the year, Code 13040, a diplomatic code, was found in the luggage of a German agent in Iran. It was this code that was later used by Zimmerman, the German Foreign Minister, to communicate his harebrained scheme to entangle the United States in a war with Mexico and Japan to keep it out of the war in Europe. His Excellency accomplished quite the opposite; the telegram was intercepted by Room 40 and helped to make up President Wilson's mind and align the United States on the side of the Allies.

If one could not always steal or capture a code book, there were other ways of getting these precious tomes. In December 1914, an English fishing trawler had already dragged up the safe of one of the destroyers which H.M.S. "Dauntless" had sunk along

the Dutch coast on October 16th. It contained a new code book. Early in 1916, the Royal Navy located the wreck of a German Submarine off the Kentish coast. A diver was sent down and managed to enter the ship. In the officer's mess, he found a safe which contained still another naval code book. Sunken submarines were now routinely searched whenever possible. Shipwright Miller became a specialist in this vital work which often required him to thread his way through corpses floating in the submarines and past huge eels, seven or eight feet long, which had made their homes in the steel hulks.

The naval climax of the First World War came with the Battle of Jutland in 1916. The new commander of the German fleet, Admiral Scheer, had decided that the German fleet could not meet the British Grand Fleet on equal terms. His strategy was therefore to defeat it by overwhelming individual squadrons, one by one, or by drawing them into concentrations of submarines or into minefields. Scheer had planned such an operation for May 23, 1916. A cruiser bombardment of Sunderland was to bring out the British fleet. An advance by the German High Seas Fleet into the Skagerrak was to entice part of the Grand Fleet into the grasp of the concentrated German fleet, first drawing it across a line of ten submarines as it steamed towards its rendez-vous with the waiting German guns. Shortly after May 17, Room 40 began to suspect that some major operation was planned. It detected a concentration of eight submarines in the North Sea, soon joined by more U boats until they numbered sixteen. At 11:30 a.m. on May 29, Room 40 intercepted a Signal to the U boats that they might sight the German Battle Fleet during the next two days. Signals to minesweepers, picket boats and other units led Room 40 to conclude that the operation was under way. What the German intentions were was not known. Those had not been radioed and lay beyond the reach of Naval Intelligence. One

radio Signal was in a new code. Judging that this security measure was meant to shield a message of particular importance, Naval Intelligence decided that it was the signal to set Sail. It advised the Admiralty which at once ordered Admiral Jellicoe to sea.

In a sense, the German fleet was defeated before the first gun was fired. Forewarned by Room 40, the Grand Fleet met the enemy as a single unit and Scheer's hope of defeating the Royal Navy piecemeal came to naught. The Royal Navy retained control of the seas and with this laid the foundations of ultimate victory.

After the Battle of Jutland, the Germans changed their entire ciphering system. Naval Intelligence was groping in the dark again. By this time, however, Room 40 had a large, experienced staff. It set to work immediately to break the new codes.

German carelessness once more helped the British. On September 24, 1916, Lt. Cmdr. Peterson took off in naval airship "L 32" to bomb England. In accordance with standard operating procedures, he radioed his take off to the Chief of Airships, Cmdr. Strasser, adding the words "Only HVB on board" to his message. Since March 1915, German airships had been under orders not to take secret code books with them when operating over enemy territory. They were only to carry the Commercial Shipping Code, known as the "HVB", and they were to confirm this when taking off. In fact, Peterson's signal to Strasser was not true. For some unknown reason, Peterson took one of the new signal code books with him. He should have known better.

One of the six airship captains of the original Airship Division, Peterson knew the vulnerability of airships first hand. His "L 12" had been hit by anti-aircraft fire over England and had been forced to land in the English Channel. That time he had been in luck because German destroyers had been able to tow him back to the Belgian coast.

The listening posts in England heard Peterson's "Only HVB on board". They knew the significance of these words. Another zeppelin raid was under way. The airship alert was sounded. Over northeastern London, Peterson was intercepted by an airplane and set on fire. "L 32" crashed near Great Burstead and burned for an hour. A special intelligence team, standing by to examine crashed airships, rushed to the site of the crumpled wreckage. In it, they found the Signal code book, burned but still readable.

Winston Churchill later wrote about the "Magdeburg" and the naval code retrieved as a result of her foundering, but he belittled the value of the code: "The Germans, however, repeatedly changed their codes and it was only occasionally and for fitful periods that we were able to read them". This was, of course, untrue but Churchill probably felt justified in tampering with the truth for he was helping to keep the operations of Room 40 a secret on the chance that its methods might be useful again in the future. Nor did Admiral Hall say anything about this critical aspect of his work. When in 1925 he was asked to comment on a sensational article which revealed the story of the Zimmerman telegram, he told the reporter of the Daily Mail: "It is the tradition of the Intelligence Department that we never say anything about our work". He did add: "The great mistake the Germans made during the war was that they never gave us credit for any intelligence; they never saw our side of the question". As if to explain, he continued: "Of course, our whole object was to prevent the Germans from giving us very much credit for intelligence". Ewing finally disclosed the secret, "never more successfully observed", in December 1927 when he described the work of Room 40 in a lecture before the Edinburgh Philosophical Institution. Yet so intent was the Admiralty to preserve the secrets of Room 40 that it made Ewing promise not to say anything further about it

without its permission and even as late as 1932 would not let him write about his wartime work.

Even though in the latter stages of the war, the Germans began to change their code key every day, I.D. 25 was reading the enemy messages as soon as two hours after the key had been changed, and never more than ten hours later. The Germans, content that the constant changes in the code key would make it impossible to break the naval code, never learned of the success of Naval Intelligence. The story was to repeat itself in the Second World War when the British succeeded in penetrating the German "Enigma" codes and the Germans, thoroughly convinced that it was impossible to break them, never could get themselves to accept the possibility that the Allies might do so, to its immense damage.

Zeppelins contributed their share to the flow of radio messages that was so helpful to the British. From his headquarters in Ahlhorn, Strasser kept tight control over the operations of his airships. The airships had to report to him whenever they took off. Strasser radioed instructions to them when changes in the weather or tactical conditions required it. The airships often stated the purpose of their mission as they started off: "Took off for reconnaissance", "Took off for transfer to Tondern airfield", "To guard minsweepers" and so on. On April 23, 1917, "L 30" radioed "Took off to search for uC 30", thus advising the British that their attempt to destroy this submarine had probably succeeded. While aloft, the airships reported their sightings and mishaps encountered and called each other to cooperate in their work. They asked for weather reports and for radio fixes, which incidentally permitted the British to check the accuracy of their own radio location system with which they tracked the zeppelins on their flights. The German

airships became particularly chatty as they retreated from England after a completed raid, reporting their successes and exchanging experiences. From these bits and pieces, British Intelligence built up its picture of the Airship Division and its activities.

Of course, the picture of German airship activities obtained through radio intelligence could not be complete. Telegraph, telephone and hand carried messages were beyond the reach of Room 40 and it is difficult to see how Major Trench could know from radio intercepts that Buttlar had lost the command of the "China" ship to Bockholt. Such messages normally were sent by telegraph and not by radio. However, no intelligence service relies on one source of information alone but combines a variety of them to form its view of the enemy. The signals London had sent to Africa to expect an airship landing at Kitangari around November 20th suggest that the British had not been able to read the radio messages Berlin had sent to Governor Schnee about the coming airborne relief but that London had obtained this information from another, albeit inaccurate source. Kitangari had not been mentioned by the German Colonial Office or the Naval Command as a possible landing place for "L 59" until well after the first signal from London had gone off to Africa, describing the village as the spot where the Germans proposed to land. Neither had the Germans fixed any particular time for the take off or landing of "L 57" or "L 59", Weather and circumstances were to determine the starting date. The November 20 date, therefore, could not have been obtained from radio intercepts which never mentioned such a date or any other take off dates. Again, it must have come from another source which, however, had the wrong information or made the wrong deduction.

For Room 40, the Africa airship was only an interesting sideshow but the messages which it sent to East Africa set the stage for the biggest game hunt yet - bagging a zeppelin in Africa!

Kitangari was now closely watched by the British aviators for any sign of an expected zeppelin landing. Kitangari was a small village on the Makonde Plateau, not far from its western edge, amid hilly, thin bush country. About 2-1/2 miles south of the village, the Germans had built an encampment of some forty huts. Two good dirt roads led into the village and they might be used to carry off the cargo of "L 59". The aviators saw that the roads had been heavily used by wheeled vehicles lately but so far nothing suggested that the Germans were preparing the area for the arrival of an airship.

As it happened, the airforce of the East African Expeditionary Force was not well prepared for this sport. Its aircraft were seriously deficient in performance.

Wo. 26 Squadron at Mtua, twenty miles inland from Kilwa, had six BE2C and BE2E machines in operating condition. No. 8 (Naval) Squadron at Nahunga mustered three Voisin 3's. The basic design of the BE2 machine dated from 1912. It was a gawky boxkite like affair with a skinny fuselage and a large fourbladed propellor. The plane accommodated a pilot, an observer and a machinegun and carried 224 pounds of bombs. The best speed of which the BE2C was capable was 72 m.p.h. as against the 64 m.p.h. maximum speed of "L 59". While the airship could not have attained its best speed because one of its engines was not operating, the difference did not give the airplane a decisive edge. Moreover, the BE2's climbed slowly and their maximum ceiling was 10,000 feet. This was well below the height at which "L 59" had planned to travel across East Africa, although its search for Lettow's troops would have had to be carried out at

much lower altitudes. The performance of the Voisins was equally limited. Midair interception of the airship would therefore be a matter of great luck und uncertain of success as the British planes lacked incendiary ammunition. The best chance of destroying the zeppelin lay in attacking it with bombs while it was landing or on the ground. However, locating it on the ground quickly was essential; the airship would have to be destroyed before any large amounts of the cargo had been unloaded. Once the ship had been emptied, its destruction would not have mattered.

The British airmen were not dismayed by the difficulties they faced. They kept their machines ready, Commander Loeff saw them on the 25th as he was driven by after his tea party, and they waited for their chance for the greatest trophy yet - the African zeppelin!

Chapter XI

"CHINA" AT LAST

The afternoon of the 20th brought Bockholt the weather forecast he had wanted. "Clearing, gusty, northeast groundwinds, winds at higher altitudes from north to northeast above 22.4 m.p.h." A low pressure area was moving across Yambol from west to east. Cold air masses from the north were rushing into this low. This was the cold air and the tailwin? for which Bockholt had waited. The weather pattern was expected to continue for the next two days. That was just enough time for "L 59" to get across the Mediterranean area. Eckener and Bockholt studied the report and nodded in agreement: "L 59" would start early next morning!

The German evening radio news contained a short item about the fighting in France:

"In the area between the streets leading from Bapaume and Peronne to Cambrai, the British attacked with strong forces and gained ground. Our countermeasures are fully under way".

This news not likely to attract Bockholt's attention. Attacks were constantly being made on the western front; trench lines were won and lost and always without decisive results. If Bockholt thought that this bulletin was like all the others, he was mistaken. The bland announcement hid the fact that this attack had been a startling British success. At 6:20 that morning, without the usual preliminary artillery barrage which might have warned the Germans, a roaring, clanking mass of steel, no less than 376 Mark IV tanks, had plunged into a weakly held sector of the Hindenburg Line, British infantry had followed closely behind, wiping out the antitank defenses encountered. Nests of

resistance which the tanks could not quickly overcome were bypassed and left behind to be mopped up later. Airplanes flew low over the battlefield and attacked the German troops. The aim was to punch a hole into the German barbed wire and trench lines through which infantry and cavalry could follow and spread out into the enemy's rear. The attack, which for the first time tank officers had been permitted to organize, was the precursor of the modern blitzkrieg. The first chapter of modern, armored warfare had been written. The day of the individual gladiator was over; the age of the mechanized mass army had begun. All this Bockholt did not know. Had he known, it would probably have made no difference to him. A mission, which was bound to make history, awaited him. His "Paper Steamboat" lay ready. "Paper Steamboat" was the name the crew had given "L 59", It was an apt summary for the contradictory elements which the zeppelin combined - a huge structure which the overriding need to save weight had driven to a point of near fragility.

Radio London that night had a modest report about the first successes at Cambrai but it also had one of unusual length about the war in Africa. An unprecedented number of German soldiers had surrendered. Advancing British troops had found 262 German soldiers and 700 askaris waiting for them at a camp near Kitangari, south of the Mahenge Plateau. Many of the prisoners were reported to be perfectly fit for service. Numerous fully equipped askaris were deserting, the announcer continued, and the last of the German artillery pieces had been found abandoned. Portuguese troops were approaching Nevala, the last German base in the Protectorate. As usual, careful listeners in Berlin copied the report, translated it and arranged to have it distributed early next morning.

Among the babble of tongues and the beeping morse code messages which flowed through the ether that night was one which was not meant for the public. It was a message from the Director of Military Intelligence in London to the Commanding General of the Fast African Expeditionary Force. It was encoded, a jumble of symbols which was meaningless to the Germans.

At Yambol, "L 59" lay waiting in its hangar, a huge wooden shed, 787 feet long and 115 feet high. The ship's gasoline tanks and ballast containers were full. There were 7950 gallons of gasoline on board and 447 gallons of oil. After again finding himself with insufficient ballast on the 17th, Bockholt had taken on another 576 gallons of water ballast and the total now stood at 2425 gallons. Hung in the keel, were the bags and cases of cargo to be flown to East Africa. There were thirty machine enaresy 400,000 rounds of ammunition, 7800 pounds of medicine and 7300 pounds of miscellaneous other cargo, spare parts of all sorts, rifles, ammunition boxes, field glasses and sewing material. In all, the ship carried 111,496 pounds of fuel, ballast, crew and cargo.²² The gasoline, oil, water, food and ballast was distributed in the airship in such a way that its balance would not be disturbed as these supplies were being used up during the flight, the cargo was concentrated around the ship's center of gravity. Somewhere in the keel, too, hung a parachute. Most airships did not carry parachutes for their crews. They were not considered to be of great value in escaping a crashing airship and they were too heavy. This parachute was for Grussendorf. He had volunteered to jump down to any troops that

²² This is a close approximation of what the ship carried. What was actually stowed on board on the morning of the 21st cannot be determined exactly, in part because of the constant changes that were made in the payload. Göbel in "Afrika zu unseren Füßen" gives a detailed cargo list but his weights do not agree with weighing diagram of the ship at take off, contained in the report on the trip.

"L 59" might locate when it arrived in Africa to make sure that they were in fact Germans.

