

# Crossing Borders: Cartographic and Military Operations and the International Borders in the Libyan Desert before WW II

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## Abstract

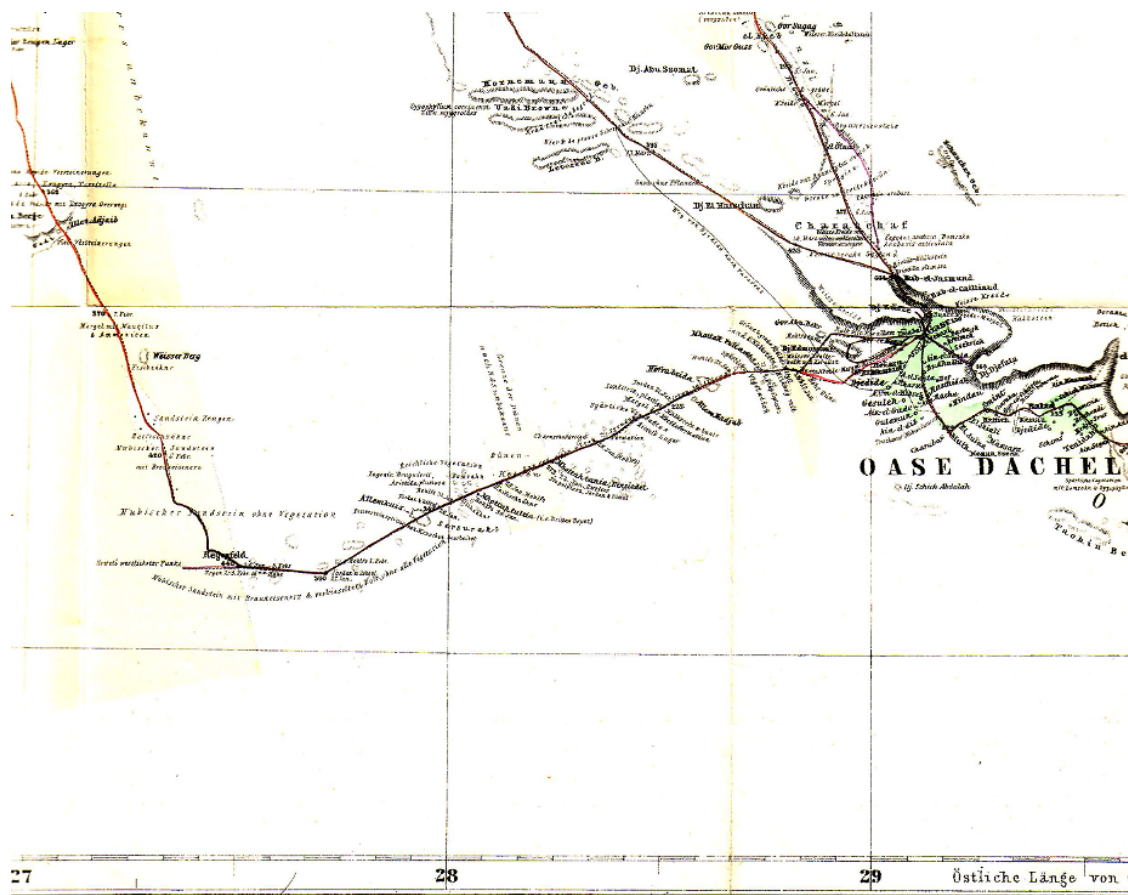
In the early 20th century the Libyan Desert in the Eastern Sahara was one of the largest blank spots on the modern world map. The harsh geographic conditions and the featureless terrain made traditional European surveys and cartographic representation difficult. Expedition maps remained important sources for cartographic and military intelligence after WW I, when the international borders were demarcated by colonial powers. This article examines the Italian mapping of the remote Kufra region in the 1930s in connection with contemporary desert expeditions. The unknown region was divided by the invisible international border. In search of the legendary Zerzura the real ‘English patient’ and companion explorers crossed that border. The topographic maps compiled by the Italian military and colonial authorities effectively supported imperialistic territorial claims and the Libyan-Sudanese border was changed in 1934. The topographic survey mission to the Uweinat Mountain remained an exception however, and the generally unreliable and inaccurate topographic maps of the region were not revised until WW II.

## 1- Exploring and mapping the Libyan Desert

The interior of the Libyan Desert remained unknown for so long because of the extreme climate and the rigid terrain. The major problem was drinking water which could be rarely found in the vast area. Therefore, for the traditional camel caravans continuous water supply was extremely difficult. Consequently, the regions beyond the range of camel remained

inaccessible until the introduction of the new expedition technology in the 20th century.

In 1873-74 Gerhard Rohlfs's large and well equipped German expedition visited and surveyed the westernmost Egyptian oasis, Dakhla. A novel method, terrestrial photogrammetry, was used here for first time by a scientific expedition (Jordan 1875). Rohlfs planned to traverse the unknown central part of the Libyan Desert to reach the more or less mysterious Libyanoasis, Kufra (Fig. 1).



