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NAZI MILITARY USE OF GERMAN CAVES, DR. BENNO WOLF AND THE WORLD CAVE REGISTRY PROJECT

Friedhart Knolle¹, Stephan Kempe², Luiz Eduardo Panisset Travassos³
¹ Editor, Verband der deutschen Höhlen- und Karstforscher e.V., Grummetwiese 16, D-38640 Goslar, Germany, knolle@t-online.de
² Professor, Institut für Angewandte Geowissenschaften, TU Darmstadt, Schnittspahnstr. 9, D-64287 Darmstadt, Germany, kempe@geo.tu-darmstadt.de
³ Professor, Graduate Program in Geography, PUC Minas, Brazil, luizepanisset@gmail.com

Dr. Benno Wolf was the mastermind of German speleology in the pre-World War II time, an eminent speleologist and an early activist for nature protection. He maintained international connections and was a honorary member of the British Speleological Association. Dr. Benno Wolf was also an instigator of the German cave registry and called for a uniform, systematic structuring of registry documents in 1923. In particular, Dr. Wolf possessed a valuable and extensive private library of cave literature that served him as the basis for his work on a world cave registry. This was to cost him his life as the transfer of the Nazi arms production into bomb-proof underground locations awakened the interest of the Nazi henchmen for his cave material. In spite of being a protestant, Wolf, of Jewish origin, was interned in the concentration camp Theresienstadt and died there in 1943. Long time forgotten, the most important German caving award today is named after Dr. Benno Wolf as a symbol of the troubled history of German speleology and environmental protection.

1. Introduction

"Those expert at preparing defenses consider it fundamental to rely on the strengths of such obstacles as mountains, rivers and footpaths. They make it possible for the enemy to know where to attack. They secretly conceal themselves under the nine-layer ground." (Tu Yu, A.D. 735 – 812; from Leith 2009).

Battles were fought in various geographical and geological settings since mankind invented arms (Underwood and Guth 1998; Rose and Nathanail 2000; Zeečević and Jungwirth 2007). In the course of World Wars I and II and the following Cold War, the role of Military Geosciences became more and more important.

According to Tietze (1993), Military Geography can be regarded as "Security Geography" and characterizes the simplest and most deep-seated relationship man has with his living space, the desire to protect it from other men or to aggressively acquire new land from other people. Understanding of terrain becomes in this instance a powerful weapon. Thus, Military Geography can be considered as a form of applied geography, understood here in its widest sense, including cartography, climatology, geology, geomorphology, geodesy, remote sensing etc. and the whole spectrum of human geography (Tietze 1993).

Military Karstology and Speleology play a special role in karst areas. Day (2004, 2010), Kranj and Travassos (2009), Travassos (2009), Lučić and Travassos (2010) and Travassos (2012) discuss examples of military use of karst and caves in Jamaica, Slovenia, Bosnia and Herzegovina, and other parts of the world. Since Military Geosciences started to develop, researching the underground cavities serving as potential shelters to regular armies, guerrillas, armament factories or storage and civilian population came into the military-strategic focus.

Osama bin Laden and the recent military actions in Afghanistan have brought into the public’s eye the landscapes, but also the geology and caves of this country. "Geology’s underlying role in recent events is particularly apparent because our adversaries have moved below ground. The military needs "geologic intelligence" on the locations and characteristics of caves, and on how resistant tunnel entrances may be to conventional and penetrating bombs. Geology has become particularly important in the search for Taliban and Al Qaeda forces in Afghanistan, where the U.S. Geological Survey (USGS) estimates there are more than 10,000 caves, both natural and manmade." (Leith 2009).

In Military Speleology, the role of caving clubs and cave registries is of interest. Much has been written on military geologists and their work, but the active or passive role of cavers and caving clubs and the use or misuse of their cave registries in Military Geosciences is often unclear. The secret services of many countries are active in collecting "Mil-Geo" and cave data (Knolle 2011). One of the most interesting and tragic cases of this kind is the speleological work of Dr. Benno Wolf, his life and his death in a Nazi concentration camp (KZ).

2. Who was Dr. Benno Wolf?

Benno Wolf was born 1871 in Dresden, Germany. He had Jewish ancestors but he and his parents — both physicians — were christened Protestants. Wolf studied law in Berlin where he also passed his state examination in 1895. In the same year he also obtained his PhD in Leipzig. In 1908, he became a judge at the district court at Elberfeld. Later on, Wolf moved to Berlin, where he functioned as a judge at the court Berlin II. From 1912 on, Wolf additionally worked for the Prussian nature conservation bureau with a focus on legal questions.

Since 1898, Wolf was intensively involved in caving and cave research and soon became a well known speleologist. Not only were his achievements in the technology of cave exploration noteworthy as being ahead of his time, for example in Slovenian vertical caves, where he was
member of the caving clubs Hades and Touristi Triestini, but he was also recognised as an authority in scientific caver research and had many national and international contacts.