There were also 234 pounds of mail for the white troops in Africa who had been cut off from all personal communication with Germany for more than three years. Among the letters was one From Wilhelm Solf, the Secretary of State for Colonies, for Colonel Lettow - Vorbeck. Solf wrote that as far as he knew, the colonel's family was well. Whoever had made the inquiries for Solf had served him badly. One of Lettow's brothers, a captain in the 89th Infantry Regiment, had been killed in Belgium in August 1914; the other was gravely ill from war gas poisoning. In his biography, Lettow commented on the sad errors in this letter with great bitterness. It was the only time that he mentioned "L 59" in his writings.

Early Wednesday morning, the eighteen ratings of "L 59" fell in once again outside their barracks. It was foggy and still dark. The wind swept amb inde across the plains of the Tunja river and it was freezing cold. The men wore regulation furlined, leather flying suits, tightfitting leather helmets, suits and boots specially made for airship crews. The hoots were felt soled so that they would not strike sparks from the ship's metal parts and ignite any hydrogen gas which might be leaking from the gas cells. The black powder makers of old had worn similar shoes. Each man carried a pistol for personal defense. Beside them stood their sea bags, stuffed with their tropical uniforms, two woolen blankets and sixteen pounds of whatever personal equipment each man chose to bring with him. Forty-four pounds were allotted to each man for his baggage, the same amount that airlines permit passengers to carry free of charge to this day. The officers were permitted twice this amount. What they wore and what was in their bags would be

all the comfort and civilization they were likely to see for quite a while. A quick roll call, the men picked up their bags and marched over to the hangar which darkly loomed up to the northwest.

At 5 A.M., the doors of the airship hangar were rolled open. Inside, the great flood lights had been turned on, giving the men a ghostly, greenish pallor.

The crew climbed into the ship and went to their take-off stations. The baggage was handed up and stowed. The engines were started for a final test. A deafening roar reverberated through the hall. Perched in the narrow engine compartments, each crew checked its special ward. Once warmed up, the Maybach motors were shut off again. Gas hissed through canvas hose pipes to top off the gas cells. The ground crew, 500 men, stood by and waited patiently. Most were young recruits of the Bulgarian army in greygreen Russian style great coats. Scattered among them were a few German airship handlers in their sailor's blues. The Bulgarian recruits had at first caused concern. Classroom instruction had left them bored and disinterested. Once the practical work began, however, they had gone at it with a will and turned in a creditable performance.

On the navigator's table on the right hand side of the control cabin, First Mate Wald had spread out the motley collection of maps that had been scraped together for this enterprise: German General Staff maps of the Balkans, Italian maps of North Africa and provisional English maps of East Africa. They were to see "L 59" to its goal and Wald carefully checked once more that he had a complete set.

Behind him stood Grussendorf, testing the elevator controls. The elevator controls, like the rudder, were so evenly balanced that they could be operated by hand. Unlike the controls of an airplane, in which the operation of the elevator and the rudder is

carried out through a common control element, the "Stick", the elevator and rudder on an airship were separated, each being controlled by a steering wheel that resembled the traditional ship's steering wheel, though of much lighter construction. At the front of the cabin, the rudderman was testing his controls also. He glanced at the compass before him. It was an ordinary liquid-filled compass but at least on this trip, it was not likely to freeze up as it had on other zeppelins when they had flown in low temperatures.

Each crewman was occupied with his task and there undoubtedly was also busy-work to help to reduce the tension of waiting for the take-off. At 7:03, the sun rose and with it the spirits of those on board.

Now Ensign Maas began the test which was crucial to a safe take off - checking the ship's balance. The zeppelin had to be in perfect trim for take off, neither nose nor tail heavy and its lift and weight so completely balanced that it would not rise away nor sink into the ground. The ground crew detached the sandbags, which anchored the ship to the ground, and seized the hand rails on the command and engine cars and the handling lines which hung from the ship. Maas signalled to the ground crew to release its hold of the control car so that he could see whether the nose of the ship would rise or fall. It held steady.

Another hand signal and the crew let go of the ship briefly. It floated evenly.

"Airship ready for departure, Sir" Maas reported. Bockholt shook hands all around and boarded.

A whistle shrilled. "Airship forward march!"

Led by Boatswain Kruger, the ground crew began to move the ship out of the hall. Two interpreters marched with them to relay instructions from the German airship

handlers among them to the Bulgarians, but for the most part, the Bulgartian recruits followed the rule: do what the Germans do. It was the best way to overcome the language barrier and make up for their lack of experience.

At a marching pace, the shin cleared the hall. A few hundred yards out on the field, the crew stopped and turned the nose of "L 59" into the north wind. The photographer, who had been waiting in the hangar, took the shot he had planned beforehand - a lengthwise view of "L 59", framed by the open hangar doors.

Maas once more checked the trim of the ship. Tne 86-ton airship floated a few feet above the ground without moving as if pinned there by a great, invisible needle.

At 8:20 a.m., the engines were started again. Bockholt listened for a while. The Maybachs ran smoothly. The handling lines were dropped; the ship lay steady in the hands of the groundcrew. The men tensed, there would be only one more order. It came at "Up ship!"

The ground crews let go of the handrails on the control car and the rear engine car, the men at the control car giving the ship a good shove upwards as they did so. With the ship perfectly balanced, this was enough to point its nose upwards. Water ballast splashed out of the hull. Slowly, the gray monster rose, Zupitza waived, as befitted his civilian status. Bockholt saluted in farewell.

At 300 feet above the ground, the engine telegraph honked: "Stern engines full power ahead!"

Chief Machinist Mate Busch in the rear engine car, nodded to his mechanics. They engaged the rear propellor clutch and the large propellor started to spin into a glittering disk.

At 450 feet, "L 59" released more water ballast. A substantial amount, 680 gallons, spewed into the air. Grussendorf turned his wheel to "up elevator". The engines shifted into full power. The ship climbed more rapidly and 15 minutes later reached its cruising altitude of 2,000 feet. Maas made the first entry in the log book. "Start of long distance mission pursuant to operations order of the Naval Command".

The ship was off to "China". Exactly where in Africa Bockholt proposed to land is not known. Probably he did not know himself. He may have concluded that all he could do was to leave the choice of landing place to circumstances as he found them in East Africa. His confidence that he would be able to find Lettow would have been badly shaken had he known that on the day before, at Newala, the men operating the last German radio station in Africa had smashed their equipment and had joined Lettow's soldiers who were rapidly marching southward towards the Ruwoma river.

The rudderman, stiff in the 25° F. cold, turned the ship south. The Tundja river below gave him his bearings for Adrianople (Edirne), "L 59"'s first way-station.

A northwest wind from astern pushed "L 59" along at a great rate; the ground speed was 77 m.p.h. The check points on the map ticked off quickly. The city of Adrianople was reached at 9:45 a.m. "L 59" turned southeast for Rodosto (Tekirdag) on the north shore of the Sea of Marmara. It reached it at 11:05 a.m. and began to cross the Sea of Marmara once more. To the east lay the domes and minarets of Constantinople, to the west the Gallipoli Straits. German planes cruised over the Straits, ready to intercept any Allied attempt to interfere with the flight. By 11:45, the ship had crossed the Sea of Marmara and was over Panderma. It dropped a coded message for the Naval Command, giving its position, and began to follow the railroad tracks which lead from Panderma

(Bandirma) southwest by south through Belikesir and Soma to Smyrna (Izmir). This time, the Turkish soldiers left ship unmolested. Particular pains had been taken to advise the Turks of the flight and huge German and Turkish flags had been painted under "L 59's" bow.

Smyrna was reached at three o'clock in the afternoon. To the west, the islands of Lesbos, Chios and Samos, on which the Allies had built a chain of flying fields, formed a barrier which "L 59" had to avoid. Further south, progress was blocked by bases on Rhodes and Crete. So far, the Germans had detected no signs of Allied counter measures. A reconnaissance patrol had flown over the main British flying field at Mytelene on Lesbos that morning and had observed no unusual activity. Still, as long as any Allied aircraft were in the area, crossing the Aegean in daylight was too dangerous. The airship turned into the Manisa valley to the east of Smyrna to cruise there until dusk. Behind it, two German planes flew protective patrol while the rest of the squadron stood ready at Smyrna for immediate take-off.

When dusk fell, the airship emerged from the Manisa valley and followed the railroad from Smyrna south. The rails, glistening in the moonlight, showed the way and islands lying off the coast provided visual checkpoints. Despite the war, a few navigation lights still were lit. The towering mountain ranges to the east of the ship masked the low flying "L 59" from observation from seaward. At the mouth of the Menderes river, "L 59" turned toward the sea and began to cross the Lipsos Straits, circling west to avoid the island of Kos. It was 7:40. The wind had picked up and the sky was becoming cloudy. Once clear of Kos, the ship turned south toward Crete. Its eastern end, sere and craggy,

passed below at 10:25. The camel had threaded the eye of the needle; the open sea had been safely gained. By now, the sky was solidly overcast.

At midnight a thunderstorm struck. Rain squalls soaked the ship. Foul black clouds released a continuous crescendo of thunder and chain flashes of lightning tore across the sky. Each lit the control cabin to daylight brightness.

Airships had standing orders to evade thunderstorms if at all possible. The danger to the easily inflammable ships was too great. This foul weather front, however, was too broad to be evaded. The only thing left to do was to try to duck under it at a low altitude. As the ship was tossing helplessly in the storm, there came a cry from the look-out on top of the hull.²³ "Snip's on fire!"

The whole ship was bathed in a blue pulsating electric light, each projecting object wore an electric halo. The vast, eerie glow of static electricity, however, was a sight that mariners knew well though none had ever seen it on such a vast scale. It was St. Elmo's fire. It was harmless and the frightful alarm had been a mistake.

Ancient lore held that St. Elmo's fire foretold the ebbing of the storm and this proved true. It gradually abated. The officer of the watch noted in the log book in the approved laconic fashion: "Over Mediterranean, frequent thunderstorms with rain". "L 59" left the clouds behind and headed into the starlit sky.

Quietly, the ship slid south. At 5:15 in the morning of the 22nd, "L 59" reached the North African coast near Mersa Matruh and crossed into Egypt. An entry point far west from the Nile valley had been chosen to avoid the airfield at Alexandria and the

²³ installed on top of the forward section of the German airship hulls. Access to it was gained through the forward ventilation shaft in the hull. On "L 57" and "L 59", the two Parabellum machine guns usually mounted on this platform, had been omitted to save weight.

numerous garrisons which the British had established in Egypt since 1914 after Egypt had broken its ties of suzerainty with Turkey.

From a height of 2100 feet the crew stared at the novel scene — the grey-blue sea, lined with long white breakers, the blotched yellow-brown land beyond, rocky, punctuated by a few scrub bushes which cast long shadows cast in the low morning sun.

Now the crew was truly on its own. The land below them was enemy territory; the terrain was hostile to all. There would be no one to help them, all ties with their familiar world had been broken. The twenty-two Germans were isolated in a universe of their own, floating in the sky, in their cramped cabins and the impersonal, comfortless vastness of the grey hull.

Prodded by the rudderman, "L 59" changed its course slightly to the east in the direction of the oasis Farafrah, 300 miles inland.

A small camp appeared below. The tents were conical European tents, not like the flat Arabian tents. A thin tracery of lines around the camp suggested a barbed wire entanglement. As luck would have it, "L 59" seemed to have stumbled upon a small military encampment and unwelcome observers. At the moment all was quiet. The ship was flying at 2300 Feet in a cloudless sky with a following wind. The engines hummed steadily. They were kept throttled back at 1240 to 1280 r.o.m. to avoid overloading them. Following normal practice, each engine in rotation was shut down every eight hours to allow it to cool and permit routine maintenance. One of the machinists was now fussing over his charge, rotating valves to keep them from burning through, a common problem at the time, topping off the oil, pumping fuel from the gasoline drums in the keel into the

gravity tanks above each engine, and doing all those maintenance jobs which his skills and the knowledge of "his" engine suggested.

At 6:30, the watch changed. The men stood watch as on a naval vessel - four hours on, four hours off under Maas or Wald as Officer of the Watch. The old watch left their stations and climbed into the hull. A dreary breakfast awaited them. The night had been freezing cold and the men looked forward to some hot coffee. They were disappointed; the boilers for heating food and water would not work. The men had to do with what was left in their thermos bottles. There was also food which had been packed in selfheating cans, "Kaloritkonserven", but when the crew opened the cans, they found that the food was old and much too salty, particularly the ham and sausages. The Food rations of the zeppelin crews was adequate though at home and even at the Fighting fronts, food already was in short supply. Each man got 6.6 pounds per day, canned vegetables with meat, sausage, tea or coffee, biscuits or chocolate, fresh or canned bread and butter or lard. There was about half a gallon of water for drinking and washing for each man per day. On "LZ 120", there had been 1.3 gallons for each man, but that ext had been a luxury cruise by comparison. In addition, there were iron rations of food and water, should the ship meet with an accident. The provisions which "L 59" carried could be made to last three months, if necessary, and they could be supplemented by hunting game. Four rifles had been put on board specially for this purpose, together with 4000 rounds of ammunition.

After breakfast, those who had taken their fill of the still strange African landscape that was slowly passing below them were free to retire to their hammocks,

slung in the keel at carefully calculated intervals so as to maintain the delicate balance of the ship.

After his long flight on "LZ 120", Lehmann had made a number of suggestions as to how the crew could be made more comfortable on extended cruises, ranging from rattan chairs to sit on to a few pictures on the wall of a dayroom which should be provided for the crew. There were no such amenities on "L 59". The crew took its breakfast in the keel among the cargo, gasoline drums and ballast containers. The large load carried by "L 59" permitted no frills and there was no compromise between the purpose of the mission and consideration for the men who were to carry it out.²⁴

Seventy-five miles south of the coast, the ship crossed - the steep escarpment which bounded the Qatara Depression, that impassable dried salt marsh which in 1943 shielded General Montgomery's flank as he made his stand at El Alamein. Soon afterwards the Sitra Oasis came in sight. A brackish bluegreen lake lay in its center and swarms of wild ducks fled from it in noisy agitation from the strange apparition that appeared in the sky. By now, the early morning sun had given way to an intensely bright, cloudless sky which blotted out the subtle variations of form and color which earlier had given the land beneath an exotic charm. The landscape was hard and monotonous and began to wear on the nerves of the men. The rudder and elevator helmsmen had no protection against the sun's shimmering reflections on the desert sands and suffered great eyestrain and headaches.

The sun was evaporating the rain which had soaked the ship during the night. The elevator helmsman pushed the nose of "L 59" down to minus 2° to counteract the

²⁴ The rations consisted of 2.2 pounds of canned vegetables with meat, three men sharing four cans. There further were 1.65 pounds of butter, lard, condiments and tea or coffee, 1.1 pounds of biscuits or chocolate and 1.65 pounds of bread. Preserved bread was packed in 2.2 pound cans.

ship's slow rise as it shed its wet load.²⁵ To get the ship back into balance, the crew trudged 1650 pounds of cargo towards the rear of the ship, carrying the bundles along the series of narrow step plates, unprotected by any railing, which formed the cat walk running the length of the ship.