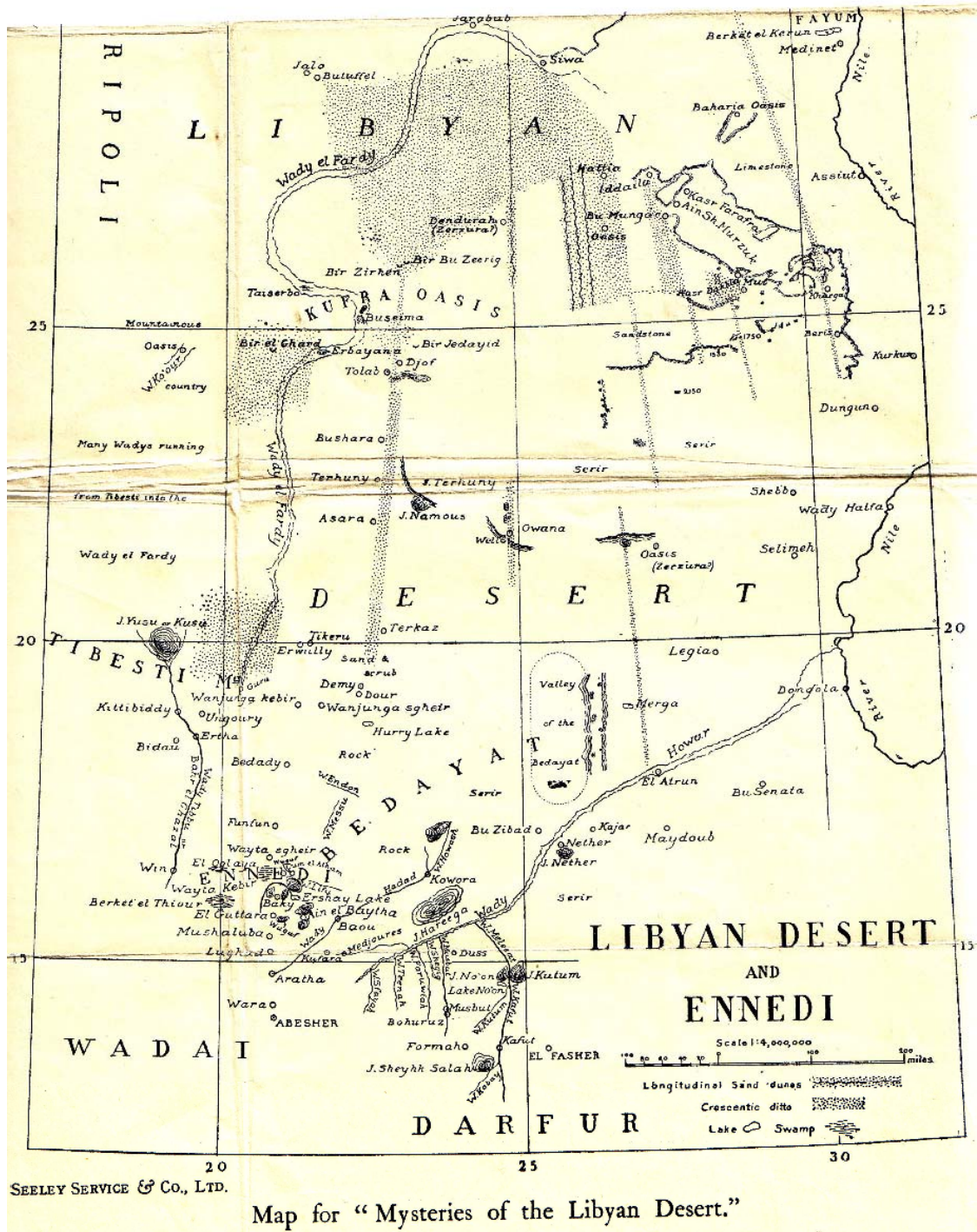
**Figure 1:** Detail of the map showing Rohlfs expedition's route with the turning point 'Regenfeld' (Rohlfs 1876)

At some point on the way towards the target in southwest he suddenly headed northwest, and marched to Siwa in Egypt. His large caravan was the first to cross the unexplored Great Sand Sea, but the project was not accomplished until 1879, when Rohlfs reached the Libyan oasis from Tripoli.

The failure was not due to the terrain or climate, however. Social and political conditions were also extremely hostile in the region. The Muslim religious movement, generally mentioned as *Semussia*, controlled the oases and the caravan routes in the Libyan Desert. The followers of the fundamentalist religious teaching resisted to Western civilization and fought against the British colonial army in the Sudan before their retreat to Kufra. In the 19th century this oasis was practically inaccessible to Europeans and the followers of the Great Sheikh did everything they could to hinder the progress of expeditions in their territory. Rohlfs and the other German scholars could feel the everyday suspicion and hostility of the local inhabitants and these circumstances may explain the reorientation of the expedition, which may have saved the life of its members.

In the early 20th century, the romantic English explorer, Harding King, with the support of the Royal Geographical Society in London decided to start searching for the legendary oasis, *Zerzura*. In Dakhla, the westernmost oasis in Egypt, he observed the migrating birds coming from the southwest with freshly eaten olives in their stomachs. Based on his experiments, he calculated the distance of his 'olive' oasis, and made three attempts to locate it. In 1911 he reached a point approximately 250 kilometres south-west from the oasis, but his camel caravan had to return because his native guide tampered with his water supplies. Harding King published his reports in the journal of the Royal Geographical Society and, in 1925, wrote a fascinating, even mysterious, book (Harding-King 1925). The map he constructed and enclosed to that was based on native information, an amalgam of geographical information of highly different reliability as it was distilled mainly from *lies*. In modern terms, it may be considered a *mental map*, constructed by a talented and experienced European explorer (Fig. 2).