In Berlin, Dr. Benno Wolf had attracted as an interdisciplinary net-worker a group of nature conservationists, geo and bio-scientists as well as patrons and supporters, and inspired them with his enthusiasm for caver research. He was present when the Hauptverband Deutscher Höhlenforscher (Main Association of German Speleologists) was founded in 1922 in the Steiermark (Styria/Austria). Dr. Wolf was even elected as its first Vice President. Back in Berlin he founded in addition the Gesellschaft für Höhlenforschung und Höhlenkunde Berlin (Society for Cave Research and Speleology Berlin) in 1923, Dr. Wolf was elected as the first secretary of the society (Wolf 1924). Its membership list is a venerable who’s-who of the speleological network that Wolf initiated, including such prominent names as Dr. Walther Arndt, Prof. Dr. Barsch, Dr. Kerd v. Bülows, Prof. Dr. Ludwig Diels, Prof. Dr. Paul Dienst, Prof. Fraatz, Prof. Dr. Götze, Prof. Dr. Otto Hamann, Dr. Max Hilzheimer, Prof. Dr. Krause, Prof. Dr. Paul Krusch, Prof. Dr. Georg Kyrl, Prof. Dr. Lehmann, Prof. Dr. Nölle, Dr. Werner Paeckelmann, Prof. Dr. Josef Pompecky (then 1st President of the society), Prof. Dr. Arthur Schlossmann, Prof. Dr. Walther Schoenenich, Dr. Walter Schröder, Dipl.-Ing. Friedrich Stolberg, Prof. Dr. Weissmer, Prof. Dr. Fritz Wiegens, Prof. Dr. Wurstorf, Prof. Dr. Ernst Zimmermann and institutions including the Zoologisches Institut und Museum der Universität Berlin and the Staatliche Stelle für Naturdenkmalspflege. Wolf had also won the support of sponsors and promoters such as the factory owner Heinrich Kortkamp and the factory director Ludwig Posselt. Even the cave administration of the Harz Mountains (Southern Harz Mts.) became a member, not knowing that the cave would be acquired later by the Nazi armament.

Dr. Benno Wolf was also an instigator of the German cave registry and had begun calling for a uniform, systematic structuring of registry documents in 1923. In particular, Wolf possessed a valuable and extensive private library of cave literature that served him as the basis for his work on a world cave registry - a project hardly thinkable today. This work was to cost him his life as the transfer of the Nazi arms production into bomb-proof underground locations awakened the interest of the Nazi henchmen for his cave material.

Wolf secured experts from home and abroad for the cave information project, obtained money for research purposes and published a first world-wide cave animal catalogue (Wolf 1934 - 1937, 1934 - 1938, 1939a, b, 1941).

After more than 21 years of professional involvement in Prussian natural conservancy he became a victim of anti-Jewish discrimination. 1933, Dr. Wolf avoided being expelled from the civil service by a timely resignation. Also in 1933, the well-known geologist and speleologist Walter Biese left Nazi Germany for political reasons and emigrated to Chile via Switzerland, because his life was believed to be in danger (Spöcker 1961).

Probably because of his many international contacts within Europe and overseas, and perhaps to give him some help against the Nazi prosecution, Wolf was named a British Speleological Association honorary member in 1936.

Wolf edited the Mitteilungen über Höhlen- und Karstforschung, the journal of the Hauptverband Deutscher Höhlenforscher, until 1937 and was the Chairman of the Hauptverband for many years. To avoid endangering the Association with too much political exposure, Wolf had turned the chairmanship over to his most active patron, the factory owner Julius Riemer, before it was too late. But of course everyone knew that Wolf was still the unofficial head of the German cave researchers (Kater 2006; Knolle 2012).

In May 1941, all German and Austrian speleological clubs were forced to merge and to form a "Reichsbund für Karst- und Höhlenforschung" in Salzburg. This new Reichsbund stood under the direct influence of the SS Ahnenerbe organisation. From now on Dr. Benno Wolf was left more or less on his own.

In order to confiscate Wolf's library of cave literature for the SS Ahnenerbe cave research institute and its armament goals, Wolf, aged 71, was arrested by the Gestapo on July 6, 1942, and deported on the 17th 'Ekselny Transport out of Berlin to the concentration camp of Theresienstadt. There he died half a year later, on January 6th, 1943, as a result of inhuman imprisonment (Stoffels 1995c). None of his cave research colleagues at home or abroad were able to help him - they did not even know where he was.

3. Underground weapon production

3.1 Natural Caves

From 1940 on, allied bombers flew first attacks on
German cities. From year to year these attacks became more massive and dangerous for the Nazi war production. As one of the answers to this situation, the military looked for bomb-safe shelters for their weapon production. In 1943, Hitler and Göring gave orders to transfer war technology into caves, cellars, and mining sites. Hundreds of potential caves and caverns were listed by geological and mining authorities and an underground reconnaissance was done in the entire German Reich area.