At about 12:30, Farafra Oasis came into sight. Life reappeared in the desert. Small square, irrigated fields and gardens patterned the ground and date palms and olive trees dotted the landscape. The ship crossed the village of Qasr Farafra, where some 600 people lived. In prankish high spirits, the crew threw "souvenirs" down to them, empty food cans and other garbage.

The relief which the variegated scene on the ground offered soon dissipated. As the ship left the oasis behind, the sun and the desert resumed their assault on the seared eyes and minds of the Germans. "L 59" began to pitch violently in hot air columns rising from the desert, like a ship breasting heavy seas. Fine sand began to collect in corners of the ship.²⁶ Several men became airsick, vomited and complained of violent headaches. Bockholt decided to shorten the watches to two hours and rearranged the crew assignments.

The violent pitching of the ship made particularly great demands on the skills of the men handling the elevator controls. Even under normal conditions, the job of the elevator helmsman required far greater abilities than that of the rudderman. The wide, slow turns which an airship made generated only small centrifugal and aerodynamic

²⁵ This is an application of the dynamic lift principle (see Pp.) in reverse. Just as the raising of the airship's nose a few degrees will generate upward lift, so depressing the nose will produce downward pressure, counteracting any tendency to rise which the ship may have acquired by the loss of weight.

²⁶ The ship was flying at 2,000 feet altitude at that time. That so much sand could be suspended in the air even at that height was a lesson from which those who planned the flight of the helicopters into Iran to rescue the American hostages could have benefited. Two of the helicopters failed, at least in part by desert sand penetrating into their engines, and thus forced a cancellation of the attempt.

forces which did not greatly disturb the balance of the ship. A rudderman therefore needed little skill beyond being able to keep the ship on course. In fact, the navy thought it could easily train the physician and the interpreter, which the original "China" plans had intended to add to the crew, to double in brass as rudder helmsmen.

On the other hand, for an airship to remain in balance, its center of gravity and the center of its lift had to coincide in one point so that the zeppelin would not start to turn about its center of gravity. Climbing or descending could affect the location of the center of lift (and also of the center of gravity if ballast was dumped at the same time as was likely in a climb). It also could change the dynamic lift generated by the ship's hull (see p.). Seasoned judgment was needed at such a time in handling the elevator to maintain the ship's equilibrium. "L 59" also had a special quirk for which the elevator helmsman had to watch. Once the nose of the ship was raised more than six degrees over the horizon, the great length of the ship blocked the airflow over the upper rudder surface and it no longer responded to the rudder controls. This characteristic was troublesome because Bockholt, to save ballast, tried to fly the ship nose up whenever he could to take advantage of the dynamic lift thus produced.²⁷

For Grussendorf, this was a particularly difficult time. One of the elevator helmsmen, Muller, had been left behind. Grussendorf took his place, glahgahae Nolte who was regularly assigned to this duty. Bockholt reported later that the "other helmsman" was inexperienced but he did not say who the "other" helmsman was. He also ignored the fact that "L 59" had two "others" on board, Nolte and Bockholt's former clerk, Schedelman, whom he had ostensibly taken along to also serve as rudder

²⁷ Some of the planners of the Africa trip had thought that the trim of the ship could be controlled solely by flying it nose up or down, as needed, and that dropping of ballast could be dispensed with entirely during the trip, an expectation that quickly proved completely unrealistic.

helmsman. Neither Nolte nor Schedelman could master the badly pitching ship and Grussendorf, besides standing his regular watch, had to take over the elevator controls from them whenever the going became difficult.

As "L 59" struggled on across the desert, the crew was briefly diverted from its misery by a scene that had occurred only once before, and then only in the imagination of a great humorist. The reader may recall the story "Tom Sawyer Abroad" which Mark Twain had written in 1894. In St. Louis, Tom and his friends by chance had been swept away in a powered balloon along with the balloon's inventor, a mad professor. The balloon was a truly wonderful machine. It had no trouble reaching a speed of 100 m.p.h.; it climbed or dove a mile in no time; it could hover stockstill over the ground or dash off to execute any maneuver demanded of it. Before the professor was accidentally lost overboard, he fortunately had taught Tom to operate the balloon. It was done mostly by pushing buttons.

Within a day, Tom and his friends found themselves flying high over the Sahara Desert. There they espied a camel caravan crossing the sea of yellow sand. Amazed, they steered their balloon down to 300 feet to have a closer look. The sight of the balloon panicked the camels and they fled in all directions. It took their frightened Arab keepers an hour to round them up again to continue their journey.

Most likely, none of the men on "L 59" had read Twain's fanciful tale but his fantasy now translated itself into reality. Ahead, on the track leading from the Farafra oasis to Dakhla to the south, moved a camel caravan. The camels reacted to the grey monster appearing in the sky much as they had in Mark Twain's story, to the great hilarity of the airship men. As they lost sight of the scattered caravan an hour later, the frightened

and bewildered camel drivers were still trying to restore order among the more ancient ships of the desert.

At 3:30 p.m., a huge rock formation, Bab el Calliad, 1300 feet high, came into view and behind it Dakhla Oasis. It covered about 212 square miles; several villages, mosques and a Senussi cloister shone in the sun. About 17,000 souls lived there, growing olives, dates, nuts, grain and citrus fruits. Many of them now gathered to gaze at the alien thing that came droning from the north.

The inhabitants of Farafra and Dakhla had seen machines fly in the skies before. In May 1915, the Turks and the Germans had stirred the Moslem Senussi sect, already at war with the Italians in Lybia, into rising against the British in Egypt. Four thousand Arab horsemen took the field, aided by Turkish artillerymen and machine gunners and varying number of irregulars. The British soon regained control of the situation and forced the Senussi to retreat into the desert, first to Siwa Oasis and later to Farafra and Dakhla. Without sufficient forces to re-occupy these places, the British at first contented themselves with keeping them under aerial surveillance until the Imperial Camel Corps and the Light Car Patrol could reoccupy Farafra and Dakhla in October of 1916. Although the arabs of the oasis had come to accept the strident gnats the foreigners sent, they knew of no precedent for that gray leviathan that now flew over them. A German aviator, landing at Dakhla sixteen years later, found the outlines of a zeppelin scratched over the doors of many huts in the oasis. "A mighty sign appeared in the heavens over the desert!" it was explained to him.

At 4:20, the crew in the command car was startled by a loud bang coming from the engine compartment installed in its tail. The mechanic on duty at this station quickly

stopped the engine. As on the trip to Yambol, the propellor drive housing had broken. This was alarming. The engine drove the electric generator which powered the ship's radio sender. Mow "L 59" had no means of contacting Lettow - Vorbeck when it arrived in East Africa. Busch inspected the engine and decided that it could be repaired sufficiently to put it to limited use again. Repairs were begun at once.

"L 59" continued its southerly course, a steady 44 m.p.h., hour after patient hour. It began to darken. A pink cloud appeared in the east and as the ship drew closer, it dissolved into a swarm of flamingos in unbelievable numbers. The Nile had to be near. At 9:45 p.m., the ship reached the great river at Gabla Selim, on the westerly curve of the huge S which the Nile describes as it leaves the juncture of the Blue and White Nile at Khartoum and flows north through the Nubian desert on its way to Egypt. A narrow green belt marked the river shores. White houses were scattered about and Dhows plied the river. Bockholt would have preferred to remain hidden in the desert throughout the trip and not be seen over the Nile valley but he needed a visual check point to verify the course of his ship which had been navigated by celestial observation and dead reckoning since it left Turkey.

The air near the river was hazy and humid. A thunderstorm boiled to the east. The air, instead of cooling at sunset, rapidly grew warmer. It had been 53.6°F. at noon, reached 68°F. by 10 p.m. even though the ship was flying at 3,300 feet altitude and within the hour rose another 4°. By 3 a.m., it was to reach 77°. The engines were beginning to run hot. "In the future, we will have to fly further to the west" thought Bockholt and changed his course a little in that direction to escape the heat of the river plain. Meanwhile, the dead vistas of the Dongola region slid beneath them - gravel desert

with hummocks and hills of basalt, granite or limestone, a rare tree tucked away in the wadis, sucking up by some mysterious process life-giving water that had long disappeared from view.

The morale of the crew was high. They had evaded the enemy in Europe, mastered a fierce storm over the Mediterranean and they were learning how to live in their peculiar universe in the sky. The African landscape, by its strange and alien appearance, gave witness that their unprecedented adventure was succeeding. The news reports picked up on the ship's radio that evening were good. German troops had scored some successes along the Piave river in Italy and it looked as if they might break through that front and perhaps repeat the disastrous defeat which they and the Austrians had inflicted on the Italians at Caporetto. A splendid sunset seemed to put a seal of approval on their efforts.

Bockholt looked at his maps with satisfaction. He had covered 1900 miles already, the trip was half completed. Two more days' would see him past the bare bluffs of Mt. Elgon, northeast of Lake Victoria, past fabled, snow-capped Kilimanjaro in German East Africa to the mouth of the Rovuma river. Once he had steered his ship to that clearly identifiable landmark, he would turn back a short distance to the Makonde Plateau. There had been no news about Africa since they had left Yambol. He had requested that for six days after his departure, the radio station at Nauen inform him at midnight what the news from Africa was. Perhaps Nauen would have some news tonight.

Towards midnight, Signal Mate Kettner tuned his radio set in the control car to Nauen. The receiver was not affected by the breakdown of the front engine; it operated

on batteries. Nauen was sending its nightly instructions to the submarines at sea. Kettner waited for the call sign of "L 59".

Chapter XII

RETREAT

At 12:15 a.m., Signal Mate Kettner, waiting at his radio receiving set, sat up. The call sign of "L 59" was coming in. Carefully, he wrote down the groups of numbers which beeped in his earphones. They were meaningless to him; the message was in code. When the message ended, he handed it to Maas to decode.

Zupitza watched. Unable to sleep, he had climbed down from the hot and confining hull into the control car to while away the time. The rudder helmsman was keeping the ship on a course due south; Grussendorf was at the elevator controls. The green radium markings of the instruments shone dimly in the darkness. The Nile valley was slowly receding to the east but it was still hot and humid - 72.5°. The sky was black.

Maas completed the slow task of decoding the message. With a stunned look he handed it to Bockholt.

"Cancel mission, return. Enemy has occupied greater part of Makonde Plateau, is already near Kintangari. Portugese attacking remainder of Protectorate troops from south".

Nauen repeated the message several times. There was no mistake. Kettner had done his work accurately. Damascus confirmed: "Cancel mission!"

What lead to this unexpected turn of events was this. In the evening of the 20th, while "L 59" was still resting in its hangar in Yambol, Radio London had broadcast an extensive report about the war in Africa. It was not much different from those of the 16th and the 18th but it was far more detailed. The fighting had moved close to Kitangari, the landing point which the Colonial Office had last suggested to Zupitza and Bockholt.

Some time on the morning of the 21st Major Göring reached his office and read the usual transcript of the London radio reports of the previous night. It was now clear that there was little territory left which was still under German control where "L 59" could land. The situation was bound to worsen during the next three or four days while the ship was on its way. Although several gentlemen in the Colonial Office were drafting a press release belittling the English claims - "Contrary to what the English would have us believe, they have not yet reached the Makonde Plateau" - Göring saw the matter differently. "L 59" would arrive in Africa too late. At that moment, "L 59" was making steady progress south; at 9:45 a.m. it had reached Adrianople. At noon the Colonial Office made its decision. It could no longer support the operation. "L 59" was now flying through the valleys of Anatolia. Göring called the Naval Command. It agreed with the Colonial Office and by late afternoon, messages went out to Yambol and the Military Mission in Turkey to recall the airship. "L 59" was then in the Smyrna area, some three hundred miles from its base.

Yambol at once began signalling "L 59" but was unable to make contact. The ship was already beyond the range of its radio station. At 6:05, it gave up and advised Berlin to try to contact "L 59" over the long distance station at Nauen. Arrangements had already been made with Nauen to radio "L 59" at midnight. With atmospheric disturbances generally diminishing during the night, the late night hours offered the best chance of getting an ungarbled message to the ship.

By the time Nauen started broadcasting, "L 59" was tossing in the thunderstorm it had encountered over the Mediterranean. With its radio antenna reeled in, it was deaf to the messages streaming through the ether. During the next night, Nauen tried again and

this time, its message had reached "L 59", Bockholt handed the message from Nauen to Grussendorf and Zupitza. An impromptu council of war took place.

Should they obey the order? Maas and Grussendorf wanted to continue the flight. If Lettow was in so much trouble, he would need help now more than ever. Zupitza was more cautious. Kitangari was only thirty miles from the Rovuma river. With the Portugese having crossed the river and advancing north, there would be little space left in which to land. Since the situation was so fluid and so little land was still in German hands, there might not be enough time to land and unload before the British or the Portugese found them. The ultimate decision had to be Bockholt's. The temptation to continue the trip must have been great. A triumph seemingly lay close at hand. How much greater would it be if it were achieved in disregard of these cautious orders to return. "It's the orders you disobey that make you famous", General Douglas MacArthur was to say later.

To a junior officer, molded on the drill fields of Kiel, in the crowded barracks of Tsingtao and the innards of a battleship, disregarding a direct order would have been difficult at best but in a sense, the decision had already been made for Bockholt. Having lost "L 57" under questionable circumstances, his naval career and his personal reputation would have been utterly ruined if he were to lose "L 59" while disregarding an explicit order to return.

Bockholt's great mission, the relief of Lettow, the hopes of his officers and men dissolved in the lowering African night. He gave his order. At 2:50 a.m. of the 23rd, at 16°30' north latitude and 30° East longitude, "L 59" came about in a wide turn and set course almost due north. Bockholt sat down to improvise a new flight plan.

A few years later, when the story of "L 59" became known, a hot debate ensued about the wisdom of the recall order. Should the airship not have continued its flight despite what Radio London was broadcasting? Some argued that a great propaganda victory could have been won, whether "L 59" had found General Lettow - Vorbeck or not. They assumed, of course, that the ship could have made its way safely to East Africa, that the 1,900 miles which still lay ahead could have been covered without untoward incident. Events soon proved that this could by no means be taken for granted.

Since 5 p.m., "L 59" had been dropping ballast from time to time to counteract the loss of lift which was normally expected in the evening as the gas cells contracted in the decreasing temperatures. This was standard procedure, followed by Bockholt the previous night as well. In order to minimize the amount of ballast lost, Bockholt had flown the ship with its nose up at 4° and its four operable engines turning over at maximum speed. He wanted to generate as much dynamic lift as possible. Four degrees up approached a critical angle.

