

THE CAVE OF FONTÉCHEVADE

Recent Excavations and Their
Paleoanthropological Implications

Philip G. Chase, André Debénath,
Harold L. Dibble, and Shannon P. McPherron

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This book provides a summary of the discoveries made during the course of excavations at the Paleolithic cave site of Fontéchevade, France, between 1994 and 1998. The excavation team used modern field and analytic methods to address major problems raised by earlier excavations at the site from 1937 to 1954. These earlier excavations produced two sets of data that have been problematic in light of data from other European Paleolithic sites: first, the Lower Paleolithic stone tool industry, the Tayacian, that differs in fundamental ways from other contemporary industries and, second, the human skull fragment that has been interpreted as modern in nature but that apparently dates from the last interglacial, long before there is any evidence for modern humans from any other site in Europe. By applying modern stratigraphic, lithic, faunal, geological, geophysical, and radiometric analyses, the interdisciplinary team demonstrates that the Tayacian “industry” is a product of site-formation processes and that the actual age of the Fontéchevade I fossil is compatible with other evidence for the arrival of modern humans in Europe.

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To the memory of Antoine Debénath

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Foreword

Anta Montet-White

In 1994, the authors of this book undertook new excavations at the Cave of Fontéchevade, a site best known for its human remains and the uncommon artifact assemblages recovered by Germaine Henri-Martin in the 1950s. Henri Vallois attributed the skull fragments to an early form of *Homo sapiens*, which he designated as presapiens, and the artifact assemblages associated with them were labeled “Tayacian” by Henri Breuil, who had also confirmed the relatively early (interglacial) date based on faunal association. Henri-Martin’s interpretation of the cave as a campsite marked by the presence of large hearths was supported by observations and arguments in line with accepted views of her time. However, progress in recovery and analytical techniques and changes in perspectives and theories lead present-day researchers to challenge earlier findings and sometimes overturn the interpretations proposed by previous generations of archaeologists. The latest work at Fontéchevade is a vivid illustration of this process.

Discovered at the end of the nineteenth century, the cave was first excavated in the years before World War I, and although visited occasionally by professional archaeologists, it was abandoned to looters for some 20 years before becoming Germaine Henri-Martin’s research focus in 1937. She worked at the site off and on until 1955. The site was then considered closed until the new team, whose results are described in this monograph, decided to undertake a new series of investigations. In short, there have been three distinct episodes of active fieldwork at Fontéchevade, each one reflecting the resources, technical capabilities, and concerns of its time.

Before World War I, the field of Paleolithic archaeology in France was dominated by a small number of professionals, but it also welcomed a large number of amateurs, as the many discoveries of the late 1800s and the archaeological exhibits presented at world's fairs had excited considerable public interest. Centers of systematic research began to develop in several regions. Peyrony, Breuil, and Capitan focused on the Périgord and the Pyrenees. The Charente received recognition thanks to the work at La Quina of Germaine's father, Léon Henri-Martin (who was born Henri Martin but changed his name to Henri-Martin). Regional and national *sociétés savantes* published the latest findings, which were presented at regular meetings. The pioneer work of Breuil and Peyrony focused primarily on the temporal ordering of cultural stages defined by specific assemblages of bone or stone artifacts. Their writings remain the best testimony of research at the time.

At the same time, geologists, other natural scientists, and educated amateurs, among whom were medical doctors, teachers, and priests, surveyed and collected artifacts and often engaged in the excavation of cave sites. There was little control or restriction, other than securing the permission of the landowners. The collected artifacts were considered the property of the excavators and/or the landowners, and private collections multiplied. The sites were often excavated rapidly and completely, the objective being to procure collectible items, while other bone and stone artifacts were discarded. For example, the Saint-Périers, amateur archaeologists with a great deal of field experience, dug a trench through the Fontéchevade Cave in one day; they then abandoned the site, which they judged to be without interest. Artifact assemblages were sometimes sold but often ended up in small museums with little or no provenance or context information. Some researchers presented summaries to local or regional *sociétés savantes*, but there again the proportion of published results was small indeed. Few followed the example of a Denis Peyrony.

Durousseau-Dugouthier did extensive work in the Fontéchevade Cave between 1902 and 1910, collecting series of artifacts and bone, but he kept no notes. Vallade, who followed in 1913 and 1914, did keep some records, but his concern seems to have been to identify cultural layers on the basis of index fossils. He was content to bring some support to the classification and ordering of Paleolithic manifestation proposed by Breuil. Between them, Durousseau and Vallade

emptied the cave of all visible layers that contained Mousterian and Early Upper Paleolithic assemblages.

