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AN EL DORADO FOR STONE AGE EXPLORERS

THE SWABIAN JURA
KURT WEHRBERGER

1 [The Bockstein cave in the Lone Valley. Watercolor from a publication by Ludwig Bürger, 1892](#) **2** [Oscar Fraas \(1824–1897\). Portrait from 1880](#) **3** [Robert Rudolf Schmidt \(1882–1950\), Founder and head of the Prehistoric Institute at the University of Tübingen from 1921–1929](#) **4** [The Hohle Fels in the Ach Valley in the 19th century. Wood engraving from a publication by Oscar Fraas, 1872](#)

“Humans – contemporaries of mammoths and cave bears!” This was a bold statement in the middle of the 19th century and often resulted in fierce discussions.

In Southern Germany, the geologist and paleontologist Oscar Fraas (1824–1897) was first able to prove the coexistence of humans and Ice Age animals through the discovery of a reindeer hunting camp near the source of river Schussen on the banks of the Federsee marsh in 1866. In 1861, Fraas had discovered similar evidence at a cave in the rocky massif of the Hohlenstein in the Lone Valley. In his eagerness to search for the remains of cave bears – he reported 10,000 bones from 400 animals – he missed the carefully produced tools and pieces of jewelry, fashioned

by human hands. Later, Fraas returned to the Lone Valley and recovered numerous overlooked artifacts from the previously excavated sediments. In the following years, specialist and interested layman sought out additional caves; one of these was the Hohle Fels in the Ach Valley. The cave deposits contained a large amount of bat dung which was sold as fertilizer

(“Swabian Guano”). The bear bones that were found during this harvest were sold to collectors. Excavations in the cave in 1870/71 by Fraas together with the preacher Theodor Hartmann (1829–1885) brought to light a large amount of ice-aged animal bones as well as tools and jewelry made out of stone, bone and antler.





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In 1883/84, the forest ranger Ludwig Bürger from Langenau (1844–1898) excavated the Bockstein cave in the Lone Valley with similar success. The discovery of the grave of a woman and a child in the Bockstein cave sparked a severe dispute. Well-known scholars declared that the grave was recent and it was not until 1997 that scientific dating methods were able to place the time of death into the 7th millennium B.C.

In 1906, Robert Rudolf Schmidt (1882–1950), the later founder of the Institute for Prehistory (Urgeschichtliches Forschungsinstitut) at the University of Tübingen, explored the Sirgenstein cave in the Ach Valley – in the 15th century, the Dominican monk Felix Fabri from Ulm had described the cave as the home of Cyclops. Schmidt first recognized that the superimposed sedimentary layers represented a sequence of prehistoric cultural horizons. Exemplary for the caves of the Swabian Jura, he correlated these with the Paleolithic cultures of France. Although later excavations worked to correct this picture, parts of his system are still valid today. The prehistoric archaeology of Central Europe still utilizes French terminology to describe past cultures. Thus the culture from the begin of the Upper Paleolithic, the Aurignacian, is named after the find site Aurignac in the foreland of the Pyrenees.



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[5 Southwest entrance to the Vogelherd cave](#) [6 The Sirgenstein in the Ach Valley](#) [7 The mammoth, one of the most famous ivory figurines from the Vogelherd cave. Drawing from the publication by Gustav Riek in 1934](#) [8 Vogelherd. The southwestern entrance at the start of the excavations in the summer of 1931](#)

In 1908, Schmidt, after undertaking sample excavations at the Bockstein cave previously explored by Bürger, excavated at the Kleine Scheuer, a rockshelter between the Stadel and the Bärenhöhle at the Hohlenstein in the Lone Valley. The late glacial layers, excavated subsequently in small campaigns at last in 1974, brought to light a rich faunal assemblage with more than 30 different species of animal that document the climate change towards the end of the Ice Age. In 1913, excavations at the Kogelstein near Schelklingen in the Ach Valley unearthed evidence of a Neanderthal resting place. New excavations carried out by the State Office for the Preservation of Historical Monuments in 1987 and 1996 identified the site as a collapsed cave.