At 3:10, a random gust hit the ship and it stalled. As on an airplane wing which is set at too high an angle in relation to the airflow, the smooth airflow over the back of the airship collapsed. With this, the lift which the hull had generated disappeared and the ship began to sack away rapidly. Within five minutes it had dropped from 3,100 to 1,200 feet altitude. The crags of Jebel El' Ain started to rise menacingly before the ship. A series of jerks ran through "L 59" and it rolled slightly as though it had touched ground. The engine telegraph blatted through the night to stop the engines and prevent the ship from ramming the crests ahead. Hurried hands pulled down the ballast releases over the elevator controls and great quantities of water gushed out of the bottom of the ship. The

crew scurried along the runway in the keel to throw out the cargo which had been earmarked for just such a contingency. Nothing guided them in the darkness along the foot wide, unguarded catwalk in the keel except their familiarity with the ship and patches of florescent paint glowing in the dark here and there. Over 5,500 pounds of cargo, much of it LAE, was thrown overboard. The ammunition exploded as it hit the ground, the sound reverberating along the mountain ranges. "The echo from the long mountain side created an impression as if a fort was firing at us with small caliber artillery" was Zupitza's description.

Gradually the ship rose. The jerks shuddering through the ship had been caused by the weights attached to the ends of the radio antennas which had caught among the rocks on the ground. The ship had come within 400 feet of stranding. The crew had barely been able to cope with the emergency, but for the moment the ship was safe.

Lehmann later wrote that among the cargo sacrificed at Jebel El' Ain had been bottles of cognac and champagne that had been taken along to celebrate the meeting with Lettow. The ship's cargo list revealed no such items but such liquor might not show up on a ship's manifest. True or not, the tale was symbolic of the spirit of the crew at this point. It had been crushed, wasted like the good cognac dashed upon the ground. The hardships overcome, the fears conquered and the hopes of glory long nurtured were for naught. The return trip would be difficult but whatever happened now would be anticlimax.

"L 59" cautiously began retracing its steps. By 3:40 a.m., it had risen to a safe 5,900 feet altitude. Bockholt kept it at that height for the next several hours. Unsure how much the ship had drifted during the night, Wald shot the sun with his sextant at eight in

the morning. The ship was on course. Navigation over land had been by dead reckoning and at night by celestial navigation.

The desert sun once more began to beat down on the ship. The machinists on duty in the cramped engine gondolas had already run out the retractable radiators as far as possible to catch every last breath of cooling air. Now, shouting into the telephone to make themselves heard over the noise of the laboring Maybachs, they reported to the officer of the watch in the control car that the engines were running hot. The gas cells had dried out completely and crackled as they rubbed against each other. Bockholt feared that they would become too porous or produce a fatal electrical discharge. The ship had not been built to operate under these conditions. By noon, Bockholt feared eminent engine failure. If another engine stopped, it was doubtful that the ship would be able to get home. At noon, as he was about to cross back into Egypt, Bockholt decided that the time had come to destroy his operations orders lest they fell into enemy hands.

Still, Bockholt fought on. He slowly increased the altitude of "L 59" to search for more favorable winds. Between 6,000 and 6,500 feet, he found a counter monsoon, blowing from the south-east which would help the ship on its way. The outside temperature steadied and then began to drop and the engines continued their comfortable drone. Once more, the crisis had been overcome.

The nervous tension of the last two days and the disappointment of having to turn back was now exacting its toll. The off-duty watch, though exhausted, was unable to sleep. The keel, in which they had slung their hammocks, was filled with the banging and rattling of the cloth covering of the ship and the whining of the guy wires. The temperature inside that giant tent in the sky was running over 82°, temperatures to which

the crew was not accustomed. Old and overly salty food plagued the crew with thirst and constipation. Some men were feverish. Zupitza examined them but there was little he could do. Only the end of this odyssey could bring relief. At 6:00 p.m. Dakhla oasis was reached and at 8:30 Farafra came into view again. Back over the desert, clouds began to accumulate on the horizon but now they were a welcome sight. They foretold the approaching coast. At 3 a.m. of the 24th, in the vicinity of Sollum, she ship crossed the African coastline again and headed into the Mediterranean. Below ship's searchlights stabbed into the night but none of the beams found its target. The moon was brilliant, it seemed like day in the cabin. It was even possible to use the "Schattentabelle", a table which permitted the navigator of the airship to determine its speed by measuring the time which the ship's shadow required to pass a fixed point on the ground and by looking up the observed time in the "shadow table" to read off the corresponding groundspeed. The ship had climbed to 9,800 feet; altitude was now the ship's best defense. To the discomfort of the crew was now added the cold and strong drafts. Despite leather flying suits and two wool blankets, the men were shivering.

South of Crete, extensive thunderstorms were building up. "L 59" turned to starboard to avoid them. It flew easterly some sixty miles, south of Crete, Karpathos and Rhodes, towards the Bay of Adalia on the Turkish coast. Zupitza thought this the most beautiful part of the trip; a deep blue sea, towering cumulus clouds, now white, now dark and threatening, to which the afternoon added the gleaming snowcapped mountains of Asia Minor. Zupitza drank in the rare sight; there was little else to occupy him. South of Karpathos, two steamers and two escort vessels were sighted, zig-zagging on a westerly course. The vessels evidently had not spotted the zeppelin. They held their course and did

not use their radios. A note was made in the log but the ships were not worth breaking radio silence for.

Crete, Karpathos and Rhodes each of these romantic islands harbored an Allied airbase. The alarm was not long in coming.

"Aircraft, sir!"

There it was, far below, a tiny speck over the dark, blue ocean. Up went the binoculars to define the threat, soon to be dropped again with a sigh of relief. It was only a small steamer heading for Rhodes. The island hove in sight. It was covered by haze. This was good since it would discourage any aircraft stationed there from taking off.

At one in the afternoon, Cape Chelonia was reached. "L 59" was over friendly territory again, friendly, that is, if the Turkish soldiers remembered their orders not to shoot at the German sky ship. The snip was laid on course for Adalia (Antalya) to the north which it reached at 2:30. It continued until it reached Lake Egredir. Wishing to skirt the highest Anatolian mountains, Bockholt now turned west and continued on to about 29° East longitude. Turning north once more, he flew over Usak and Simav towards Brussa (Bursa) and Constantinople.

The difficult, improvised return seemed to be succeeding. In anticipation of the cooling of the air which would set in at sun down, "L 59" had since 2:55 been dropping ballast, mostly ammunition. 3,750 pounds had been dropped by nightfall. The ship was flying at 5° to 6° positive pitch, with four engines working at full power. The crisis came as suddenly as at Jebel El' Ain. At 6:20 p.m., in a gusty headwind, the ship began to drop precipitously. 6,800 pounds of ballast went overboard before it recovered. The lesson to be learned, Bockholt reported later, was that the ship should not be flown above 3°

positive pitch and that for each night of the flight, no less than 6,600 pounds of ballast would be required to counteract the loss of lift which would have to be expected. This was 30% more than "L 59" had carried at take off.

Zupitza told a charming story later in connection with this incident, not out of his own experience but allegedly to him by Professor Rodenwaldt, a medical officer who had been stationed in Smyrna. According to this story, among the ballast dropped were several tin cans of guinine. Mirable dictu, the precious medicine had nevertheless found its way into the right hands. "One day, the beaming Turkish Chief Physician, stormed up to [Rodenwaldt] with the cry: "Allah be praised! Allah is great! In his mercy, Allah has caused quinine to be sent down to us". Allah was indeed great for under normal circumstances one would have expected a tin can, fully packed, dropping several thousand feet, to burst open on impact. Prof. Rodenwaldt, in his lengthy reminiscences about his war service in Turkey, does not mention this story.

Once Bockholt had regained control of the ship, he took it back up to safe altitudes. By 7.40, "L 59" had risen to 12,800 feet, a safe margin to clear the mountains that still lay ahead of it. The crew paid the unavoidable price for this safety. Sweltering in the hull in 82° F. temperature on the day before, one crew member claimed that the temperature had reached 90.5°, it now tried to carry on in -12° F. The cold had to be endured by all, crew and officers alike. It was what zeppelins had to face while flying at great altitudes.

At 7:46 in the evening, near Simav, safely in the north of Turkey, "L 59" broke radio silence. The front engine had been repaired sufficiently to turn over at 1,000 r.p.m. but Bockholt did not have to use it. The wind milling propellor was sufficient to drive the

radio generator. Message 1658 for the Naval Command went out to Constantinople and Yambol: "Desert west of Khartoum. Request weather report Yambol, Constantinople. Landing 7 a.m. L 59". Over Constantinople, at 10:20, he received the requested weather report. It was favorable for a morning landing. Yambol confirmed this.

During the night, a radio broadcast from British Malta brought "L 59" the first news about Africa which it had received during the flight. "The left wing of our forces in East Africa, which had crossed the Makonde Plateau, penetrated into the Simbas and Kitangari valley, seven miles northeast of the Kitangari Mission station...On the same day, the right wing entered Nevala". Nevala was only eighteen miles from the Portuguese frontier.

On the last leg of the trip, strong winds permitted little progress. Adrianople was not reached until three in the morning and then easterly winds drove "L 59" towards the Black Sea. In the winds and the dark, it lost its bearings until near Burgas, radio triangulation gave it a fix on its position again. The ship reached Yambol at 4:30 a.m. A radio message had already gone out to the base. Putting first things first, Bockholt asked for relief for his rank smelling, itchy crew: "Request hot baths for crew immediately upon landing. Show searchlight from 3 a.m. Ship will remain near airport during night".

Yambol acknowledged at 4:58 and assured Bockholt that everything was ready.

As Yambol lacked night landing equipment, "L 59" cruised in the vicinity of the field to await day break. In weary boredom and frustrated impatience the crew waited for the sun to rise. At dawn, it once more stood to stations and rallied to its duties with precise discipline and concentrated attention. At 6:30, the ship slowly approached the landing field. At about 500 feet, the engines ceased their labors. Once more, the ship was

put into that perfect balance required for landing. Three landing lines dropped from the nose of the ship. The ground crew seized them and pulled the ship down, finally taking hold of the handrails on the control and the rear engine car. At 7:40, "L 59" was on the ground. Fortunately, Bockholt had disregarded one recommendation made to him for lighting the ship after take off. He had not dropped the shock absorbing bumper and the weight bearing struts which tied the control car to the hull after take off. Without them, the landing could not have been made safely.

The crew dismounted, stumbling on legs still attuned to the pitching of the ship, frozen to the marrow and suffering from colds, fever and overwhelming fatigue. Machinist Busch and three others seemed seriously ill. Bockholt got off a short telegraph message to the Naval Command, tersely summarizing the trip. He did not forget to mention the little convoy they had spotted south of Karpathos for whatever interest that dated news might be to the German submarines in the Mediterranean. The men had been in the air for nearly four days and had flown a distance of 4199 miles.

What impact did the failure of "L 59" to complete its mission have on the war in Africa?

At the end of the rainy season in 1917, the Allies had commenced a concentric attack upon Lettow's forces to bring an end to the war in East Africa. In a bloody four day battle at Mahiva, Lettow had inflicted heavy casualties on his enemies but he had also used up nearly all of his supplies. Only 400,000 rounds of rifle ammunition and 300 rounds for his artillery remained. His depots contained less than 550 tons of food and the new harvest would not be brought in until March. He was down to fifty machine guns, light and heavy and 2500 rifles, a great number of them of an obsolete type. The troops

often had to lend their rifles to the reserves as they come up to to the line to relieve them. His troops numbered 669 whites and an estimated 5,200 Askaris, many of them sick and disabled. All of this was not enough to see Lettow through another serious battle. Worst of all, only one month's supply of quinine was available and there was no way to replenish these stocks. Of the airship that was to bring relief, Lettow knew nothing. The messages from Nauen had not been received.

On October 24th, the day on which "L 59" had been completed, Lettow met with Governor Schnee and explained to him his plans for dealing with this situation. Consistent with his aim of tying down as many enemy troops in Africa as long as possible, Lettow proposed to abandon the few square miles of German East Africa still left to them, cross into Portugese Mozambique and carry on guerilla war there. Schnee objected to the plan; he wanted to stand fast in German Fast Africa. Lettow, however, prevailed. To be able to move fast and live off the land, he had to trim down his forces and get rid of his heavy equipment. His artillery pieces, save two light ones, were abandoned or destroyed. The task of culling out the unfit men was begun. Every man was given a medical examination. The wounded, the sick and those no longer fit for the ardeous campaign ahead were removed from the ranks. Some, like Commander Looff, had to step down over their vigerous protest but Lettow was stung by the number of fit Germans who were willing to quit him and be done with this war. When Lettow was done, 300 Germans and 1700 Askaris had been hand picked for the new campaign. The rest of the men were left behind in camps and hospitals on the Makonde Plateau to surrender to the British.

On the day that "L 59" returned to Yambol and as its crew sought release from the hardships of the last four days in the mean huts of Yambol, Lettow — Vorbeck's troops were fording the shallow Rovuma river, just to the west of the point where the Lugenda, rising to the south, flows into the Rovuma. Their goal was a Portuguese military camp on the west bank of the Lugenda near the village of Ngomano.

The Portuguese camp was astir. Laggard German discipline, careless shooting and a brief encounter with Portuguese scouts had put the Portuguese troops on the alert. Lettow, observing the camp from a small hill to the west, estimated that there were about three thousand enemies before him. His own troops numbered about that. Conventional military wisdom had it that the attacker should outnumber an prepared defender three to one and Lettow regretted having sent Captain Gdring and three companies off on a side expedition. However, Lettow had no choice. The camp had to be captured for whatever supplies it contained. He was confident that his troops could do it.

Now, at Ngomano, Lettow saw a chance to repair his supply situation. He attacked and the attack was completely successful. The Portuguese were driven off with heavy losses. The camp's stores yielded ample supplies of the best quality, enough quinine for a year, six machine guns and enough rifles to re-equip almost half of the German force. The failure of "L 59" to reach East Africa no longer mattered, possibly it never had mattered.

Chapter XIII

THE END OF "L 59"

When the return of "L 59" was reported to the Kaiser, his only response was to ask offhandedly: "Where is it to be used now. Palestine?"