Gemaine Henri-Martin's work was of a very different nature. She was a musician by vocation who came to Paleolithic archaeology somewhat reluctantly to maintain the research lab founded by her father at Le Peyrat and to continue the work he had engaged in the region; it was from him that she received most of her training. She maintained contacts with professionals in a determined effort to keep up with progress in the field. She sought the advice and collaboration of other researchers, most noticeably that of Henri Breuil, who was the recognized authority in the field. He was the one to whom she turned to corroborate her interpretation of the lowermost material, recovered under the Mousterian. She was quick to consult Henri Vallois for the analysis of the human remains.

Working in what was decidedly a man's world, she sought continued support and frequent and regular exchange of ideas with women who were active in the field. Among her closest friends were Suzanne de Saint-Mathurin, an erudite amateur archaeologist who discovered the sculptured friezes at Angles sur l'Anglin, and Dorothy Garrod, a professional noted more especially for her work at Tabun (Israel) and Bacho Kiro (Bulgaria). Garrod spent a considerable amount of time at Le Peyrat making use of the comparative collections stored in Henri-Martin's laboratory. Henriette Alimen inspired much of the research done on site formation and sediment analysis that became a major section of Henri-Martin's published report.

In her introduction to that report, Henri-Martin (1957) acknowledges the financial support that she received from state organizations. Compared to modern project budgets, the sums she had at her disposal were minimal, being only enough to compensate one, sometimes two, laborers for a few weeks and to purchase essential equipment or provide protection to the site. She had no crew, working by herself except for the occasional help of neighbors and students. She worked at sites located near her house, as a bicycle was her only mode of transport. Similar situations prevailed at most of the sites I visited in the early and mid-1950s, including Combe Grenal, where Bordes was working, and even more so at Caminade, where Denise de Sonnevile-Bordes was excavating. The field school at Arcy-sur-Cure was something of an exception, as it had a relatively large crew of student volunteers. It is perhaps worth mentioning that, in spite

of very limited resources, F. Bordes and A. Leori-Gourhan, each in his own way, managed to reinvent excavation methods, developing and enforcing standards that were to transform the field. By the late 1950s, the situation had evolved, and some projects at least enjoyed financial support that enabled them to accommodate larger teams of students. However, Henri-Martin's excavations had closed by then.

Her excavation techniques were much improved compared to those of her predecessors at the site. Yet she did not keep up with the dramatic changes introduced by the new generation of professional archaeologists who transformed the field in the late 1940s and early 1950s. She was cognizant of the changes in excavation and recovery techniques but continued to practice methods learned in the 1930s. She discussed grid systems, the use of Cartesian coordinates to locate artifacts in situ, and other related topics with her friends and with students she encountered. She did divide the site into sectors, and eventually, in an effort to follow the new guidelines, she established a grid. Yet, she recorded exact coordinates only in the case of unusually important items. Her concern was to identify and follow natural stratigraphy, but she was most comfortable working on a slant rather than a vertical exposure. She kept careful notes of daily progress, but provenance information was limited to unit and level. She did, however, under Alimen's influence, engage the collaboration of many specialists who provided sediment analyses that were then up to date. And to her credit, she completed and published a detailed report of her work.

The work of Chase, Debénath, Dibble, and McPherron belongs to a completely different era. The project, conducted in the 1990s, almost 50 years after that of Henri-Martin, was well funded and well staffed, as modern projects tend to be. The excavation methods they introduced or developed are at the cutting edge of recovery techniques. More important perhaps, the problem orientation and the whole theoretical framework within which their archaeological fieldwork operates have been completely transformed. They started out questioning every conclusion proposed by Henri-Martin: What part did natural processes play in the formation of the site of Fontéchevade? Are the chipped stones human-made? Is the Tayacian a real variant of the early Middle Paleolithic? Are the proposed dates and interpretations acceptable?

Henri-Martin's interpretations may or may not withstand the test imposed by modern archaeology. However, one should remember

that the work she accomplished was a step in the development of our understanding of prehistory, and when viewed in the context of its time, her well-published contribution remains significant. And as the field is alive and well, current views may not, in turn, resist the scrutiny of future generations of archaeologists.