1931

FANFARE AT THE VOGELHERD

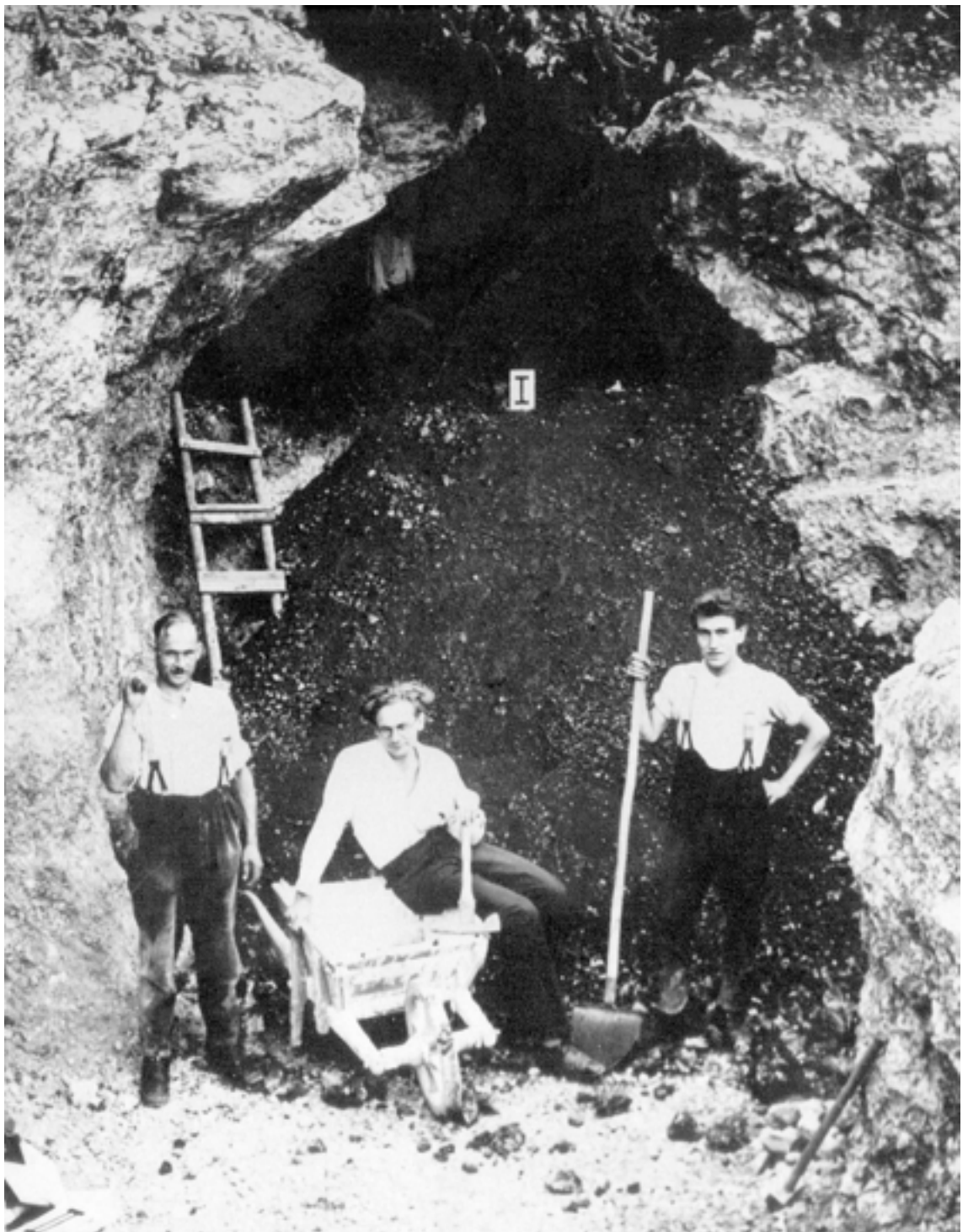
In 1931, a badger's burrow led to the discovery of a so far unknown cave. The expelled sediments contained flint splinters, which caused the geologist Gustav Riek (1900–1976), at this time assistant at the Institute for Prehistory at the University of Tübingen, to excavate the entire cave within three months. The small ivory figurines that he discovered in the layers from the early Upper Paleolithic caused quite a stir. Riek recovered about a dozen fragmentary figurines depicting ice-aged fauna such as mammoth, wild horse and cave lion. It was the first time that excavations of the Swabian caves recovered evidence for artistic expression of the highest quality except of the typical weapons, tools and jewelry. The remains of two human skulls were originally believed to be as

old as the other finds, however, recent scientific dating methods proved that they were only a few thousand years old and originate from an occupation of the cave during the Neolithic.



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After excavating the Vogelherd cave, Gustav Riek also explored the Burkhardtshöhle at the northern ridge of the Jura (1933/34) and the cave ruin Haldenstein near the source of the Lone River (1936). In 1932, the anatomist and prehistoric explorer from Tübingen Robert Wetzel (1898–1962) started excavations at the Bockstein massif in the Lone Valley. He uncovered a resting





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area from the era of the Neanderthals, ca. 60,000 years old, called Bockstein-schmiede, located near to the Bockstein cave. After this success, Wetzel moved 2 km down the valley to the Hohlenstein where he systematically excavated the Stadel cave from 1937 to 1939 after a sample excavation in 1935.