Palestine was very much in the news. The British troop movements, which in October had helped furnish the cover story for "L 59", had erupted into a new assault on the Turkish lines at Gaza in southern Palestine. General Allenby, covering his preparations with elaborate deceptive measures, had outflanked the Turks and rolled up their positions. The Allied watchword "Jerusalem before Christmas!" seemed close to fulfillment. How different it had been in 1898 when the Kaiser had made his highly publicized visit of state to Jerusalem. The Turkish authorities had hurried to fill in the ancient moat between the Jaffa Gate and the Citadel, the Castle of David as it is often called, so that the Emperor would not have to walk through the narrow, angled Jaffa Gate but could make his entrance in style²⁸. The Kaiser had let it be known that he would enter the holy city as a "devout pilgrim"; he entered in the white uniform and the polished metal helmet of the Prussian Guards. "A brilliant achievement redounding to the honor of Christendom and of the German nation", the North German Gazette reported. "This voyage of peace has gained more for the German people than all the crusades which the old emperors led to the Holy Land" noted a biography of the Kaiser.

²⁸ Filling in the moat unfortunately made it appear as if a large gap had been torn into the old town wall and "knowledgable" natives today often show tourists the place where the wall had been demolished to let the Kaiser enter.

The staff persuaded His Majesty that the airship could not be used in Palestine. For the moment, however, they could not say what was to be done with it. There were no plans for "L 59". It was not supposed to return.

Soon, however, two ideas for exploiting the long distance capabilities of "L 59" were put forward. One was to try the flight to Africa once again. The other was to fly a supply mission to the Turkish troops which the Arab revolt had left stranded in Yemen. Inquiries with the Turkish authorities to find out whether they were interested in the latter undertaking were initiated at once. Bockholt pounced on these proposals. He had been deprived of the chance to complete a spectacular mission and he was eager for another opportunity. The ship and the crew had proven their ability to carry out long distance flights. There was no doubt that "L 59" could have finished the trip to East Africa with margin to spare. It still had 3317 gallons of gasoline on board when it returned to Yambol, enough to fly another 56 hours.

On the evening of the 26th, Bockholt telegraphed the Naval Command from Yambol. He argued that the news from Africa had turned more favorable and the trip should be repeated. He could guaranty the delivery of a ten ton cargo. Was he permitted to repeat the trip or could he undertake the Yemen operation?

The favorable news from East Africa had evidently escaped the Naval Command. Next morning, the Chief of Staff of the Naval Command, von Knorr, reached Bockholt by telegraph.²⁹ "Mornin'" he greeted Bockholt, perhaps joshing him about his Rhineland accent. "Welcome back!" Bockholt gave Knorr details of the flight. He did not omit the

²⁹ The Germans used two telegraph systems in which the words sent were printed out by the receiving apparatus and which permitted the recipient to answer in the same manner. The two parties could in this way "talk" to each other as if they were using the telephone. For long distance communication, the telephone proved unreliable and the Germans preferred to use the telegraph.

small convoy he had spotted in the Karpathos Straits on the 24th. "Unfortunately had no bombs on board", he added, a silly bit of swagger as if an attack on those small steamers could have converted the flight of "L 59" into a success. Knorr wanted to know what the good news from Africa was. Bockholt repeated the newsbroadcast from Malta which had been intercepted during the last night of the flight. There was nothing favorable to the Germans in that report; it was favorable only in the inferences that Bockholt drew from it. The fighting which Radio Malta had reported had taken place in the southern part of the German held African territory. Hence, since there was no news from the northern areas held by the German troops, or at least held until recently, the situation there could not have deteriorated as much as in the south, Bockholt seems to have concluded. The reasoning might have been sound in relation to the war in Europe where deeply dug trench lines separated the combatants and demarked friendly territory from that in the hands of the foe. The inference drawn by Bockholt, however, had no logical connection with the war in Africa, fought by small, small units scattered over a vast territory. The ease with which Bockholt skipped over the flaws in his logic bespeaks his eagerness to try again.

Knorr did not demur. Could Bockholt be ready by Sunday to repeat the trip? Yes, he answered Knorr eagerly, he could repair and test his front engine # by Friday and if it worked well, he could take off again by Sunday. He needed gasoline, a machinist, two machinist mates and a good elevator helmsman. All should be good, stout volunteers. Bockholt asked for more men than he needed but there was so much malaria about that he wanted a small reserve in case one Of his men were stricken with the disease. Knorr told Bockholt to be ready by Sunday. The Naval Attache in Sofia went scurrying around to

look for 3,700 gallons of gasoline. Bockholt ordered the ship to be gotten ready for another Africa flight.

Bockholt's request for extra personnel proved to be prudent. Three days later, two machinist mates, besides Busch, and four men of the maintenance crew became sick, one man was under arrest and another had to be sent home because of embezzlement. Strasser could spare Bockholt only the most badly needed men. a machinist and an elevator helisman.

In the formal report presented to the Emperor on the 29th, the Colonial Office stated that in the northeastern part of the Makonde Plateau and in the area west of Livale, strong units of the Protectorate troops were still holding out. Its reasoning seems to have paralleled that of Bockholt. If the Colonial Office, which knew the conditions prevailing in Africa better than Bockholt, was willing to share his ideas, it seems clear that the Colonial Office too had lost touch with reality. The view that the area northeast of Livale must be in German hands because the British had reported no fighting there, and that therefore the Livale area was a Suitable landing place, was a point of view which Major Göring had maintained since the beginning of the operation. He continued to adhere to it even though German resistance throughout colony was collapsing and though there was no indication of any kind that there were German troops in the vicinity. Since it would take until the 30th to outfit "L 59" anew, the Colonial Office recommended to the Emperor that consideration of the feasibility of the flight should be taken up again at that time.

In fact, the Colonial Office was fantasizing! The German force which had been deployed to the northwest of Livale, Captain Tafel's detachment, had been driven far to

the south. Out of food and unable to break through to Lettow-Vorbeck, it had surrendered on the 27th. The northeastern part of the Makonde Plateau was firmly in British hands. Wishful thinking and tenuous surmise, however, seemed to rule the day and provide the rationale for a new "China" operation.

Commander Strasser at once objected. The enemy must now know the purpose of the Africa flight and the ship was likely to become an enemy trophy if it repeated the attempt. A 2,300 mile trip across the Arabian desert to Yemen was too much and the ship was likely to be smashed trying to land in the desert heat. Strasser wanted the ship to be rebuilt as a seven engined, fast reconnaissance craft for use over the North Sea though earlier he had not liked this idea.

Soon, the excitement over another Africa trip and the Yemen venture evaporated. The Naval Command suggested an alternative - searching for the mine fields with which the Russians blocked the Black Sea approaches to Constantinople. Strasser opposed this project also and Bockholt agreed with him. Mine searches were possible only for short periods of time when light conditions were favorable, when the sun stood high. A trial flight on December 2nd, on which he had tried mine searching off Varna, had proven that to him. Besides, frequent mine searches were not feasible because the hydrogen supply at Yambol was not reliable, confirming another reason upon which Strasser had opposed further operations by "L 59" from Yambol. The mine searching idea was dropped also.

On December 1st, the Naval Command seemed to have made up its mind that no further airship operations were to be undertaken in the Balkans. "L 59" was to return to Germany and be detailed to fleet operations. Strasser at once assumed control over "L 59"

again and advised Bockholt and Mangelsdorf, the ground crew commander, that he would instruct them when they were to return.

Bockholt now developed his own plans. Stimulated by a request by the Mediterranean Division that "L 59" be used he submitted a memorandum to the Naval Command. He suggested that "L 59" be used as a long range bomber in the Mediterranean. Numerous inviting targets were strewn over a wide sector spanning from Italy to Egypt to Palestine, reaching out as far as the Aswan dam, far south in the Nile valley. The enemy would be forced to deploy large forces to defend these targets once a threat to them had been made real. The ability to strike at far distant targets would boost the prestige of the zeppelins and help morale. Trade, particularly through Port Said and Alexandria, would be disturbed and the attacks would have a great political impact. "The appearance of a bomb dropping airship over Cairo or Aswan would constitute proof for the inhabitants of North Africa of Germany's greatness and might".

With Bockholt's memorandum, the decision of the Naval Command to return "L 59" to the North Sea came undone again. The ship remained in Yambol while the Naval Command pondered the new proposal. It could come to no conclusion. Still undecided, it ordered the zeppelin to return to Germany. On the morning of December 11th, it took off for Jüterbog. At precisely noon of that day, General Allenby, with well calculated simplicity, strode through the Jaffa Gate into Jerusalem. He entered that venerable city at the same spot at which the Kaiser had entered nineteen years earlier.

Upon returning to Germany, those of the crew who did not yet wear the decoration were awarded the Iron Cross, Second Class - Grussendorf, Holland, Heiman, Bröcker, Proll, Schmitz, Hocke, Fuchs, Schedelman and Kettner. There was no

recognition for the efforts of those who already had been awarded the black and silver Maltese Cross shaped decoration. Nor was there any medal for Bockholt. He already had his "EK II". The Naval Cabinet decided against recommending Bockholt for the Order of the House of Hohenzoller, the decoration which would have customarily been awarded in the circumstances. "L 59" had not attained its military goals and this could be ascribed in part to the loss of "L 57". Bockholt could have avoided its loss if he had evaluated the weather report more carefully on that fateful day in Jüterbog. An Imperial Commendation would do.

Reminded that he had not yet made a decision concerning the report about the loss of "L 57", the Chief of Staff of the Naval Command issued an order on December 17th determining that Bockholt had not been guilty of any "vertretbare Schuld" in that connection, echoing Strasser's peculiar phrase. The way was now clear for Bockholt's Commendation. A perfunctory one was issued at last on December 29th. It wound its ponderous way through channels, from the Naval Cabinet to the Chief of the Naval Command and from him to the Chief of Airships who in turn forwarded it to Bockholt.

At the request of the Naval Command, Bockholt now wrote a more elaborate version of his December 4th memorandum for presentation at the Kaiser's headquarters. He sent it off from his billet near Jüterbog on December 16th.

Strasser may have had some notion what was afoot then. On the 18th he sent an order to Bockholt that henceforth all applications and reports were to be directed to him. He referred to the decision of the Naval Command of December 1st releasing "L 59" for duty with the fleet and informed Bockholt that by virtue of that decision the direct

subordination of "L 59" to the Naval Command had ceased and had reverted to him. However, Bockholt had escaped his grasp already.

The memorandum by Bockholt, which Strasser had failed to stop, repeated his arguments concerning the use of "L 59" as a long distance bomber. Once more he included the Nile dam at Aswan among the long list of targets he had drawn up. A dam to control irrigation in the lower Nile valley had been built across the river at Aswan in 1902. Breaching the dam would no doubt have been a spectacular feat but Bockholt seems to have given no consideration to the political effect such a disaster might have on the Egyptians who so far had shown little sympathy to the cause of their British occupiers. Nor had he considered the practical difficulties of successfully breaching such a large, solid structure.

The original memorandum on the proposed use of "L 59", which Bockholt had written on December 4th, had not reached Strasser until the 11th. Strasser had not answered it, perhaps feeling with the ship returning to Germany that day, events had overtaken these ambitious plans. Now, apparently annoyed that the project to employ the Africa ship in the Mediterranean was being revived without prior consultation with him, Strasser sent a telegraphed the Naval Command that he opposed the proposed use of the ship.

Strasser wrote out his report by hand the next day and sent it off by special messenger. Again, he strongly opposed Bockholt's recommendations. He was now short of ships and he could not spare a valuable ship like "L 59". As a bomber, the airship was a weapon of opportunity, Strasser argued. Used in the right circumstances, it could render valuable services but exceptional operations like the "China Affair" were not the gauge

for the normal use of an airship. It was not possible to fly extended missions on a regular basis and Yambol was not capable of supporting such operations. Bockholt had not even mentioned that question although he had direct experience with the limitations of the Yambol base. "Airship operations", Strasser continued, "have never been worthwhile and never will be except in the North Sea, scouting for the fleet, and in air raids on England". The trouble with Bockholt was that he got carried away by the Africa flight. It was "aeronautically a great risk which could be taken only because of the great importance of the mission. The return of the ship must be attributed to extraordinary circumstances... Bockholt is a fine airship commander and an aggressive officer [but] he has not enough experience with the capabilities of airships" Strasser concluded. Bockholt, after all, had never flown a bombing attack. "Bockholt's recommendations are heading for failure while using large resources and manpower".

Between the 19th and the 21st, the Naval Command belatedly made up its mind. Bockholt would have his bomber. It ordered Mangelsdorf to remain in Yambol. The news reached the base too late. Lt. Commander Mangelsdorf and his men had already left. Mangelsdorf did not learn of the order until he reached his home station Ahlhorn. his men, who were following him, were turned around en route and returned to Yambol, not doubt uttering the same observations about the abilities of higher commanders that soldiers have made since Moses appointed "captains over the hundreds and captains over the thousands" at Kadesh-barnea. Ludendorff took the opportunity to personally write to the Naval Command that the 56 army men still operating the hydrogen generating plant at Yambol would be withdrawn. It was indeed a rare occurrence that the First Quartermaster General concerned himself personally with the fate of some fifty enlisted men.

"7, 59" was flown to the Zeppelin factory at Friedrichshafen to be refitted as a bomber. On January 5, 1918, operations orders were issued to Bockholt. He was to report to the Naval Command directly. Once more, Strasser, the Chief of Airships, was excluded from decisions concerning Bockholt was granted complete freedom of action. He was free to select his targets as weather conditions allowed. With the exception of the Aswan dam, the target list was the one that Bockholt had submitted to the Naval Command. Port Said, at the northern end of the Suez Canal was assigned first priority. It was followed, in decreasing order of importance, by Alexandria in the Nile delta, an important British naval base, Malta - the naval base athwart the narrow straits between Sicily and Africa - and the harbor of Naples. A number of additional targets in Italy, Lybia and elsewhere in the Mediterranean rounded out the list.

Work at Friedrichshafen proceeded slowly and the refitting of "L 59" was not completed until almost the middle of February. As soon as the inclement winter weather permitted, on the 14th, Bockholt started for Yambol. Within three hours, the ship returned and signaled for a landing crew. Over Kempten, 40 miles to the east, "7, 59" had run into a dense fog and, as if to recall the night over Jebel El 'Ain, had torn off its radio antenna.

The airport commander assured Bockholt that it was a minor matter, a new antenna could be installed in an hour. He omitted any gerevenes to the spare antenna which the ship carried for just such this contingency. Bockholt would have none of this. Suddenly turned cautious, he ordered the surprised commander to have "L 59" hangared. Bockholt insisted he must first talk to Munich about the weather before he did anything further.

The Ministry of the Navy telephoned the news to the Naval Command, adding "There were no technical reasons for the return and the failure to start again". The petulant tone of the message cannot be missed.

"L 59" arrived back in Yambol on February 21, 1918. Three of the Africa hands were no longer among the crew. Busch was sick; Schedelman had had no real place in the crew and Bockholt had tried to get rid of Kettner even before he left for Africa. First Signal Mate Karl Savoye, an elevator helmsman, and radio operator Wilhelm Müller of the original crew had returned to the ship. Hans Marholz had replaced Busch as Machinist, Conradt was added to the engine crew and Heinrich Boldt came on board as a second radio operator.