**Figure 2:** Harding-King's 'mental map' of the inner part of the Libyan Desert (Harding-King 1925)

In 1911 Senussi militants regularly invaded the former Libyan and Egyptian territories of the Ottoman Empire. After World War I new Italian and British colonial powers, took over these possessions along the Mediterranean coast. The British military patrols, chasing the guerilla parties, have experimented first with a new means of transport, the

automobile. In 1917, the English director of the Egyptian Geological Survey, Dr. John Ball's motorized expedition discovered an ancient water depot west of Dakhla. In 1923, the Egyptian Ahmed Hassanein's caravan reached Kufra and he could even continue the caravan route further south towards Sudan. Hassanein, an Oxford graduate, was not European and kept good relations with the Senussia, so he could manage to re-discover and determine the position of the Arkenu and the Uweinat mountains (Hassanein 1925).

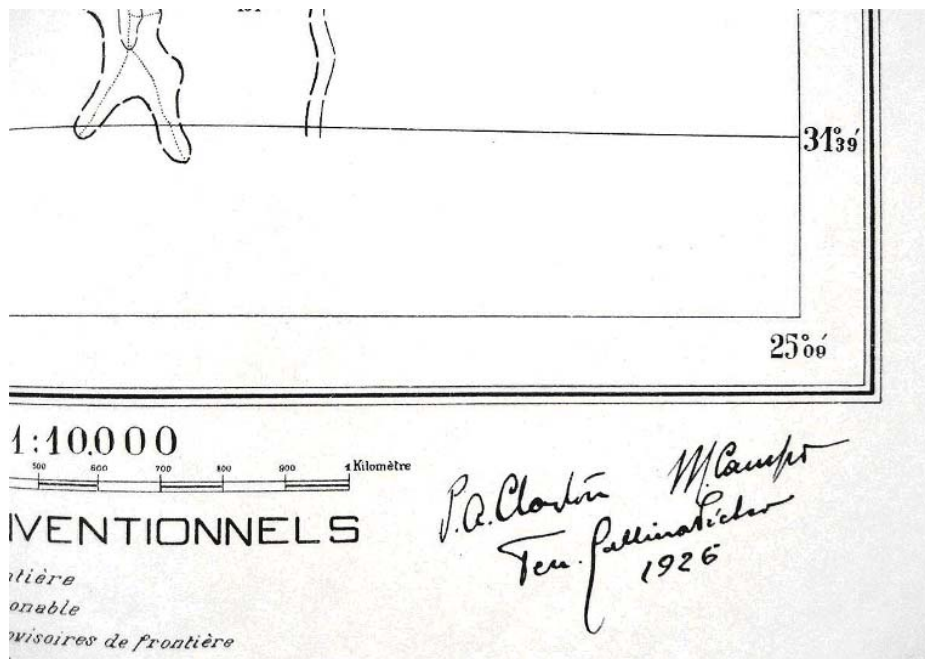
The greatest figure of Egyptian desert exploration was Prince Kemal by Din, who applied modern expedition technology and used caterpillar Citroën motorcars in the desert. From 1924, accompanied by Dr. Ball, he made several long-distance exploratory journeys in the interior of the desert. From the Egyptian side he managed to reach Uweinat Mountain; and in 1925, to north-east from here, he discovered the huge sandstone plateau Gilf Kebir, the Great Wall. The report of his expeditions, including route maps, was published in a French geographical journal and became available for the international public.

## **2- Demarcating the international border in the desert**

Ottoman Egypt was occupied by the British colonial army in 1882, and then the country remained under protectorate until 1914, when the country became independent. In World War I the coastal strip of Libya, belonging to the Ottoman Empire, was occupied by Italy. However, in the new situation the international border between the new countries became a political and cartographical problem. The vagueness of the borders between the two provinces was traditional. In 1841 the order of the Sultan on the borders of Egypt referred to a map hanging in the office in the Grand Vizier. This map was, however, not published and was found in Constantinople only when the borders were defined by international treaties. The treaty between Egypt and Italy was signed on December 6, 1925, and was revised in the following year.

Starting from Sollum at the coast the border was demarcated in two successive sessions: in May-June, 1926 and in February-April, 1927. It must be emphasized here that the actual demarcation extended only to the northernmost, about 350 kilometer-long section of the border. From the southernmost border point the international border was simply *drawn* on

paper along the 29th meridian East of Greenwich until the 22° Northern latitude. The point of the intersection with the Sudanese border in the south fell in the Uweinat area.



**Figure 3:** Detail of the map enclosed to the report of the border demarcation commissions with the signatures of the surveyors. Author's photo.

The Egyptian border demarcation commission was lead by Patrick Clayton, an experienced surveyor and cartographer of the Desert Survey. The commander of the Italian party was Captain Campo the military topographer was Lt. Gallino(Fig. 3). Both commissions used cars: Clayton the Desert Survey's new Ford, which was guarded by the motorized desert patrol; the Italian party's four Fiat lorries were escorted by fifteen Italian 'mecharisti' on camelback. The two commissions got on well with each other during the missions and, although they worked separately, cooperated as well. To calculate accurate geographical position the English Clayton used a radio to receive time signals from Cairo. The Italian report mentioned this method and did not forget to add with some proud that they used Marconi's invention for astronomical position determination. Along with the one dozen astronomical points, closer to the seacoast they could already use the fixed points of the Egyptian triangulation chain, which was developed there by Clayton in the previous year. At about at the same time, the southern border between Egypt and Sudan was surveyed by Lewellyn Beadnell.

At Williams Pass in the Great Sand Sea a 600 meter-long base line was measured, and a graphic triangulation network was developed to the 29°



15' north latitude. The temporary marks were placed along the border line according to the terrain and visibility requirements. Actually, the border markers were slightly displaced, although their position difference did not exceed 150 meters.