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PART I

INTRODUCTION, BACKGROUND, AND METHODOLOGY

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Introduction and Background

INTRODUCTION

This monograph reports on excavations carried out in the Cave of Fontéchevade (Charente, France) in the Universities of Pennsylvania and Perpignan from 1994 through 1998. The site had been excavated sporadically since the late nineteenth century, but is best known from the work of Germaine Henri-Martin (1957) conducted from 1937 to 1954. In total, these earlier excavations uncovered a very small Châtelperronian assemblage, along with an Aurignacian and Mousterian, all of which overlay a deep set of beds with a Tayacian industry. Bronze Age burials and occupation beds were also uncovered near the back of the cave.

The site of Fontéchevade has figured prominently in the paleo-anthropological literature for many years because of two principal discoveries made by Henri-Martin. The first was a portion of hominin frontal bone designated Fontéchevade I, which, because it lacked a supraorbital torus, appeared quite out of place for a specimen that was originally thought to date to the last interglacial. Taken together with Fontéchevade II, a partial calotte that displays a more archaic appearance, this specimen was used to argue for the existence of an independent *presapiens* line of more modern humans in Europe during the early Upper Pleistocene (Heberer 1951, 1955; Vallois 1958), an interpretation that conflicts with what is now known about the fossil record in France and the rest of Europe.

The second puzzle is the Tayacian, a rather enigmatic stone tool industry named after the village of Les-Eyzies-de-Tayac, which is near the site where the industry was first described (Bordes 1984).

However, the industry is best documented at Fontéchevade, which has become, though not the eponymous site, the *de facto*-type site of the industry. Like the hominin fragments, the Tayacian fits poorly with the rest of what is known about the lithic industries of the Lower and Middle Paleolithic of southwestern France. Given the nature of the industry, and the fact that it is often found in geological contexts that indicate considerable frost fracturing or sediment movement, the suspicion has gradually arisen that it is, in fact, less an industry than a product of taphonomic processes. As we report, that is the primary interpretation that results from the present research.

THE SITE AND ITS HISTORY

The site of Fontéchevade is located in the extreme eastern part of the Department of the Charente (Fig. 1.1) in the Commune of Montbron, immediately adjacent to the hamlet of Fontéchevade. Although the hamlet is located in the Commune of Orgedeuil, the cave itself is just beyond the commune boundary.

The north-facing cave (Fig. 1.2) opens onto the valley of a small unnamed tributary of the Tardoire. This stream is intermittent until it joins a spring about 100 m upstream from the cave. The Tardoire is a small river that eventually joins with the Bonnieure and flows into the Charente near the town of Mansle. Its valley contains several important Paleolithic sites. The small stream in whose valley Fontéchevade is located flows into the Tardoire opposite the site of Montgaudier (Bouvier, Cremades and Duport 1987; Debénath 1974; Debénath and Duport 1986; Duport 1969, 1976) less than 1.5 km from Fontéchevade. The caves of La Chaise (Debénath 1969, 1974, 1976; Schwarcz, Blackwell and Debénath 1983) are located only some 2 km down the valley from Montgaudier, about 2.7 km from Fontéchevade.

The external morphology of the cave is somewhat peculiar (Fig. 1.3). The overlying plateau forms a point jutting north into the valley, and it is at this point that the cave's mouth is located. The effect is that the sides of the cave are actually exposed to some extent. Since the initial formation of the cave, there has also been a gradual retreat of the dripline, which has left part of the lateral sides still standing outside of the mouth. Today, following Henri-Martin's excavation, which removed virtually all of the material outside of the dripline, one enters the cave initially within a kind of canyon and then proceeds ultimately to the cave itself.