Engine overhauls and bad weather kept "L 59" on the ground until March 3rd. Then it started off on a bombing raid on Naples. The first part of the trip took it across the snow covered Albanian mountains, a stretch of the trip which Bockholt enjoyed very much. He called it "very pretty", the only time such an adjective crept into his reports. A radiator froze up but was thawed out as the ship waited over Scutari for night to fall. As "L 59" moved out over the Adriatic coast, it began to run into 45 m.p.h. headwinds. There was no chance of completing the attack in this wind and over Hvar Island, Bockholt turned back to Yambol. The wind relentlessly drove "L 59" northeastward. Bockholt lost his bearings in the darkness and did not recover them until he was over Belgrade, about 200 miles off course. Once more he turned toward Yambol but when he reached the field on the noon of the next day, he had to ride out another storm for six hours before he could land. Bockholt sent an apologetic message to Berlin.

"You have freedom of action. Don't overdo things" the telegraph ticked reassuringly in reply.

Bad weather kept the ship grounded for the next six days. The inactivity depressed the crew as did the bad food. Rations were too small and the food was poor and monotonous — rice and beans and toun, canned meat one day after another. The Bulgarians, who issued the rations to Yambol, refused to increase the food allowance; they treated one rear echelon unit like any other. The German Naval Attache in Sofia had already tried to secure better rations for the German aviation units in Bulgaria, without success, and he was obliged to point out to Berlin that the food situation in Bulgaria was not good. The men in Yambol tried to supplement their diet Out of their own meager pay, but to no great avail.

On March 10th, "L 59" took off for another attempt to bomb Naples. Two men reported ill and weak from hunger but took their stations. Eight potbellied bombs, five feet tall, each weighing 660 pounds and forty 220 pound bombs hung in the keel. Flying west, the ship reached Scutari on the Albanian coast and cruised there for five hours to await darkness. When the sun set, it flew across the Adriatic and the Italian peninsula to its target. "L 59" approached Naples at 12,000 feet, high enough to be safe from aircraft 'attack. The hum of the engines was hardly audible on the ground.

Years of inactivity had dulled the vigilance of those charged with the city's air defenses. The city was brilliantly lit. The sky was clear and the stars shone brightly."The city slept, unaware of the impending disaster...It seemed that the hours dedicated to rest and passion would pass without disturbance".

The targets which Bockholt had selected clustered around the ancient Castle Nuovo at the harbor's edge. There lay the navy arsenal, the military and the mercantile port and the long mole jutting into the sea, protecting the harbor. The choice of the targets had apparently been inspired by a letter which a "Mr. Weber had sent to the navy in 1916, giving it the benefit of what he had learned while living in this beautiful city for thirty years.

The bomb doors dropped open. Ensign Maas stood in the front of the command car, next to the man handling the rudder. His eye was pressed against the rubber eye piece of the Zeitz bomb sight. He watched the dense pattern of the city streets slide under his sights. At 12:55, as his targets neared the crosshairs of his telescope, he reached for the bomb release switches to his right and began to flip them over. The bombs plummeted from the ship towards the targets below. About eight seconds later, the mushrooms began to march across the city - across the Corso Vittorio Emanuel, Via Santa Apparente, the Via Corso di Nola, Via Roma, the Via Municipio - a good bomb pattern, west to east, straight towards the intended targets.

Bockholt saw explosions, a fire broke out and sections of the town and its surroundings blacked out. He concluded that he had hit a power station. As a result, of the blackout, however, one of his primary targets, the Armstrong Works, manufacturing naval guns and shells, disappeared in the darkness. Nevertheless, Bockholt was satisfied with his work. He had caught the enemy by surprise and had dropped 10,500 pounds of bombs on his target unhindered. Now he steered for the blast furnace of the Stabilimento Ilva, just east of the village of Bagnoli, about 4-1/2 miles away. Herr Weber had reported that artillery shells were being made there. 3,500 pounds of bombs were dropped on this

target. At 1:18 a.m., the last bomb was gone and "L 59" turned home. Relieved of its bomb load, it had climbed to 15,000 feet.

At the sound of the first explosions, the people of Naples ran curiously to whatever observation point lay near - the streets, windows, balconies. Curiosity quickly turned into terror as the bombs crashed into heavily populated areas of the city. When the resulting fires were extinguished and the rubble cleared away, sixteen dead were found, seven of them old retirees in the Hospice of the Sisters of the Poor. Fifty had been injured. The bomb pattern stopped just west of the Castel Nuovo, 500 yards short of the harbor's edge. Maas' aim had been good but the altitude from which the ship had attacked was too great to permit real bombing accuracy.

The attack on Naples created a sensation. A separate report was sent to the Kaiser. The Naval Command issued a special bulletin, announcing that "aerial forces" had attacked Naples with good results. There was no point in disabusing the Italians of the notion, which they entertained for several days, that they had been attacked by airplanes. The Italian Minister of War relieved the commanders of the anti-aircraft defenses of Naples, Foggia and Termoli of their command. A few days later, the Austrians handed the German Naval Attache in Vienna a fat target folder on Bologna, complete with maps and photographs, and offered any other assistance that might be needed. "I have the impression" the Naval Attache wrote to Berlin "that some here feel neglected because we did not use the assistance of the Austrian authorities in our airship attack on Naples and they now feel a need to make their existence known again".

The victims of Naples were given a great public funeral. The mayor demanded of the grieving crowd "an indestructible tenacity to resist until victory, until the liberation of

the fatherland!" Indignation and demands for retaliation were widespread. In fact, retaliation by both sides was well under way. On the 9th, French planes had attacked Mayence and the Gothas had dropped bombs on Paris. The German planes struck Paris again, on the 12th, leaving 29 dead and fifty injured. During the same night, English planes attacked Coblenz on the Rhine in the ever-widening air war.

Italian reports of civilian losses quickly reached Berlin through Switzerland. It probably mentioned them to Bockholt on the telegraph. Bockholt swore that he had struck far worse blows than the Italians had admitted. "If I should ever marry, I probably won't be able to take a honeymoon trip to Naples," the nemesis of Naples bragged. It was the first victory in the campaign he had devised. He did not yet know something which other commanders had come to suspect - target observation from great altitude at night is extremely unreliable. As if to put the seal of authenticity on his accomplishment, Bockholt recommended that Maas and Machinist Marholz be decorated with the Iron Cross First Class.

The attack on Naples had been marred by one incident. The crew of the rear engine gondola had been found overcome by gasoline vapors. They had lain unconscious for two hours but the quick action of Marholz, who had found them, had saved them. Machinist mates on "L 53" had not been so lucky. Two had died this way several days earlier. The accumulation of such vapors was also highly dangerous to the ship; a spark from the machinery or static electricity could have instantaneously transformed the ship into a giant torch.

Berlin soon seems to have had second thoughts about the attack on Naples. In October and November of the previous year, German and Austrian troops had inflicted an

immense defeat upon the Italians at Caporetto. Only Ludendorff's failure to commit sufficient reserves to what he considered a secondary theater of war had saved the Italians from being knocked out of the conflict. Why strengthen the enemy's will to resist with attacks on his civilian population. On March 16th, the Naval Command told Bockholt not to attack Italy for the time being.

On the 20th, "L 59" was ready to strike again. This time the target was Port Said in the Nile delta. Again the ship carried seven tons of bombs. Since there was no longer any need to hug the dense, lower airlayers as there had been on the flight to Africa, the dirigible crossed the Turkish mountains directly at a safe altitude. It left land behind at Adelia, 400 miles north of its target, and reached the Nile delta in the early morning of the 21st. When it arrived, it found that rain and clouds shrouding the African coast. "L 59" spent three hours searching for Port Said and Alexandria and finally found a lit up target below. As the ship was about to begin its bombing run, the target was recognized. It was Damietta, once a harbor of some importance but now blocked by sandbars to all but the smallest ships, a village of about 20,000 inhabitants. it was indeed a "politically unsuitable" target as Bockholt reported upon his return. "L 59" turned east hoping to find Port Said and the Suez Canal. The city was blacked out and in the darkness, the ship overshot its goal. It had to turn into a stiff wind to regain its target. Port Said was reached just as the sun rose. A daylight attack could not be risked since resistance from aviation or warships had to be expected and at 4:40 the attack was abandoned. It was just as well; the ship had been spotted from the ground. What action the surprised British aviators might have improvised one cannot say. Climbing to the altitude of the zeppelin would have taken some time and they had no incendiary ammunition. It is safe to say, however,

that, given a chance, the British airmen would have "had a go at it". To the armchair warriors in Germany it looked different. "Too bad, should have tried it anyway" one of them wrote into the margin of Bockholt's report.

"L 59" steered for its alternate objective, the British base at Suda Bay on the northwest shore of Crete. As the ship reached the bay, it was swallowed up by snow clouds and lost sight of the ground. Strong winds tossed the zeppelin about. Since Bockholt was running low on gasoline, he decided to abandon this attack also and turn northward for home. But the gods of frustration had not yet tired of their game. A strong gust broke one of the longitudinal girders in the hull, the ship lost bearings and the wind became so strong over the Aegean that for an hour "L 59" made no headway at all, pitching up and down through a range of thirty degrees.

Over Saros Bay, north of the Gallipoli peninsula, "L 59" regained its bearings and headed for Adrianople. There, Turkish anti-aircraft guns fired on the unlucky craft for ten minutes despite the recognition signals it flashed. And, as if to complete the picture of a flight on which nothing went right, a 220 pound bomb dropped accidentally a few miles beyond Adrianople. Fortunately, it was not fused.

At 7:15 a.m. of March 22, after almost 59-1/2 hours, "L 59" landed at Yambol again, defeated by poor weather forecasting and bad luck.

Bockholt was not discouraged. He would try Port Said again, he told the Naval Command. If necessary, he would "hide out in the desert" and approach the city at night from the southeast. For the moment, however, a major engine overhaul and the approaching full moon required that this project be put off until the end of the month.

Meanwhile, Bockholt faced another dilemma. Next to Port Said and Alexandria, Malta had highest priority among the targets assigned to him. However, because fickle spring weather or enemy action might make it impossible at the last minute to complete the attack, it made no sense to try to bomb Malta unless there were alternate targets available in southern Italy. Without such alternate targets, the whole attempt upon Malta might then go for nothing. On the 26th, Bockholt therefore asked for permission to attack the Italian naval base at Taranto despite orders issued after the Naples attack. He also asked brought up the Aswan dam again. He received no answer to his inquiry and by the 30th, Bockholt a village of about 20,000 inhabitants. It was indeed a "politically unsuitable" target as Bockholt reported upon his return. "L 59" turned east hoping to find Port Said and the Suez Canal. The city was blacked out and in the darkness, the ship overshot its goal. It had to turn into a stiff wind to regain its target. Port Said was reached just as the sun rose. A daylight attack could not be risked since resistance from aviation or warships had to be expected and at 4:40 the attack was abandoned. It was just as well; the ship had been spotted from the ground. What action the surprised British aviators might have improvised one cannot say. Climbing to the altitude of the zeppelin would have taken some time and they had no incendiary ammunition. It is safe to say, however, that, given a chance, the British airmen would have "had a go at it". To the armchair warriors in Germany it looked different. "Too bad, should have tried it anyway" one of them wrote into the margin of Bockholt's report.

"L 59" steered for its alternate objective, the British base at Suda Bay on the northwest shore of Crete. As the ship reached the bay, it was swallowed up by snow clouds and lost sight of the ground. Strong winds tossed the zeppelin about. Since

Bockholt was running low on gasoline, he decided to abandon this attack also and turn northward for home. But the gods of frustration had not yet tired of their game. A strong gust broke one of the longitudinal girders in the hull, the ship lost bearings and the wind became so strong Over the Aegean that for an hour "L 59" made no headway at again telegraphed for leave to bomb Taranto or Brindisi.

While waiting for the weather to break, a young machinist mate from Hamburg, Albert Rieck, joined the crew to replace Conradt and "veteran" Seaman First Class Adolf Fuchs celebrated his 24th birthday. Bockholt received permission to purchase additional food for the base and the mess improved.

On April 3rd, the Naval Command approved the attacks on Taranto and Brindisi. They were legitimate military targets - major naval bases. Now Bockholt was free to make his attempt on Malta. So far, in six weeks of operations, he had flown one successful mission but he had little else to show for the ship and the over four hundred men that the Naval Command had put in his hands. In France, Ludendorff had launched his long prepared, grand offensive that was to end the war. He had attacked in the St. Quentin sector to breach the Allied line and press the British back against the Channel coast. He had won a great amount of ground but so far, the enemy line had held and no decision had been gained. It was a time for action.

On the 6th, Bockholt was ready to mount his attack on Malta. He called in his meteorologist, Goebel, to obtain the latest weather reports. Goebel advised against the attack. There was a possibility of thunderstorms over the Adriatic; the base radio was picking up much static which confirmed the presence of electrical disturbances. Standing instructions to airships were to avoid flying in thunderstorms. Only six days earlier, "SL

9" had blown up in a thunderstorm, underscoring the importance of these orders.

Bocknolt was torn between prudence and his urge to act. Finally, he ordered a take off for early next morning.

On April 7, 1918, "L 59" headed for Malta. The plan was to fly east to the Adriatic, turn south, pass the Straits of Otranto, separating the Italian boot from the Albanian coast, and proceed along the Italian and Sicilian coasts southwest to Malta. Bockholt flew to Lake Skandorsko near the Adriatic coast. Over this easily identifiable checkpoint, well outside the sight of any ship passing along the Adriatic shore, Bockholt again waited for the night which was to shroud his moves into the enemy regions. At about 7 p.m., Bockholt moved on. At 7:30, he passed the lookout post at Duleigno (Ulcini) near the Albanian border and flashed his recognition signal. About an hour later, he was off the lighthouse of Cape Rodoni. Bockholt now left the Austrian occupied shore of the Adriatic behind and entered hostile areas. The shores on either side of him were now in Allied hands. To the southwest lay Brindisi, flanked by several destroyer and seaplane stations, there was another Allied base on the opposite, Albanian shore. A net and mine barrier 'sitaubesker' across the mouth of the Adriatic, the Straits of Otranto, starting south of Brindisi and stretching to the island of Corfu, off the Albanian shore. Intended to keep German and Austrian submarines bottled up in the Adriatic. it was guarded by numerous naval units, including 36 American submarine chasers. Throughout the area were scattered many radio location stations, at Corfu, Santa Teresa, Otranto, Palascia, Contorne and Ginosa, to name the nearest points, ready to intercept any German or Austrian radio signal and by triangulation determine the location of the ship or aircraft that had sent it.