The demarcation commissions prepared a detailed report, which was reproduced in limited numbers by the Survey of Egypt. Each report was numbered and signed by members of the commissions. The border markers, altogether 178, were represented on a 1: 250 000 maps with lettering in French. The northern, coastal area was depicted on more detailed, 1: 10 000 scale topographic maps. The maps were authenticated by the handwritten signatures of the surveyors.

### 3- The 'English Patient' in Italian Libya

The character of 'Count Almásy' in the film 'The English Patient' was based on a real person. László Ede Almásy (1895-1951) ([Fig. 4](#)) came from a noble but untitled Hungarian family. Almásy led expeditions that were part test-drives and part safaris in Egypt and Sudan. In 1929 with two cars he journeyed across east Africa, the Sudan, and Egypt. In the course of this 12,000-kilometer trip Almásy, accompanied by Prince Ferdinand von Liechtenstein and the Austrian film maker Rudi Mayer, rediscovered an old caravan path - the *Darb el Arbain*, or Road of Forty - the ancient trade route connecting Egypt and inner Africa (Almásy 1935).



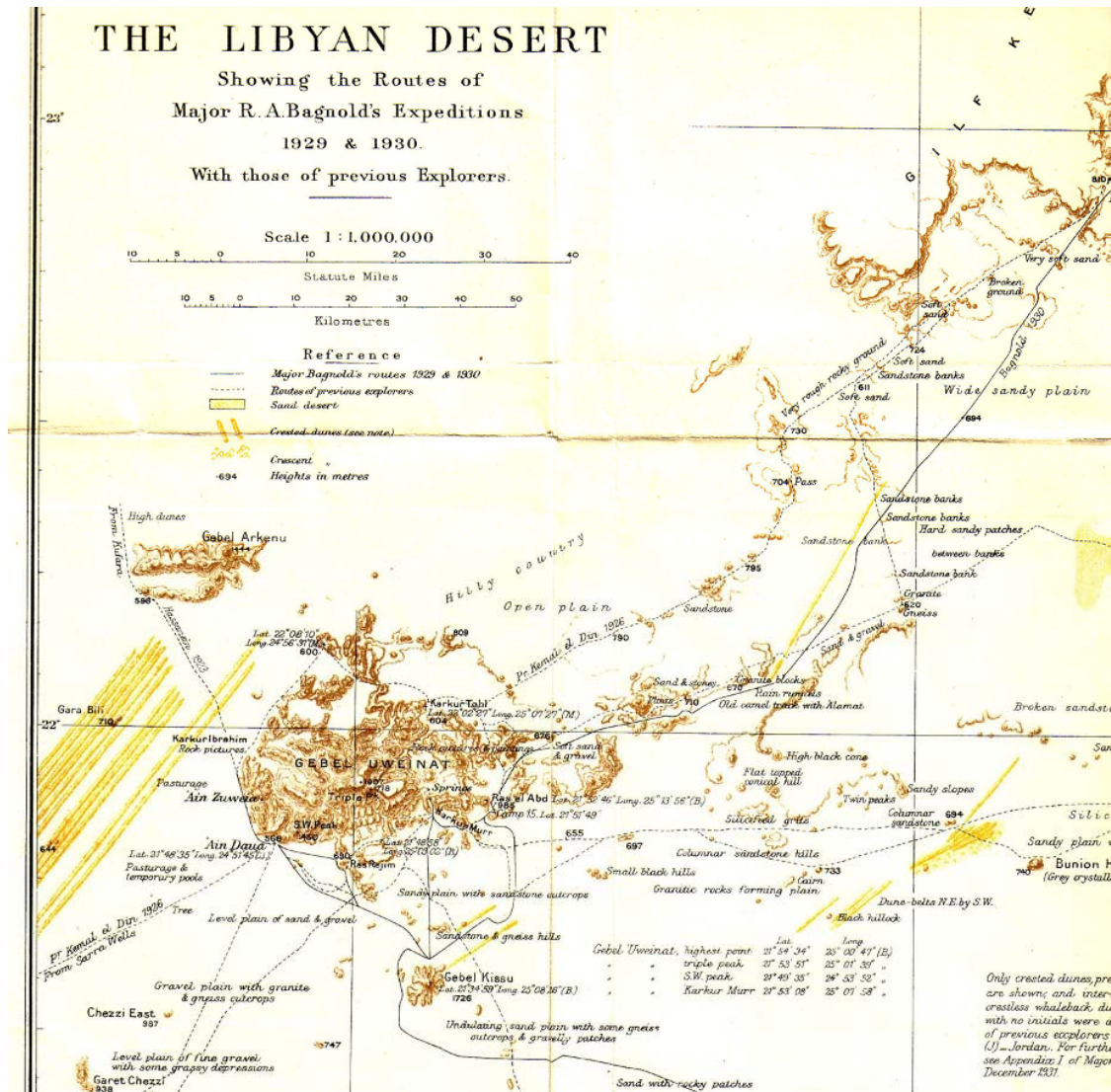
**Figure 4:** László Ede Almásy in front of the Grand Hotel in Khartoum, Sudan in 1929. Courtesy of Kurt Mayer Film, Vienna.