Three secret service reports, written after the end of war, give a profound overview of the Nazi activities in natural caves. In the three-volume report “German Underground Installations” (British Intelligence Objectives Subcommittee 1945) the projects were analysed and described. Vol. 1 reports on “Unique Design and Construction Methods”, Vol. 2 on “Adaptations of Existing Facilities” and Vol. 3 on “Installations of General Interest”. Nearly all projects were in artificial underground cavities. In Vol. 2 the Dechen Cave is mentioned (Nr. 50, S. 31): “An ammunition storage in a cave located in a hill on the north side of the Iserlohn-Lethmathe road. The cave is a natural, winding cavern with two entrances. The cave is extremely damp and has numerous stalactites and stalagmites. This cave was formerly a tourist attraction and is owned by Iserlohn Kreisbahn A.G.” (orthography slightly corrected).

Another report “Engineering Geology in Germany” (Joint Intelligence Objectives Agency 1945) contains four papers. Amongst others, the Mittelwerk-Nordwerk and Wollfhein projects in the South Harz area are described. The paper summarises: “Hills of anhydrite and gypsum seem to be almost ideal construction sites for large underground factories, both from the economic and military standpoint.” This is the reason why the Nazis concentrated so much of their underground weapon production in the South Harz area.

Most interesting under caving aspects is paper No. 4 „Source data for investigation of German and French underground factories.” In alphabetic order, underground production and storage sites are listed, among them (orthography slightly corrected):


- 83. Iserlohn/Letmathe. Map ref., 4416/Q2/9407. Reported ammo. dump in Dechen-Höhle Grotto north of Iserlohn-Letmathe road. Grotto has surface are of 60,000 square meters. Ref.: Fatherland No. 17.”

Another report “Underground Factories in Central Germany” (Combined Intelligence Objectives Subcommittee 1945a) describes 13 underground war production sites, most of them in the South Harz kurst area. Nr. 12 has five pages, accompanied by a cave map of Heimkehle Cave and an aerial photograph. It describes project AS, the production of airplane landing gears and tools by the Junkers-Werke in the Heimkehle Cave near Rottleberode: “This small factory is located in a natural cave which formerly had some reputation as a tourist attraction. Conversion of the cave to industrial use was seen to have involved leveling and flooring the cave with concrete, the erection of shops with walls of brick or precast concrete blocks, and roofed with wood and tarred paper; and the excavation of three short tunnels – all brick lined. The labour force for operating the plant numbered 650, of which 500 were employed on production. The monthly output was 250 – 300 undercarriages.” (orthography slightly corrected). This project was also called “Thyra-Werk” (Fig. 2).

Nearly 80% of the labour working here was forced labour. For more information on the situation of the cave today (Fig. 3), an interesting show cave again, see www.heimkehle-heimkehle.de. The cave contains also a small monument in honor of those who were killed there (Fig. 4).

In the end, natural caves proved to be not ideal for underground military production because of their moist air provoking corrosion, irregular shape, variable ground water levels, instable geological character, and their often remote location.

Figure 2. Aspect of Heimkehle Cave in WWII. From Baranowski (2000).

Figure 3. Heimkehle cave today. Photo Ernst Schuhose.
3.2 KZ Mittelbau-Dora

The underground concentration camp (KZ) Mittelbau-Dora became more widely known (www.dora.de). The secret Nazi “Mittelbau” in the Kohlenstein Mountain at Niedersachsen near Nordhausen (Thuringia) was probably the biggest underground war plant in 1945 worldwide – the entire tunnel system finally amounted to 120,000 m².

Following the allied attack on Peenemünde and its V-weapon production, this new plant in the South Harz karst area was installed in 1943 in a partly pre-existing and later on massively enlarged artificial tunnel system in upper Permian anhydrite (Werra Series). Exploration and geotechnical work was done by the pro-Nazi geologist Dr. Walter Schrödl.

At the same time, an above ground KZ, named Mittelbau-Dora, was built, in the first phase as a satellite camp of the KZ Buchenwald. In December 1943, the first three V2 rockets were completed, followed by 52 more in January 1944. Parallel to the V2 rockets, more plants moved underground to this place in the course of WW II, e.g. the Junkers Flugzeugwerke from Dessau. In 1943, this KZ registered 108 victims; however, this figure grew to 34,000 at the end of 1944. All inmates were forced to work under inhuman, horrible circumstances. It is estimated that about 20,000 of them were killed by labour or by violence of the guards.