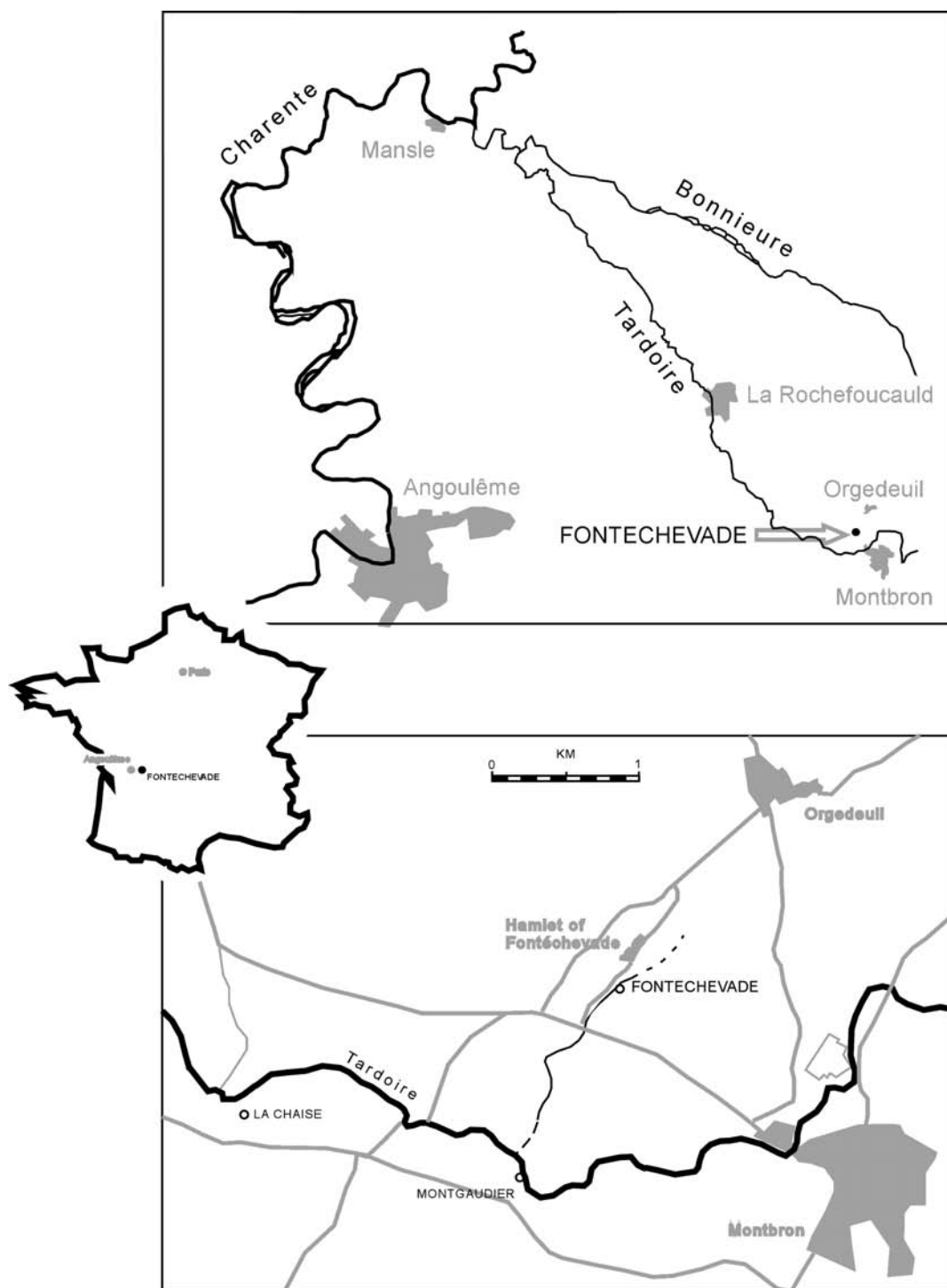


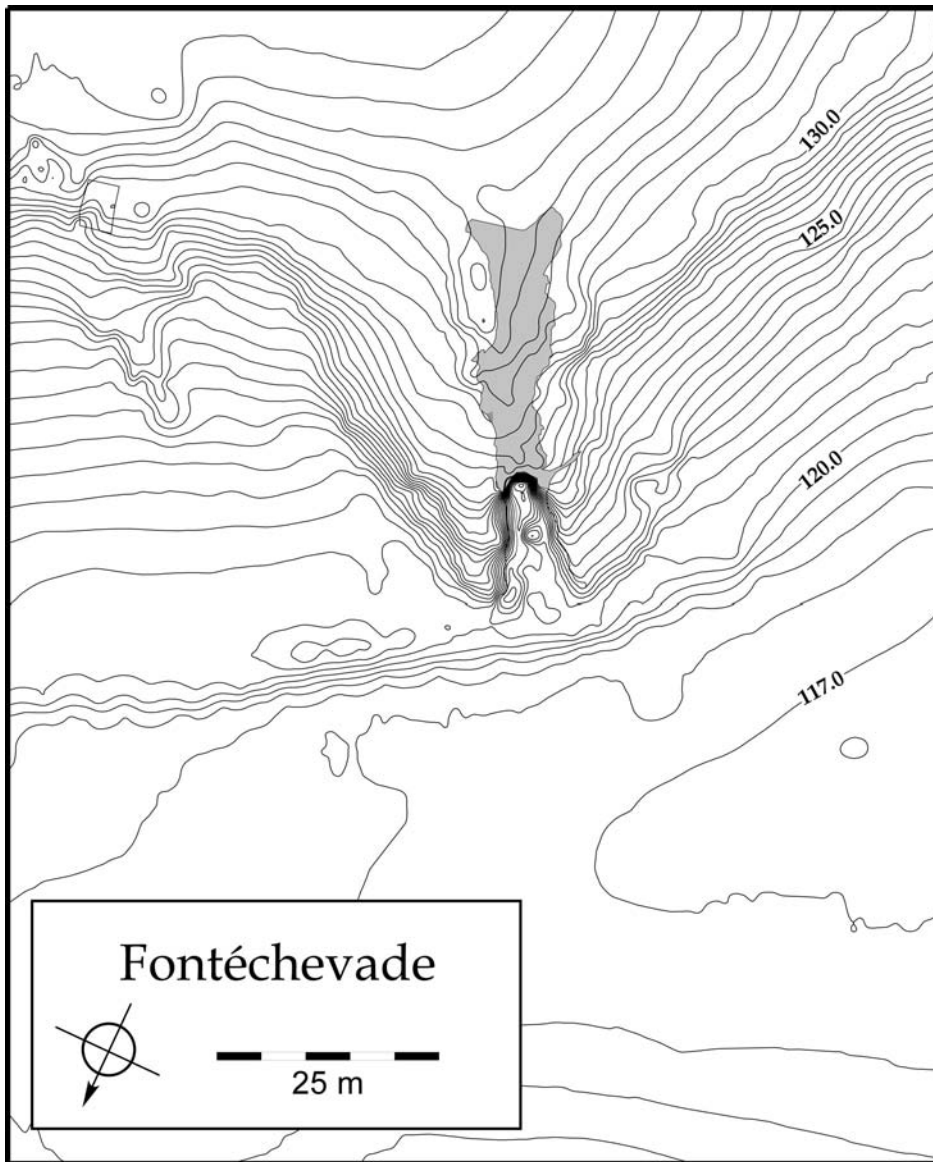
Figure 1.1
Map showing the loca-
tion of Fontéchevade.

Early excavations

The history of early excavations at the site is known primarily through the writings of Henri-Martin (1957:21–23, 36–39), who collected information about those who had worked at the site before her. The first of these was apparently a teacher at the Collège de La Rochefoucauld named Plaire. His excavations were described by a later excavator, Vallade, in an unedited manuscript given to Henri-Martin (1957:21–22). According to this manuscript and the sketch

Figure 1.2
Photograph of the mouth
of Fontéchevade Cave.





map of his excavations, Plaire excavated an area about 2 m in diameter directly in front of the dripline. The dates of his excavations are unclear, but may have been as early as the 1870s.

Plaire was followed by L. Durosseau-Dugontier, who excavated the interior of the cave in his spare time from 1902 to 1910. He found pottery and Aurignacian and Châtelperronian industries. He also found, according to Henri-Martin (1957:22), a human calotte and “some other human debris.” Eventually, the family of Durosseau-Dugontier turned over his collections to Henri-Martin.

Figure 1.3
Topographic map of the cave and its immediate vicinity.

More systematic excavations were carried out by Vallade in 1913 and 1914 and reported in an unpublished manuscript given to Henri-Martin. He excavated from about 1 m inside the dripline outward and apparently located the excavations of both Plaire and Dourousseau-Dugontier. His excavations were important because they produced the only conclusive evidence for the presence of Châtelperronian at the site (Henri-Martin 1957:209 and see Chapter 10). The great majority of the Châtelperronian artifacts recovered belong to his collections, which were given in part to the Museum of Angoulême and in part to a M. Lugol (Henri-Martin 1957:22), who lived near the town of Mansle (Charente). These collections were later studied by Henri-Martin herself. Vallade recognized three beds (Lower, Middle, and Upper) containing Châtelperronian, Aurignacian, and Gravettian, respectively. He also found a bed with unbroken animal bones marked by hyena teeth that Henri-Martin (1957:37) believed must have been a Mousterian bed.