During this expedition Almásy fell in love with the immense desert. The story about the lost oasis of Zerzura, mentioned in a medieval Arabic manuscript written for treasure hunters (Johnson 1930), particularly lured him. Sir John Gardner Wilkinson in 1818 also heard about Zerzura from the inhabitants of the Dakhla Oasis in Egypt and recorded it in his writings (Wilkinson 1835). In the period of the scientific cartography of the Enlightenment, the critical method of the eminent French geographer D'Anville resulted in huge blank spaces on his 1747 map of Africa. These empty spaces were to be filled by route surveys of new expeditions which were practically the only source of information. The Napoleonic topographical survey of Egypt by the French colonial army did not extend to desert areas, and vast areas remained unmapped during the ensuing century (Godlewska 1988).

By the time Almásy entered the world of Zerzura seekers in the early 1930s, only the innermost section of the Libyan Desert had remained unmapped. Automobiles made it possible to explore those unknown territories. In those years, using specially equipped Fords, the English officer Major Ralph Bagnold, and his companion explored enormous tracts of the Libyan Desert. Despite special efforts the British could not find the lost oasis. The map showing the routes of Bagnold's 1929 and 1930 expedition routes was the best expedition map of the region. 'Owing to unforeseen delays in receipt of material' the large sheet was published in *The Geographical Journal* as an appendix, but half a year later than the paper it illustrated (Bagnold 1931b: 525) (Fig. 5).

The mapping of the 'blank spot' required unusual cartographic solutions to the problem of presenting *nothing*. Bagnold's map was filled with detail, but these minor remarks and notes would certainly be ignored by any compiler of a geographical map on a scale of 1: 1 million. Cartographers would not depict topographic features such as a '*dead camel*' on a normal map. In lack of conventional signs, the map includes textual notes as the graphic language of European geography apparently became insufficient to represent the '*flat featureless sand plain*', in other words the 'nothing'. The map makers, in order to avoid the blank spaces syndrome, created a *scientific illusion*. They represented blank spaces but their scientific technical context already suggested the whole territory had been surveyed. Map spaces were left blank as results of the process of survey and map construction, and now they became evidences of the scientific method. What to represent when nothing was found, was indeed a serious cartographic problem.





In the following year a young English baron, Sir Robert Clayton East-Clayton, joined Almásy's quest. His plane '*Rupert*' (type Havilland Gipsy Moth I) figured prominently in the expedition. Wing-Commander Penderel of the Royal Air Force and Patrick Clayton of the Desert Survey, were the other British members. Their presence indicated growing interest of British intelligence in the region. Almásy, who was always practically penniless, had to cooperate with Egyptian governmental and military organizations, who returned his service with granting permission and providing the expedition equipment and vehicles. In 1931 the Italian colonial army occupied Kufra and any journey into the Uweinat region became highly important source for British intelligence.

In 1932 the Almásy-Clayton expedition reached the western escarpment of the Gilf Kebir when they run out of supplies. On April 27 Almásy undertook a dangerous trip across unknown territory to fetch water and petrol from the nearest oasis, Kufra. His arrival surprised the Italian officers of the colony.

Almásy's unexpected visit proved that the desert was not impassable and called military attention to border conflicts. However, he was warmly welcomed and guided round the colony by the Italian commander, Major Ottavio Rolle. Almásy returned to the expedition camp on the following day and learnt that his companions' reconnaissance flight was successful. On May 1 they also located another *wadi*. However, despite Almásy's efforts, they could not find the entrance and the expedition eventually ran out of petrol and water and had to return to Cairo, where they announced the discovery of the 'lost oasis'.

Unfortunately, Almásy lost his supporters, both Prince Kemal el Din and Sir Clayton, in late 1932. Early 1933 Patrick Clayton, while surveying the Great Sand Sea could make a detour, and explored both valleys. He then returned to Cairo, where he met Lady Clayton, Sir Clayton's young widow, and together they visited the valleys again.

Meanwhile, Almásy was having difficulty raising money. His international expedition did not set out until March 1933, along with Wing-Commander Penderel (RAF), Arnold Hoellriegel (penname, actually Richard Bermann, an Austrian journalist), Hans Casparius (a German photographer), and László Kádár (a Hungarian geographer). They mapped the southern and eastern sides of the Gilf Kebir, and discovered the *Aqaba Pass*, the Gap, notched between two sides of the plateau.