It was a heavily overcast, humid night. Occasional rain squalls broke on the ship. A haze overlay the phosphorescent waves. A lookout was kept for the Allied ships patrolling the mouth of the Otronto Straits but a submarine passed on the surface almost directly below without being spotted. Lightning played through the sky. Strong static crackled in the ship's radio, audible evidence of the electrical discharges coursing through the air. By 9:30 p.m., "L 59" reached a position 41°2' north by 18°53' east, north of the Otronto Straits. Suddenly, Bockholt heard two explosions. The night around him brightened. The ship had caught fire. Bockholt - all the crew knew what this meant. They had been riding a gigantic Roman candle through the skies and now fate had lit its fuse. Several more explosions followed.

The awesome scene was witnessed by the crew of the German submarine "UB 53". This was the submarine over which "L 59" had blindly passed a little earlier. At 8 o'clock, its deck watch had observed a large airship coming up from astern. The submarine commander, Lieutenant Sprenger, had thought that it might be an Italian semi-rigid airship on patrol. The Italians made active use of these airships for naval patrols and had put no less than 49 in service during the war. Sprenger had ordered his boat cleared for action. However, he had been doubtful of his identification and had held his fire. The ship had passed over at 650 feet. Sprenger wondered whether the airship realized how easily visible it was from below. "A rifle shot would have been a certain hit" he said later. Sprenger saw that the airship was German but as a matter of caution refrained from giving a recognition signal. The airship had disappeared into the night like a ghostly apparition.

Ninety minutes later, Sprenger saw two bursts of fire in the night sky. He took them to be shrapnel bursts. Shortly afterwards, a huge flame turned the horizon into day, there were more explosions and a fiery mass fell into the water. It burned for twenty minutes.

Watchers on the Italian and Albania coasts also saw the terrible sight. A French ship of the Otranto patrol spotted the glare in the northern sky and took its bearings. "UB 53" steered toward the spot where it had seen the blaze to search for survivors. It found none. Two Austrian destroyers went to investigate and found neither survivors nor wreckage. An Austrian seaplane, joining the search, crashed.

The sightings of the midair explosion were at once reported to Berlin and the failure of "L 59" to return to its base quickly led to the conclusion that the ill fated ship had at last met its end. None of the Allies claimed to have destroyed an airship and the Germans therefore decided that the ship had fallen victim to an accident despite Lt. Sprenger's belief that he had observed shrapnel bursts. What the cause of the accident was, nobody could say. Lightening striking the ship certainly was a possibility. Italian guards and one of the Austrian destroyers had seen a lightening storm in the area.³⁰ Perhaps faulty gasoline lines or a defective engine had permitted gasoline vapors to accumulate in the ship as they had in the Naples attack. Lehmann speculated that mishandling of a bombfuse might have caused the accident. German airship crews did not mount fuses on their bombs until the ship had left friendly territory behind, but "L 59" had already crossed the Albanian coast more than two hours earlier.

³⁰ In the book about "L 59" which Goebel later wrote, he ruled out the possibility that lightening destroyed the ship although in private correspondence at about the same time, he mentioned this as a possible cause, pointing to his weatherforecast.

Later, recalling his stand against sending "L 59" back to Yambol, Strasser wrote what may serve as an epitaph for the men of "L 59": "I had the feeling that I had given up a capable crew with the certainty of an early loss for a useless purpose".

Chapter XIV

EPILOGUE

Though events had vindicated Strasser's judgment that bombing operations from the Yambol base were not worthwhile, it seemed for a while as if Bockholt's ideas would once more triumph over those of his former commander. No sooner had "L 59" crashed but that the Naval Command proposed to send another zeppelin to Yambol. Once again, Strasser objected. Once again, the Naval Command overruled him. One can only wonder what had led to the stubborn conflict between the much respected Strasser and the Naval Command.

In the end, no ship was sent to Yambol but the base was kept operational until October 1918 when the collapse of Bulgaria forced its abandonment. At the airfield, the garrison left behind a simple memorial, a rough, unfinished stone bearing a simple plaque inscribed: "In memory of the crew of 'L 59' - Last flight April 7, 1918".

If this seems like only a small memorial to the sacrifices which twenty three courageous men had made during their life times and in death, it is nevertheless in due proportion to the accomplishments of "L 59" in the overall perspective of the great war.

What did the men of "L 59" accomplish with their few, but arduous and dangerous flights? "From a military point of view, the flight to Africa accomplished nothing. This was not the fault of the crew. Their orders were clear — return! There was no room for the exercise of discretion in those orders; the Naval Command had not intended that there should be. Nothing reached Africa that helped Lettow; the Allies were

not diverted from their plans. the flight had no propaganda impact because it was kept secret until after the end of the war.

The fundamental reason for the failure of the Africa flight was that it started too late. The rebuilding of "L 57" and "L 59" was accomplished promptly but the Berlin bureaucracy was unable to move as quickly. The Colonial Office took the Africa plan to the Ministry of the Navy at the end of July but it took until the middle of September for the Ministry's recommendation to reach the Naval Command. Perhaps it took this long to explore the novel features of the proposal. However, the additional delay of two weeks to obtain the Imperial approval of the operation seems hard to understand. The Naval Staff and the Ministry of the Navy had already agreed that the mission could and should be carried out. If the Emperor had to approve an airship flight at all, why could the necessary audience be granted more quickly when the acknowledged urgency of the project was so great? However, the most serious and ultimately fatal delay was caused by the destruction of "L 57". Lettow-Vorbeck has been quoted as saying that the flight started four weeks too late. This was precisely the time needed to get "L 59" ready after "L 57" was wrecked. Some of the delay in getting the Africa flight started was also due to Bockholt's decision to fly across Turkey rather than the Aegean, the route provided for in the original plan. This complicated his problems. Threading his way through the Anatolian valleys at low altitude, as he did, was difficult and risky. Bockholt chose to fly low because he wanted to provide his heavily laden ship with the greatest possible buoyancy. If he had flown directly across the Turkish mountains directly he would have needed a lighter ship. This would have meant less payload. However, a lighter ship would not only have permitted Bockholt to fly a more direct route but would have made him more

independent of the vagaries of the weather. Bockholt felt that he had to wait until the weather was just right. With alighter ship he would have had more flexibility, The cold airmasses for which Bockholt had decided to wait, and which did not arrive until the 20th, would have been of lesser importance. The usefulness of the mission would not - have been materially reduced if "L 59" had carried less ammunition. The key to its success was getting quinine to the troops in Africa. Four hundred thousand rounds of rifle ammunition meant roughly eighty rounds for each man of Lettow's force a day's combat. The Ministry of the Navy had been uneasy about the usefulness of this part of the cargo. In its recommendation to the Naval Command, the Ministry took pains to point out that the Schutztruppe was specially trained to use ammunition economically as if to show that this relatively small number of rounds was more significant than it seemed. The temptation to load the ship with as much as it could carry was, of course, was great and there was not enough metereological information to allow a precise estimate of the enormous amount of ballast which was ultimately needed. Only the flight itself could provide the information that was critically needed in the planning stage.

One might also speculate whether the loss of "L 57" and the delays due to the refitting of "L 59" might have avoided by a more seasoned captain with greater experience and knowledge of the weather. Perhaps Strasser had practiced false economy in not giving Buttlar the command of the "China" ship.

Ultimately, however, it is doubtful that the arrival of the airship and its cargo would have greatly influenced the war in Africa. While the arrival and successful unloading of new supplies of quinine and medical supplies would undoubtedly have helped Lettow in the short run, since these supplies were essential to him and he had no

way of knowing in advance about the bountiful stores he would capture at Ngomano. In the long run, Lettow's forces were too spent and the enemy's superiority too great. Despite the new supplies, it is likely that Lettow would have had to abandon the small sections of German East Africa which his troops still held. They would still have had to resort to the guerilla campaign which they conducted from November 1917 until their surrender to the British forces on November 23, 1918, 12 days after the armistice in Europe went into effect.

If one accepts the judgment that the expedition started too late, the question inevitably arises as to why the flight started at all. Why was it not cancelled while "L 59" was still safely in Yambol? Berlin knew that speed was required if the supplies were to arrive in Africa in time to do any good. It also knew that its plan was steadily falling behind schedule. The news from Africa was constantly growing worse, yet nobody seems to have been willing to consider whether time had not overtaken "Operation China". On November 20th, the day before Bockholt's departure, the Naval Command finally showed a consciousness that time was running out on the venture when it told Bockholt that he had to start without further delay. However, the record as a whole shows little inclination to critically reconsider the mission as the days went by. Perhaps the dispersion of authority among the Naval Command, the Ministry of the Navy and the Colonial Office made it too tempting to let someone else make the unpleasant decision to acknowledge failure.

Equally strange is that while Berlin was waiting for Bockholt to take off, nobody in the Colonial Office or the Naval Command stood by to evaluate the nightly news broadcasts from London as soon as they were received. The broadcasts were practically

the only source of information that Berlin had about the fast moving events in Africa. This information became ever more important as the days went by. "L 59" was still in its hangar when the London evening dispatches of the 20th, the very ones which led to the cancellation of the Africa mission, were received in Berlin. Had these dispatches been acted upon at once rather than left to wait until Major Göring arrived in his office the next morning, it would have been possible for the efficient German communications system to deliver the decision not to proceed to Yambol before the take off of "L 59". As it was, the decision to cancel the mission was not made until about 13 hours after the news upon which it was based was received. By then, the ship was already well under way on its hazardous journey and beyond the range of the Yambol radio station. Yet in thinking about these apparent misjudgments, it must be borne in mind that the mission was in all respects a venture into the unknown.

The public did not learn of the "China" story until after the end of the war when a former naval captain, Lothar Persius, wrote a book which was highly critical of the organization and tactics of the German navy. He mentioned in passing that the engines of the naval airships had proven unreliable. The Maybach Engine Company, which had manufactured these engines, published an advertisement in rebuttal in February 1919. It proudly pointed to the performance of its engines during the 95 hour flight to Khartoum and back. The breakdown of the forward engine of "L 59" was not mentioned. Presumably, this would have complicated the story too much. The Maybach advertisement was quickly followed by other reports in the German and foreign press. A spiderweb of careless error and patent deceit quickly enmeshed the "L 59" story. An English reporter who spoke no German, interviewed Buttlar, who spoke no English, and

announced that Buttlar had commanded the "China" flight. Another writer decorates Bockholt with Germany's coveted decoration, the "Ordre Pour le Mérite", and still another dubbed him "von Bockholt", evidently on the assumption that every German officer was a nobleman. A book stated that "L 59" was transported to Bulgaria in sections and assembled there. Why a zeppelin could not fly the 1,200 miles to Yambol when it was expected 'to fly 4000 miles to Africa is a question which seems not to have troubled the author. In announcing his order to turn back, Bockholt faced the threat of the first sky-jacking in history according to still another author. And finally, in a popular German war book, Bockholt's death is lifted to the plane of classical apotheosis:

"Near London, the dashing Bockholt, after he made the famous Africa trip to help Lettow-Vorbeck, takes his zeppelin up to 23,600 feet to escape an English airplane. But it succeeded in climbing even higher, its machinegun sends a volley of incendiary bullets into the hull of the ship. Burning, the ship and crew sink into the sea. As not a few of them, flaming pillars of sacrifice and German heroism".

In this hothouse of fantasy, another group of stories began to flourish, stories "explaining" why "L 59" was ordered to break off its flight. To many, there was something odd about the decision to recall the ship. Something was missing, logically and psychologically. If the decision to start on the 21st was the right one, did the recall on the 23rd manifest a loss of nerve? Conversely, if the decision to recall "L 59" was correct, was the start on the 21st an error? To admit an error in launching this odyssey seemed inadmissible to the patriotic German of the day. There also was something inconsistent between the bold inspiration which gave birth to this feat and the sober calculations which ended the venture. There had to be a more satisfactory answer.

Göbel, the meteorologist at Yambol, wrote a factually correct account of the voyage and described how the radio station at Nauen managed to reach the ship with its message to return. Yet, he goes on to muse: "The Balkans, which for ages past, have been the playground of cunning espionage, were no exception in this respect during the World War. Detail after detail seeped out in 1917 already. London was quite well informed about the flight of "L 59" to Khartoum. This is not the most farfetched explanation of the recall message which reached 'L 59' over the Sudan". But what was this "farfetched explanation"? Göbel acknowledged that the order recalling the zeppelin originated in Berlin. Still he implies foul play; what it is he will not say.

Others were less reticent. One theory had it that it was all the fault of the British. They fooled the Naval Command into ordering "L 59" to return by spreading exaggerated rumors about the situation in East Africa! Buttlar and Lehmann, who had been close to the "China Affair", re in this vein. Others made the misleading rumors more specific — London had falsely broadcast that Lettow had surrendered. The fact that the British never claimed to have captured him was ignored. When most of these "we were misled" claims were made, both General Lettow-Vorbeck and Governor Schnee had already written books about the war in Africa and it would have been possible to check their accounts against the allegedly misleading news reports from London. The comparison would have shown that the English reports were substantially correct and that the Naval Command, far from being misled by them, / was reasonably well informed.

The false rumor school was soon outdone by a much bolder claim: the recall message was a fake and had been sent by the British Secret Service.

The earliest version of this claim seems to have been into circulation by none other than an English Intelligence officer, who, by reason of his former duties, gave the story greater credence than it deserved. It was quickly taken up in Germany. At first, the Forged Message thesis was stated on a tentative basis:

"There is a theory, and a number of probabilities support it, that the radio message containing the order to return was sent from England. Thanks to an excellent espionage organization, the British were probably informed about the Africa trip and possibly took certain countermeasures with this radio message".

The author thought this a reasonable hypothesis because: "The fact of the matter is that at the time the radio message was sent, Lettow-Vorbeck was in no particular difficulties; to the contrary, he had just won new successes on the Makonde Plateau...", an explanation which might have surprised Lettow, Schnee and others. A popular magazine, the "Koralle", painted a more vivid picture. After relating how the front engine was finally repaired so that "L 59" could again receive radio messages (the reader will recall that this engine failure did not impede radio reception), the first encoded message is received. It is quickly deciphered and handed to Bockholt.

"His lips tighten grimly. He has flown thousands of kilometers across enemy territory without mishap. He is close to his goal. Return? At once? Was all this for nothing? But a German officer can do only one thing - obey! At the same hour, Lettow-Vorbeck's entire force still stands exactly where 'L 59's' nose points, on the Makonde Plateau. Not one of his troops has been captured. The German Naval Command knows nothing about the alleged defeat of the Germans. It therefore cannot have sent the signal. The whole message is a hoax. The British Intelligence Service has fashioned a masterpiece. It has camouflaged itself as Nauen, enciphered its message in the secret German code and accomplished what its own aviators, what the elements had been unable to achieve".