Another pair of amateurs, M. and Mme. De Saint-Périer, spent a single day at the site in 1921, excavating a trench at the entrance to the site (Henri-Martin 1957:22). They recorded a stratigraphy that included a meter-thick Aurignacian “hearth.” Henri-Martin attempted a correlation between their reported stratigraphy and her own (Henri-Martin 1957:37–38). Later, P. David, a prehistorian who had worked many sites in the area during the course of his career, put in another series of test pits (David 1933).

Excavations by Germaine Henri-Martin

Henri-Martin began excavations at Fontéchevade in 1937 and continued until 1954, but with interruptions during World War II. She first excavated a series of test pits, and then, in 1946, she began major systematic excavations, which destroyed all traces of earlier excavations in or at the entrance to the site (Figs. 1.4 and 1.5). Because the finds from most of her test pits were eventually included with those from the later full-scale excavations, she did not report on their contents separately. Briefly, Test Pit 1, which was 3 m² by 3.8 m deep (Henri-Martin 1957:56–57), was located in the field approximately 10 m in front of the cave and was apparently sterile. Test Pit 2 was located directly in front of the cave and consisted of a trench 3.5 m wide by 4 m long by slightly more than 2 m deep that cut into the talus in front of the cave. This trench today is covered

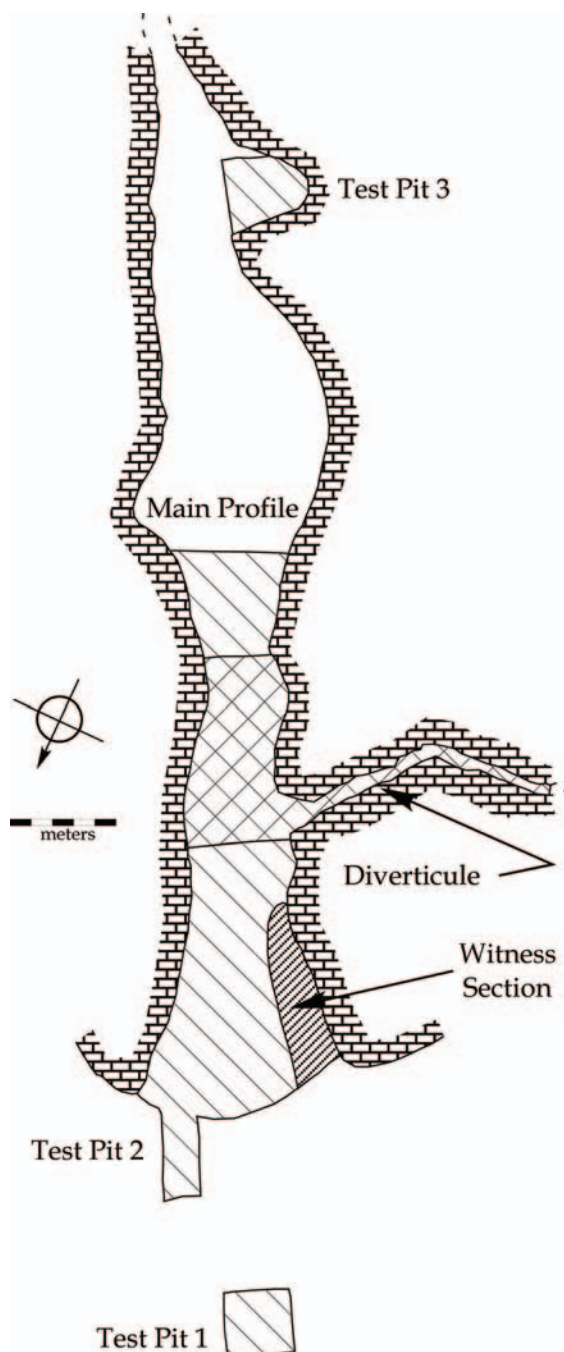


Figure 1.4
Plan view of the interior
of the cave indicating
areas of the cave exca-
vated. (Redrawn from
Henri-Martin [1957]
fig. 7.)

by a tractor road that passes directly in front of the cave. It, too, was apparently sterile (Henri-Martin 1957:57). Test Pit 4 was located 60 m east (upstream) from the cave, on the same slope into which the cave penetrates. It measured 2 by 1.3 m in area and 1.6 m in depth. This test pit does not appear on any of her maps or plans, but