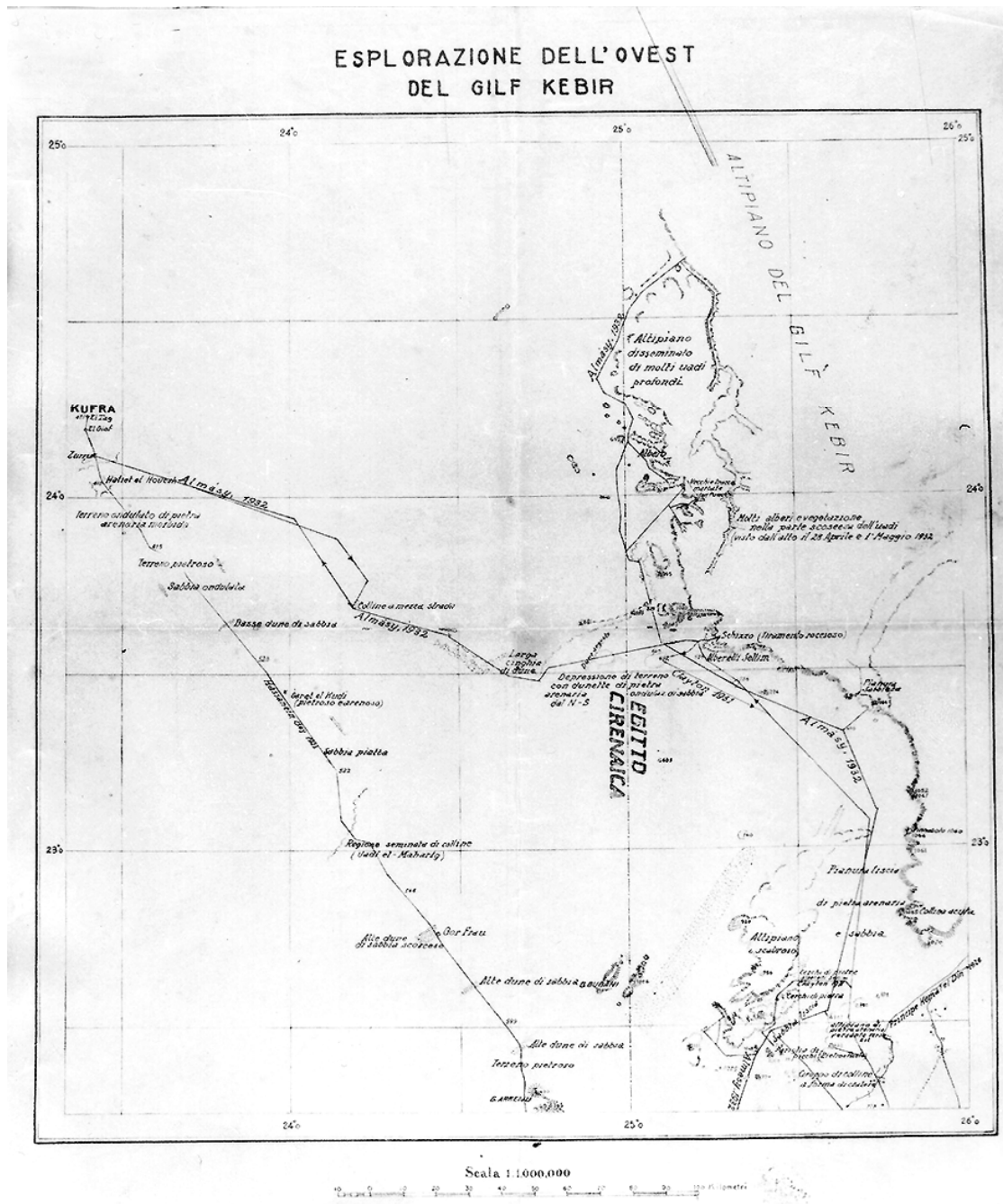
On April 17, 1933 Almásy's expedition arrived at Kufra *again*, just missing the British expedition which had left on the same morning. Despite all the problems and this disappointing news, Almásy did not give it up. He managed to get information from a native *Tebu* guide that convinced him there was a third, undiscovered wadi in the Gilf Kebir. From Kufra, Almásy led his expedition to the western side of the Gilf, where he discovered the third valley. After this success, they drove to *Ain Dua*, a well in the Uweinat Mountains. They could find an Italian military patrol camping there and the scientific expedition of Lodovico Caporiaccio. In Italian territory discovered Almásy the prehistoric rock paintings of antelopes, giraffes, and even swimmers, the historic evidences that the Sahara had not always been a desert.

## 5- Cartography and intelligence

The 1933 Almásy-expedition was closely escorted in Kufra by the Italian military intelligence officer. A few days after their departure the officer sent a secret report to Rome, with minute details of their visit. The paragraph mentioning expedition route maps is worth attention as it explicitly refers to some expedition map that Almásy had promised and eventually gave to the Italians. The report says the map showed the exact location of the valleys discovered in the Gilf Kebir, however, its cartographic value should not be overestimated (Fig. 6).

Actually, already in November 1932 Major Rolle's military expedition followed Almásy's path to the Gilf Kebir and the Italians also visited the valleys on Egyptian territory. In general, however, the expeditions' route maps were important sources of geographical information and this fact explains why colonial and military authorities showed special interest in them. The expedition maps and survey documents Almásy and contemporary explorers produced in the field became substantial documents for mapping projects of very different nature.





**Figure 6:** Italian military sketch representing explorations in the western Gif Kebir. (Institute and Museum for Military History, Budapest, author's photo.)