If such stories are needlessly false and often absurd, they do serve a purpose. They permit the story teller to enhance his tale, they also conveniently absolve those guilty of a possibly flawed judgment in launching or stopping the "China Affair". They permit the cancellation of the mission to be blamed on "pusillanimous politicians", as one German airforce officer did, a mini-version of the "stab in the back" theory applied to the "China Affair".

Man does not like to see his heroes fall victim to the ordinary vicissitudes of life. It is antithetical to the concept of a hero for he is something larger than life. So a hero may not be defeated by an ordinary being nor may his quests fall victim to happenstance, stupidity or error. To remain a hero, he must succumb to a force of at least equal magnitude. From this arises the stab-in-the-back theories of history. Siegfried, the German folk hero, is slain by Hagen only after he treacherously tricked Siegfried's wife into revealing the spot on her husband's back which had not become armored by the bath which Siegfried had taken in the blood of the dragon he had slain. So too, the heroism of the German armed forces in the first World War could be brought to nought only through immense treachery at home, the "Dolchstoß Legende" — the stab in the back theory. And so too, the noble enterprise of "L 59" could not fail because, through error Or accident, it started too late; it could not end through the dry calculations of some staff aide, balancing probabilities of failure against the chance of success. It had to fail in the heroic vein, the unconquerable hero falling before the base, but magically potent villain. To many Germans, that villain has always been the British Secret Service. "L 59" had to end ensnared in its net.

As a result, to this day the story repeats itself that: "... some time presumably had to elapse before Bockholt recovered from his chagrin on learning that the orders from the German Admiralty had been sent by the British".

For those who accept that Berlin did indeed recall "L 59", the debate is not ended, however. Should the order to return have been given at all, keeping in mind the military and psychological results at which the "China Affair" had aimed?

Even those who argue that "L 59" should have continued its flight despite what Berlin perceived the military situation in Africa to be, do not say that a safe conclusion of the venture was guaranteed. Rather, they emphasise the psychological results which had been expected from the flight. The flight was to dramatize the genius of German technology and the willingness to fight with all means possible and where ever possible. Even if the progress of the British campaign in Africa and Lettow's change in tactics in October and November of 1917 had deprived the flight of its military significance, would not the arrival of an airship in Africa, even if too late, still dramatize the superior technical skills and determination of Germany? Did those responsible display sufficient political skill and insight? Was the Colonial Office and the Naval Command justified in throwing away these potential advantages?

The question whether of "L 59" should have continued its mission in face of certain failure and with grave risk to the lives of the crew raises a nice question of military ethics. There will be occasions when under the imperatives of the situation a military commander must carry out an operation even though it has little chance of success and presents great dangers to the men involved. History is not without examples of death incurred in making a symbolic gesture, justified by the profound impact it had on

the course of the conflict. Whether the hoped for psychological results of the completed, but unsuccessful flight of "L 59" would have justified the likely sacrifice of its crew is a question which these critics do not raise.

There is little doubt that if the operation had been successfully completed, it would have aroused the highest admiration from friend and foe alike. However, the tendency to discount failure, even gallant failure, is great. If the mission had been able to continue to its bitter end, it might easily have turned into an opéra bouffe or worse, into a reprehensible, futile sacrifice. What would have been the world's reaction to Grussendorf manfully parachuting into the midst of what turned out to be British troops or of "L 59" stranding while vainly searching for Lettow who was then marching south into Mozambique, knowing nothing of the relief Berlin was sending him? What would have been the focal point of a picture of the giant airship falling prey to the waiting British planes - would the focus have been upon the German ability to make the unprecedented flight or upon the British ability to frustrate its success? The heroic aspects of the flight might easily have been swallowed up by the judgement that the flight was quixotic and irresponsible.

The proposition that the expedition should have been continued for psychological and political reasons has been seriously supported by many, though not by all Germans. The German Official History of the War finds that the order was proper in the circumstances. Some may be inclined to discount this conclusion because of a suspicion that the account was likely to approve whatever the German command had done but the Official British History of the Great War also arrived at the judgment that "L 59" should have been ordered home.

Like the Africa trip, Bockholt's Mediterranean campaign must be written off as a wasted effort. Strasser's view that it was not possible for the airship to mount a sustain bombing effort was fully vindicated. During the three months that "L 59" operated in the Mediterranean, it completed only one successful mission, the raid on Naples.

Yet the British Intelligence Service saw the Mediterranean as a promising field of operations for airships. The role which the Royal Navy envisaged for airships was as scouts for German and Austrian submarines, guiding the U boats to their targets, inducing the convoys to scatter or shepherding them towards the submarines. Special instructions on how to deal with these tactics were issued to Allied Mediterranean convoys. Bockholt mentioned the valuable assistance which he could render the submarines in determining Mediterranean shipping routes in his proposal of December 16. However, he apparently did not mean that this should be done on a systematic basis, but rather he thought of it as an incidental benefit of other flights, just as he had reported the convoy he had sighted in the Karpathos Straits on his way home from Africa. The emphasis of his proposals to the Naval Staff and in the operations orders which were issued to Bockholt on the basis of them was on bombing operations. The Germans never attempted to combine aerial and submarine operations in the First World War. Insufficient range and endurance of the standard naval airship, unreliable communications and dependence on the weather may have accounted for this but even in the North Sea, where the proximity of the German bases minimized these shortcomings, there were few occasions on which fleet and airships cooperated in offensive operations. "L 59" never attempted to work with German and Austrian naval units and since its other successful operations were confined to a

single raid on Naples, the ship's presence in the Mediterranean theater of war made no discernible impact on the course of the war there.

If the operations of "L 59" had no impact on the course of the war, neither did they have any influence on the future development of military airship operations in Germany. The day of the German naval airship was almost over. For all practical purposes, the end came on August 5, 1918 when five airships crossed the North Sea to make a new attempt to bomb London. Strasser was on board "L 70", the navy's newest ship of an improved design. It was under the command of von Lossnitzer, a former aide to Strasser with comparatively little airship experience. He had been given command of the ship quite out of the normal order of seniority. As the zeppelins approached England, Strasser horrified his captains by sending out an overly long radio signal, long enough to let the British direction-finding stations get a fix on the approaching airships by radio triangulation. Strasser may have thought that the great height, 16,500 feet, at which his flotilla was approaching was sufficient protection for the ships. He had always seen altitude as the dimension in which the airship could outperform the airplane and find safety. However, the radio call was not Strasser's death warrant; a lightship had already spotted the zeppelins in the light of the setting summer day. Fifteen planes took off to meet them, three heading out to sea to try for an early interception. A De Havilland DH 4, a new light bomber which had been drafted into airship defense work because of its 23,000 foot operating ceiling, caught "L 70" and shot it down in flames before it reached the English coast. The remaining ships abandoned the raid. It was the last raid ever mounted by German airships. Strasser's energy and elan were lost to the service which he had created.

In the meantime, Claudius Dornier, one of Count Zeppelin's engineers, was developing flying boats which by 1919 could have taken over the reconnaissance and patrol work of the naval airships. The airship officers had been forced to the reluctant conclusion that the airplane had gained "temporary superiority" over the airship. After the war, the German army and navy made no further plans to use airships. The Treaty of Versailles, which had ended the war, forced the Germans to turn over all of its remaining airships, a few had been sabotaged by their own crews, to the Allies and forbade further construction of airships though this ban was later lifted. This Prohibition would not have stopped the Germans, had they wanted to develop military airships, anymore than the prohibition against constructing military aircraft had stopped Col. Thomsen from planning and developing a new airforce for Germany. The use of military airships ended when the Germans saw that the zeppelin was no longer needed to patrol the North Sea and that it was too vulnerable for military use. It was no longer a military asset.

The abandonment of the rigid military airship by the Germans did not end the military use of airships elsewhere. The United States and England, concerned with controlling the wide ocean spaces surrounding them, experimented with rigid airships as long range reconnaissance vehicles. They were, however, unable to develop them into sufficiently useful and reliable instruments. Non-rigid airships, however, fared better. Less spectacular than the zeppelins, British and French "blimps" and Italian semi-rigids, had enjoyed a great measure of success in the First World War, primarily in coastal patrolling and anti-submarine warfare. In pre-war Germany, Major Gross had experimented with small, non-rigid airships and Parseval had successfully built a number of semi-rigid craft. German officialdom, particularly Strasser, did not like them. The

Parsevals suffered the additional handicap that they required large amounts of rubber for their envelopes and rubber was in short supply in wartime Germany. They were also too small and fragile to serve as bombers, a role in which the zeppelins served until the end of the war. Whether the Germans would have been better off foregoing the zeppelin raids and using smaller and cheaper craft for patrol purposes is difficult to say. The cry: "Gott strafe England" (God punish England) was a powerful one and the zeppelins were the means to inflict this punishment. Even Ludendorff did not try to meet this argument when the admirals advanced it to counter his demand that the navy give up its airships. The threat of the zeppelin raids certainly required a large anti-aircraft establishment to be maintained in England but the lack of bomber airships might also have encouraged the army to put the far more effective "Gotha" bombers into service much earlier than it did. Perhaps the blimps were also too slow for tactical reconnaissance but whatever arguments may be made for or against the non-rigid airships, their potential was not developed in Germany. The Allies got good service from them. British ships flew over 11,200 missions in the First World War and the French flew 3,300. One British blimp, "NS 11", made a 101 hour flight in 1919, covering over 3000 miles, a respectable performance compared to that of "L 59". As if history had sought to repeat itself, "NS 11" later crashed in a thunderstorm with the loss of all its crew. The performance of blimps was further improved during the Second World War. They again served the United States Navy in fighting German submarines. They made 55,900 flights and escorted 89,900 vessels without losing any of their charges to the enemy. After 1945, the U.S. Navy built additional blimps for antisubmarine and early warning duties. One flew 7,000 miles non-stop without refueling during its eleven day journey. However, they too became

technically obsolete and after one of the blimps collapsed in mid-air in 1960, they were retired in during the next year. The last series of blimps built had attained a displacement 20% greater than Bockholt's "L 23", For German commercial airship operations, the "China" flight of "L 59" proved a great stimulus. It was a harder and more realistic test of the possibilities of using zeppelins for long distance overseas flights than "LZ 120" had provided. The record set by "L 59" was soon challenged. In 1919, the Atlantic was crossed by a dirigible, the English "R 34", though it had lost the honor of the first Atlantic crossing to Lts. Alcock and Brown and their Vickers "Vimy" aircraft. "R 34" had remained in the air seven hours longer than "L 59", The Germans, however, were rightfully able to point out that "R 34" was a faithful copy of one of the super-zeppelins which had been shot down over England. Before peace was formally restored, the Germans had already built two small, fast commercial zeppelins, "Bodensee" and "Nordstern" which they operated on a regular, scheduled service between Friedrichshafen and Berlin. However, these two ships shortly had to be turned over to France and Italy as replacements for the ships which the German navy aircrews had sabotaged after naval vessels, lying at Scapa Flow, scuttled themselves to avoid falling into Allied hands. Neither Italy or France made any use of the airships they had received.

Construction of the "Los Angeles" for the United States Navy kept the Friedrichshafen works alive and after the ban on the construction of airships by Germany was lifted in 1924, the Zeppelin Company laid down its 127th ship. It displaced 3,708,600 cubic feet, 50% more than "L 59". It had accomodations for twenty passengers. "LZ 127" was powered by five 530 h.p. engines which could use either gasoline or hydrocarbon gas. The latter had the same weight as air. As it was used up, the cells in

which it was carried could be refilled with air. This helped to solve the problem of how to keep the airship balanced as the consumption of fuel lightened the ship. In the days of "L 59", this could only be done by releasing precious lifting gas. The new ship carried a crew of seven officers and thirtyfour men, enough to allow a complete crew change every eight hours and provide the passengers with a commissary officer, a steward and a cook besides. On July 9, 1928, the ship was proudly christened "Graf Zeppelin". German airship navigation had been reborn and no more fitting name could have been given to the ship than that of the man who had nurtured an idea, conceived in a captive balloon over St. Paul, Minnesota, into a grand reality. "Graf Zeppelin" was one of the few exceptions to the rule that hydrogen filled, rigid airships could not Operate safely for long.³¹ During its life, it made 590 flights, including 144 ocean crossings, carried 13,110 passengers and 235,300 pounds of mail without the slightest mishap. Those who flew on the "Graf" described it as the most enjoyable form of transportation ever devised - quiet, smooth, retaining some of the charm of shipboard life and flying low enough so that the ground below remained real and alive and was not flattened out into the abstract, seemingly endless two dimensional pattern which passes below the air borne traveller today.

The success of the "Graf Zeppelin" led to the construction of the "Hindenburg". Germany was now alone in the field of commercial airship flight. Britain had tried and failed. Hoping that the rigid airship might knit together its farflung empire, England had embarked on an ambitious "Empire Communications Scheine", a network of airship routes reaching from London to Australia. Two large airships, "R 100" and "R 101" were built in 1930, but the badly constructed "R 101" crashed in France on its first operational

³¹ "L 14", the lucky ship of the German navy, made 526 operational and training flights during three years it was in operation.

flight. All but six of its fifty four passengers and crew died. With that, the British gave up the use of airships, civilian and military. In 1935, the crash of the U.S. naval airship "Macon" brought American rigid airship operations to an end.

The "Hindenburg" was completed in 1936. With a length of 803 feet and a displacement of 7,063,000 cubic feet, it was the largest airship ever built. Cruising at 78 m.p.h., its four 1,100 h.p. Mercedes diesel engines were capable of driving it at a top speed of 84 m.p.h. It could carry 50 passengers for a distance of 8750 miles. It began a regular transatlantic flight service. The eastbound crossing took on the average 65 hours. With the prevailing winds over the Atlantic being from the west, the homeward trip was made in 52 hours. On May 5, 1937, the "Hindenburg" was about to land at Lakehurst, New Jersey, to open the second transatlantic season, when the now famous tragedy occurred. Its hydrogen gas burst into flames and the ship crashed. A discharge of static electricity near a gas leak may have caused the loss. Thirty six passengers and crewmen died. Among them was Ernst A. Lehmann, once the commander of "LZ 120". The captain of the "Hindenburg", Max Pruss, formerly one of Baron Buttlar's helmsmen, survived.

Determined to end the ungovernable menace of hydrogen gas, the Germans built the next airship, a modified Hindenburg type, for helium operation. Helium was an inert gas which would not burn or explode. The United States, however, refused to sell helium to Nazi Germany and there was no other source from which the Germans could obtain sufficient quantities. Without helium, the new ship, the "Graf Zeppelin II" had to be inflated with hydrogen gas. It made only a few was found wanting in the scales of

commerce and technological progress buried the rigid airship in the crypts of history, the world is the poorer for no longer being able to see its majestic progress through the skies.

Finis.