AFTER THE WAR IN THE ACH AND LONE VALLEY

Cave archeology on the Swabian Jura was put on hold during World War II and in the postwar period. It wasn't until the mid-fifties that Gustav Riek and Robert Wetzel recommenced their work. Riek transferred his focus to the area around Blaubeuren in the Ach Valley where he consequently excavated the Brillen-

höhle (1955–1963) and the Große Grotte (1959–1964). The Brillenhöhle, named after two collapsed holes in the cave ceiling, contained multiple layers from the Upper Paleolithic; the Große Grotte contained finds from the era of the Neanderthals. Riek also undertook smaller excavations at the Hohle Fels and the Helga-Abri (1958–1960) located to the west of this cave.



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Wetzel continued working at the Bockstein in 1953. He wanted to realize his vision from before the war: To reconstruct the history of a small region, in this case the Lone Valley, through the past tens of thousands of years. Although he was not successful, the collaboration with different scientific disciplines – geology, botany and zoology – to clarify climatic and cultural developments during the last Ice Age, was progressive for the time period. While excavating at the Bockstein, Wetzel also turned his attention to the caves of the Hohlenstein. From 1954 to 1961 he conducted annual explorations, with the exception of the year 1958, of the Stadel cave. He also explored the Bärenhöhle during this period. With Wetzel's death in 1962 also came the temporary end of archeological exploration in the Lone Valley.



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PILOT PROJECT GEIßENKLÖSTERLE THE PATH TO MODERN CAVE ARCHEOLOGY

The excavation of the Geißenklösterle cave from 1974 to 1991 under the direction of Joachim Hahn (1942–1997) set new standards for excavation techniques, documentation and analyses. The cave ruin is located 60 m above the Ach Valley floor and was first identified as a prehistoric find site in 1957. Picks and shovels were a thing of the past! Hahn adapted the French, more precise methods of excavation: Thinner layers were removed using smaller tools and following natural sediment strata, the excavated surface was divided into square meters, the square meters into quarters, and the resulting sediments were washed and sieved. These methods allow the excavator to recognize small archaeological finds that are not always visible at first glance as well as the bones of smaller animals that found their way into the cave without human help, e.g. through the pellets from birds of prey.

While working at the Geißenklösterle, Hahn completed his excavation of the Helga-Abri and, in 1997, more than 100 years after Oscar Fraas, began exploration of the Hohle Fels cave. These excavations have continued since then under the direction of Nicholas J. Conard from the Institute for Prehistory at the University of Tübingen.

[9 Gustav Riek \(1900–1976\)](#) [10 Große Grotte with the medieval castle ruin Hohengerhausen \(Rusenschloss\) at the eastern rim of the Blaubeuren basin](#)
[11–14 Bockstein 1956. Excavations with heavy machinery on the ridge below the Bocksteinschmiede. Photos from Robert Wetzel's diary](#)



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Neue Höhlen ausgegraben

Tübinger Urgeschichtler suchen nach weiteren Zeugnissen der Eiszeitkunst

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15 Excerpt from an article from newspaper *Südwest Presse* from June 3rd, 2013 **16** Geißenklösterle, ivory figurines (mammoth, bear, bison) and mid-relief, L max. 6.7 cm **17** Prehistoric cave find sites on the central Swabian Jura

Alongside his research at the Hohle Fels, Conard undertook new archeological excavations in the vicinity of the Vogelherd cave in the Lone Valley since 2005; the campaigns lasted several weeks and took place annually until 2012. The goal was to reanalyze the sediments from Riek's 1931 excavation; as a result, numerous previously overlooked artifacts were recovered. The Hohlenstein had not been the focus of archeological research since Robert Wetzel's last excavation in 1961 – with the exception of a sample excavation at the Stadel cave in 1983 and smaller explorations below the cave entrance and in the floodplain in 1997/98. Archeologist turned their attention to this cave as a result of the preparation of an application to have the four "Swabian" caves with Paleolithic art added to the UNESCO World Heritage List. Claus-Joachim Kind from State Office for the Preservation of Historical Monuments Baden-Württemberg directed the new excavations at the Stadel cave between 2008 and 2013.

FORGOTTEN AND BURIED CAVE EXPLORATION IN THE LONE VALLEY

"Somewhere near the Hohlenstein rock lies the Teufelsloch or Teufelsküche, a cave that we haven't been able to locate". In fact, years after this note in a description of monuments from 1961, it has not been possible to identify which

of the numerous small, nameless rock openings or rock shelters in the Lone Valley is this cave, named by Oscar Fraas after he found numerous flint splinters there during prospects in the 1860s. Some believe that the cave is located southwest of the Hohlenstein, others believe to have identified its location to the southeast of the rock massif.



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