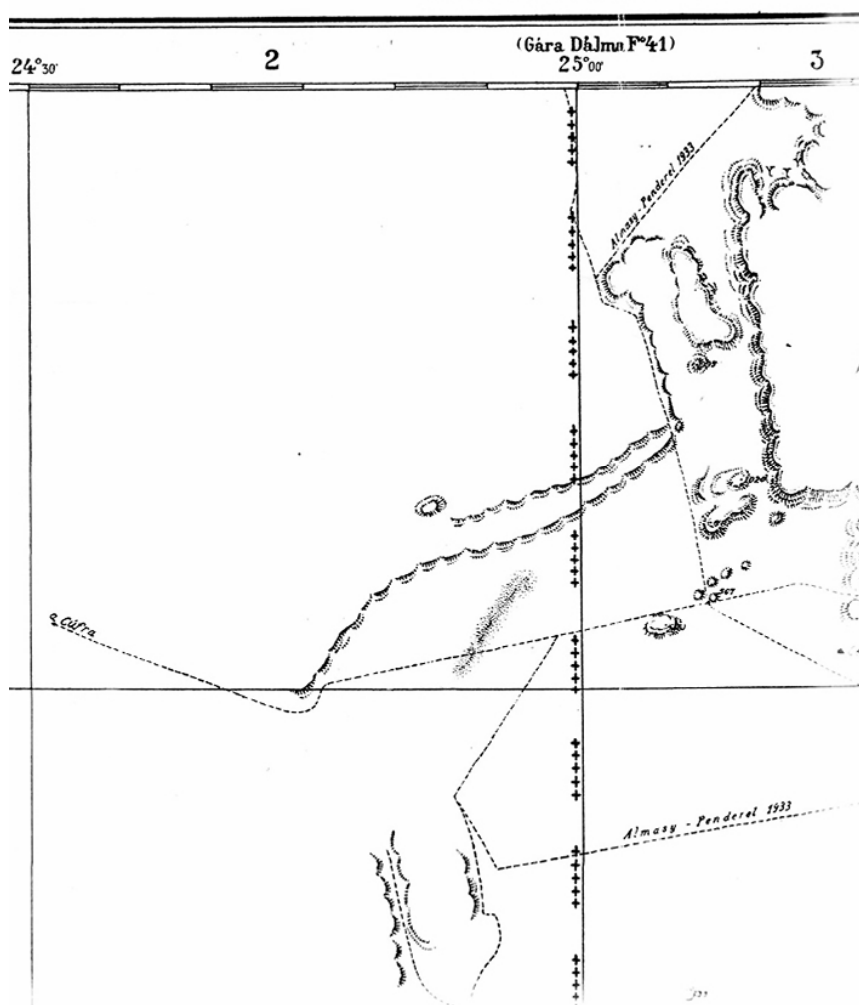
The Istituto Geografico Militare in Florence and Colonel Enrico Agostini and his colonial cartographers at the Uffizio Studi in Benghazi closely cooperated in the production of the topographic base map of Italian Libya. The study of the sheets of the 'Carta dimostrativa della Libia' series reveals that the representation of the Kufra region on these topographical map sheets was based on the contemporary expedition route maps like the one Almásy gave to the Italians in 1933 in Kufra.



This cartographic document could be very similar to the Italian military sketch, found in the collection of the Military Historical Institute and Museum in Budapest. The 1: 1 million scale sheet is a compilation, and was based on British material. The geographical name 'Kufra' on the map, instead of the Italian form 'Cufra' is a clear evidence for this. However, the material used is nothing to do with intelligence and romantic spy stories. The source is the report on the 1932 Almásy-Clayton expedition, which was published in *The Geographical Journal* with a map (Clayton 1933).

## LIBIA

## ÀRCHENU



**Figure 7:** Detail of the 1: 400 000 Italian topographical map sheet A'rchenu with the routes of the 1933 Almásy- Penderel expedition (1934)

To include the strategically important oasis, not represented on Clayton's sketch, the map was extended, a little more than half a degree, to the west. In the additional strip another important map element could be plotted,

namely Hassanein's 1923 track, leading from Kufra to Uweinat. The third element the Italian map compiler added to his source is the representation of the international border between the colony Cirenaica (from 1932 Libia) and Egypt. In contrast, it must be noted that the British map in the *Geographical Journal* does not show any border in the region. Apparently, the British still considered the desert open space. Its content is reflected on the 1: 400 000 Italian topographic map sheet A'rcheni, where the expedition route crossing the international border and the 'Almasy-Penderel' note still appear (Fig. 7).

## 6- The Uweinat border problem (1934)

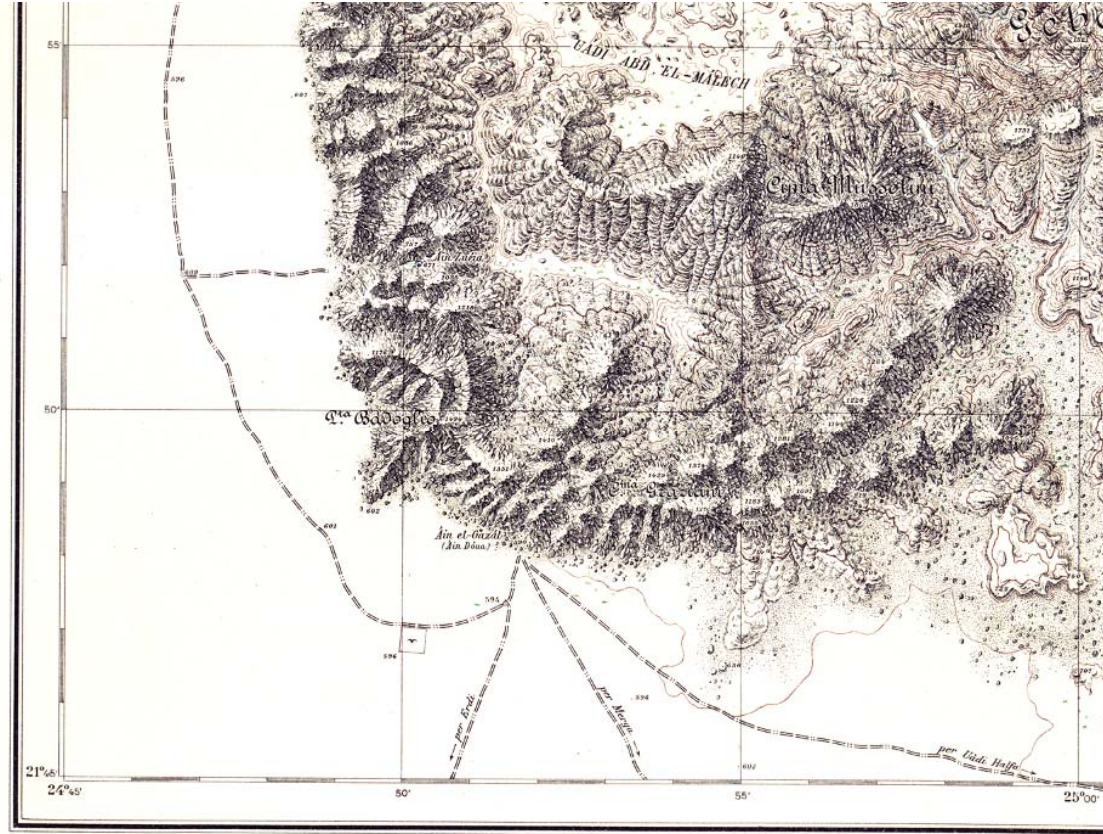
The international border between Egypt and Sudan was delimited by British colonial authorities in 1884. The 22° northern latitude was not a natural border and Anglo-Egyptian Sudan traditionally included the Sarra triangle (around the Sarra well) in the southern part of Libya. To counterbalance the French influence west of the river Niger the Sudanese colonial forces occupied Eastern Sudan in 1898. According to the 1919 Anglo-French Convention the international border could be differently interpreted, especially because the agreement was not represented on an official map. Italian claims also referred to the tradition and this vagueness.