Following the evacuation of the KZ in April 1945, US soldiers entered the tunnels and found the underground factory. Even though the existence of the Mittelbau tunnel plants had been detected by intelligence, the allied knowledge about Dora-Mittelbau was poor – at least up to the first big air attack on London. The Nazi “wonder weapon history” became widely known after 1945 by the US operations “Overcast” and “Paperclip” that implemented German rocket and missile knowledge into the US rocket program – personified by Werner von Braun.

Later on, the Red Army came to Thuringia and still found so much technical material and Nazi personnel, that this improved the USSR rocket program very effectively as well. Thus, world history was written in these anhydrite tunnels in the South Harz. A very small section of the tunnel system is open now for the public within a guided walk through the KZ area.

4. Post-1945

German cave research suffered tremendously under the Nazi’s political and military misuse of the discipline (Schaffner 1991; Stoffels 1995a, b; Kater 2006; Knolle et al. 2007; Knolle 2012).

In 1947 R.G. Spöcker initiated the foundation of a new and politically uncumbered German cave research society, the Deutsche Gesellschaft für Karstforschung. Spöcker was very adamant about dealing with the brutal and unjust events of the past; in one passage in the minutes of the founding meeting in Nürnberg from September 13, 1947, it states, “SPÖCKER thanks all those who were active in the society and recalls in particular those no longer living. Most specially, the President for many years, state district court Judge Dr. BENNO WOLF, Berlin, who died in the concentration camp Theresienstadt, Herr Prof. Dr. ARNDT, Berlin, who was executed by the henchmen of the Third Reich and the former Chairman Prof. Dr. HILZEHEIMER, Berlin, as well as all those who had to forfeit their lives in the war years. In honour of the dead the participants of this meeting will now rise.” (Spöcker 1947).

This new cave research society, however, soon faded away. The Verband der deutschen Höhlen- und Karstforscher e.V. (VdHK; www.vdhk.de), founded in 1955, did not initially come to terms with the past, but individual cave researchers repeatedly built on the work of Dr. Wolf.

In 1995, in Iserloh-Letmathe at the annual general meeting of the Verband and after years of research within the Society, Dr. Benno Wolf was unanimously honoured posthumously – 52 years after his death. The protocol records:

- Agenda Point 9: Motion to honour Dr. Benno Wolf

  Unanimously, the posthumous naming of Dr. Benno Wolf as honorary member of the Association was passed. These present rose from their seats to hold a minute’s silence for the cave researcher who lost his life in a concentration camp.

Agenda Point 12: Founding of a Dr. Benno Wolf Prize

It was unanimously voted to create a Dr. Benno Wolf Prize for outstanding research achievement (motion: F. Knolle, J. Obendorf, J. Götz and the association board).

With these decisions the VdHK finally honoured a person who, in spite of his great achievements for German and international cave research and nature conservancy, had been, up to then, almost totally forgotten.
5. Conclusions

Unfortunately, memorial work of Nazi victims in Germany is still incomplete. The Nazi offenders themselves were at first occupied with assisting each other in whitewashing their crimes. They repeatedly played down their involvement in the crimes and, where possible, withheld evidence. Many unpublished papers, incriminating documents and other objects of evidence, if not already deliberately destroyed during the war or at the end of it in 1945, were "lost" or have remained, until today, unobtainable.

The Verband der deutschen Höhlen- und Karstforscher e.V. itself was not innocent – recognising Dr. Benno Wolf and his work should have begun much earlier (Spocker 1986). An active Nazi, Prof. Dr. Gustav Rick, was even named an honorary member of the VdHK in 1968.

A look at historical publications since 1945 awakens the impression that cave researchers of Jewish ancestry like Dr. Benno Wolf have been "actively forgotten". We are confronted up to now with excuses, legends and prefabricated memory gaps – and in that way have provided us with the difficulty of having far too little evidence to contradict the fabricated tales of the Nazi generation.

Only three small caves bear the name of Benno Wolf. The Dr. Benno Wolf Prize has, however, developed into a successful memorial project and has also radiated into German nature conservation – the fate of Dr. Benno Wolf is now discussed more widely. The German Stiftung Naturschutzgeschichte (Nature Conservation History Foundation; www.naturschutzgeschichte.de) has become active and the German Bundesumweltministerium (Federal Ministry for the Environment; www.bmu.de) supported appropriate projects; see also Frohn and Schmoll (2006).

To honour Dr. Benno Wolf’s private initiative has laid a memorial plaque in front of his former home in the Hornstraße 6 in Berlin-Kreuzberg in 2005. These plaques have been laid by the sculptor Günter Demnig as slightly raised paving stones bearing the names of Nazi victims. On the brass name plates on the upper sides of the paving stones the names and biographical data of the victims as well as date and place of deportation are engraved.

Another memorial plate ("Berliner Gedenktafel") was installed in 2008 at the Haus am Kleistpark, where Wolf’s natural conservation working place was from 1912 to 1933.

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