In 1932 Bagnold and his British expedition met and dined on a friendly footing with an Italian party at the Sarra well. In April 1933, first Patrick Clayton, and shortly after the Almásy-Penderel expedition, visited Kufra. The second visit to the oasis convinced the Italians that Almásy was an English spy. At the same time, for the same reason, he became even more suspicious to the English military intelligence in Egypt.

The Zerzura expeditions foreshadowed the possibility of enemy operations. This explains why special surveying parties were sent by the Italian army to Uweinat and the Gilf in 1933. In that year, when Almásy visited Ain Dua again he found there an Italian military post (Almásy 1935, 1939, 1997). Among the officers was Captain Marchesi of Kufra. His staff of Italian military topographers surveyed and mapped the important border region.

The 1: 100.000 topographic map of Uweinat (Fig. 8), one of the most beautiful products of Italian military cartography, was published by the

Istituto Militare in Florence. This map was based on actual topographic survey and is in sharp contrast with the compiled map sheets of low accuracy and reliability. However, as soon as they were published in the official series, the difference obscured and went unnoticed by the users.



**Figure 8:** Detail of the map of the Uweinat, surveyed by the Italian topographic mission (1: 100 000, Istituto Geografico Militare, 1934)

By 1934 the political issue had escalated and the international border was no longer a line on paper. In November 1933 Almásy's archeological expedition returned from the desert to Wadi Halfa and reported a *permanent* Italian military post at Ain Dua, Uweinat. Air reconnaissance during the year ascertained the Italian occupation at Sarra well, and airfields were marked on both locations. The British reaction was a similar demonstration of power: in January 1934 the RAF and Sudan Defense Force were ordered to occupy oasis Merga and Karkur Murr at Uweinat. Interestingly enough, in March 1934 both Italian and British officers met Almásy, whose archaeological expedition camped on the British side of the Uweinat.

On July 20, 1934 the Sarra triangle was eventually ceded to Italy in the Rome Agreement and the problem seemed to have been solved. It is worth

mentioning that the Italian topographic mission led by Oreste Marchesi marked the new border, the point of confluence a year earlier. The new border between Libya and Sudan was established by the border demarcation committees led by Colonel Agostini and Colonel Wyatt.

## **7- Enemy operations in WW II**

The political and military situation of the world was changing quickly. In 1939 Almásy had to leave Egypt, but by 1941 he was in the Libyan Desert again as General Rommel's desert expert. On the Allied side Bagnold formed the light car patrols of the Long Range Desert Group, including many former English explorers. Almásy's most famous mission was Operation Salaam, in which he took two German spies from Libya through Allied lines to Egypt in 1942. His war diary of '*Operation Salaam*' is kept in the Imperial War Museum in London (Almásy 1997). The description of the route of the special unit includes many references to desert navigation and maps. Almásy complained about the 'useless Italian map' and on his return journey, already in Libya, but still behind Allied lines, he ironically noted the 'blank Italian map' again and made a sarcastic remark in connection with the 'missed triangulation'.

## **8- Conclusions: new border and bad maps**

The new Libyan-Sudanese border was demarcated in 1934 by the topographers who previously surveyed and mapped the region. From this perspective the topographic campaign in the Kufra military zone can be interpreted as a possessive act. The earlier and contemporary expeditions apparently played an important role in the cartography of the region. Especially international expeditions were also interpreted as representation of enemy military and political interest in the colonial territory. On the other hand, route maps remained important sources and topographic map sheets were generally not based on actual survey. A remarkable exception is the 1933-34 mapping of the Uweinat region, which was closely related to Italian territorial claims and served the demarcation of the new Sudanese-Libyan border.





**Figure 9:** Detail of sheet 'Uweinat' of the 1: 1 million International Map of the World (Survey of Egypt, 1942 edition, author's collection).

In 1942, during WWII the sheet 'Uweinat' was published by the Survey of Egypt in the 1:1 million International World Map series (Fig. 9). Although the expedition routes in red are still emphasized, they are sharply cut by the strong, black signature of a new Egyptian-Libyan at the international

border. While explorers crossed the borders, the Italian and Anglo-Egyptian and Sudanese topographic map series constructed a new political-military space consisting of territories for colonial and military administration. The cartographic works related to the demarcation of international borders in the Libyan Desert demonstrate the geopolitical determinations of the cartographic discourse on power. For a few years explorers' tracks could cross the international borders in the field and on the map, but those virtual lines soon became more real and more permanent than any other dream of the imperial cartographer.

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