

# The Silver Rush in Tuscany's Wild West

## *Medieval Archaeology in the Metal Hills*

BY GIOVANNA BIANCHI

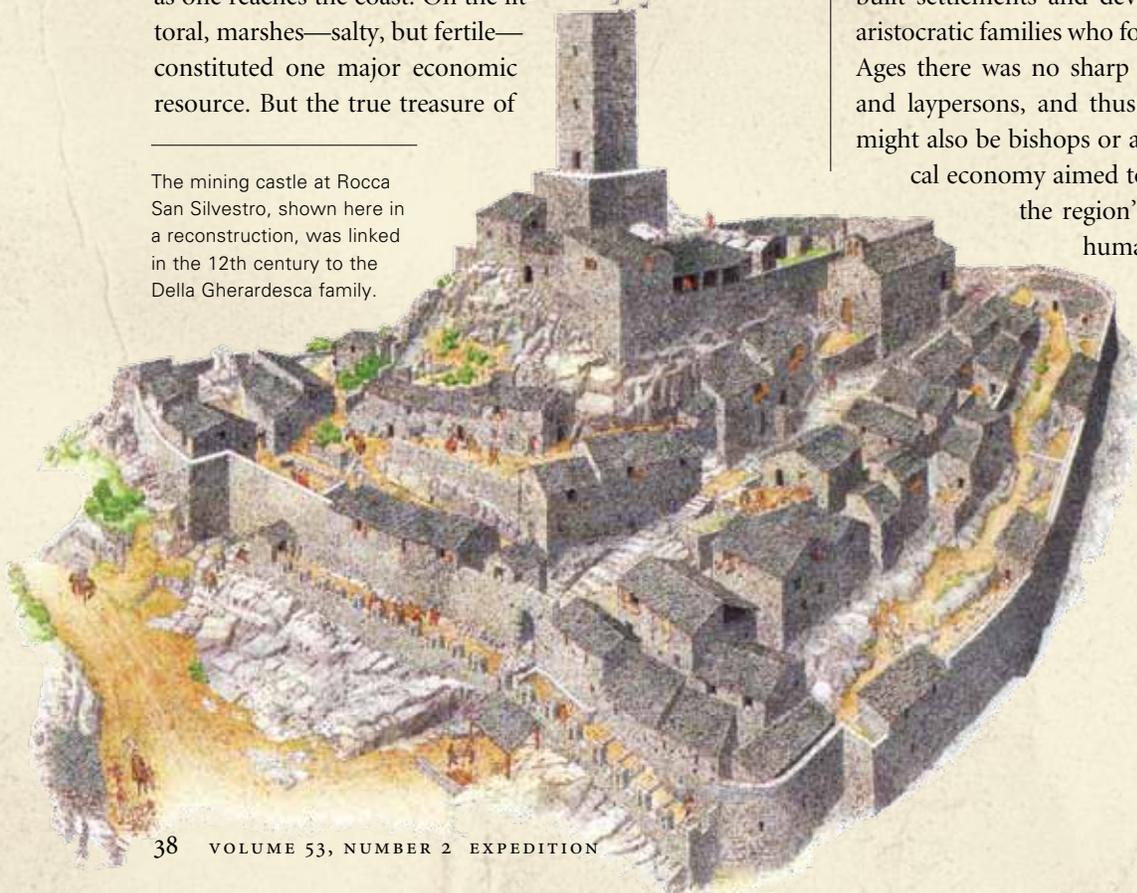
**T**USCANY IS NOT ONLY a land of gentle hills and Chianti-bearing vineyards. In the southwest is an area little known even by Italians, called the Metal Hills—the *Colline Metallifere*. It was described by Dante in the *Divine Comedy*, and even crossed, it is said, by Buffalo Bill in 1887, in response to a challenge by the *butteri*, the local Tuscan (Maremma) version of cowboys. This is not a world of cities. With only a few major urban centers, like the beautiful Massa Marittima, it is an area populated by fortified villages still preserving their medieval form. Between them lie dense woods and solitary valleys, against which rise the steep mountains that diminish only as one reaches the coast. On the littoral, marshes—salty, but fertile—constituted one major economic resource. But the true treasure of

this region is underground, where the earth is packed with major mineral resources: iron, copper, lead, and silver.

Silver was the most precious mineral of the Middle Ages owing to the fact that, in the 8th century, Charlemagne decreed the switch from gold to silver coinage, a change which was adopted in 781 in his Italian kingdoms. Silver thus became the principal material for money coined in the mints located in the major Italian cities. From the 9th through the 13th centuries this region, today isolated and far from the peninsula's major communication networks, became one of the central places of medieval Italy. It was here that the era's major political actors focused their gaze—from bishops and abbots who built settlements and developed the local resources, to the aristocratic families who followed behind them. In the Middle Ages there was no sharp division of power between clerics and laypersons, and thus the heads of aristocratic families might also be bishops or abbots, all part of a complex political economy aimed toward an ever-stricter control over the region's two resources: its metals and its human communities.

The Metal Hills is one of the most studied areas of medieval Italy. In the 1980s the great medieval archaeologist, Riccardo Francovich, began excavations here on projects which are now continued by his students as large-scale excavations, field surveys, mineral censuses, architectural analyses, and archaeological parks

The mining castle at Rocca San Silvestro, shown here in a reconstruction, was linked in the 12th century to the Della Gherardesca family.



and museums. This now-massive quantity of archaeological research is matched by an equally important textual corpus on the region, mostly in the form of cartularies, monastic chronicles, and episcopal records, as well as some later medieval maps. The textual sources typically describe political affairs, economic transactions, and, above all, the histories of the great men: local bishops, lords, and abbots. The lives of everyday people, however, are largely ignored. Archaeological research, on the other hand, reveals the lived experiences of both peasants and potentates—their houses, diet, and health—as well as the specific dynamics of power that linked them. It is thus in large part due to archaeological research that the social and economic dynamics of this isolated region are now coming into focus.

In Italy, the study of the medieval landscape has been a major research theme since the 1970s. In particular, the complex phenomenon of the birth of castles and of feudal power has been studied by the Sienese school of archaeology, headed by Francovich. In the Middle Ages the countryside of Tuscany was above all a constellation of castles, built during the 11th and 12th centuries as instruments of political and economic exploitation. It was thus logical that Tuscany should have become a laboratory for the study of the rise of feudalism and its socio-economic dynamics.

From 1984 until today, 12 castles of the Metal Hills have undergone extensive excavations, in most cases revealing the larger part of their habitation area. Some of these projects have been completed, while others are still in progress. At the same time, large-scale field survey projects have explored the surrounding countryside with the aim of revealing as much as possible about the diverse forms of human habitation, and the places linked to mineral extraction.

One of the major discoveries by Francovich and his teams was the fact that the majority of castles originated not from a *tabula rasa*, as has been suggested for other areas of Italy, but in places already occupied by large or small settlements beginning in the 7th century. It was at this time that the inhabitants of the region began to live on the tops of hills or mountains as one way of surviving the new, and at times dangerous, exigencies of life created by the collapse of the Roman Empire. These were communities that lived mostly at subsistence level and with low populations. Houses were huts built of wood, sometimes defended by a palisade.

Beginning in the 8th century, these small communities attracted the attention of powerful urban potentates, such as

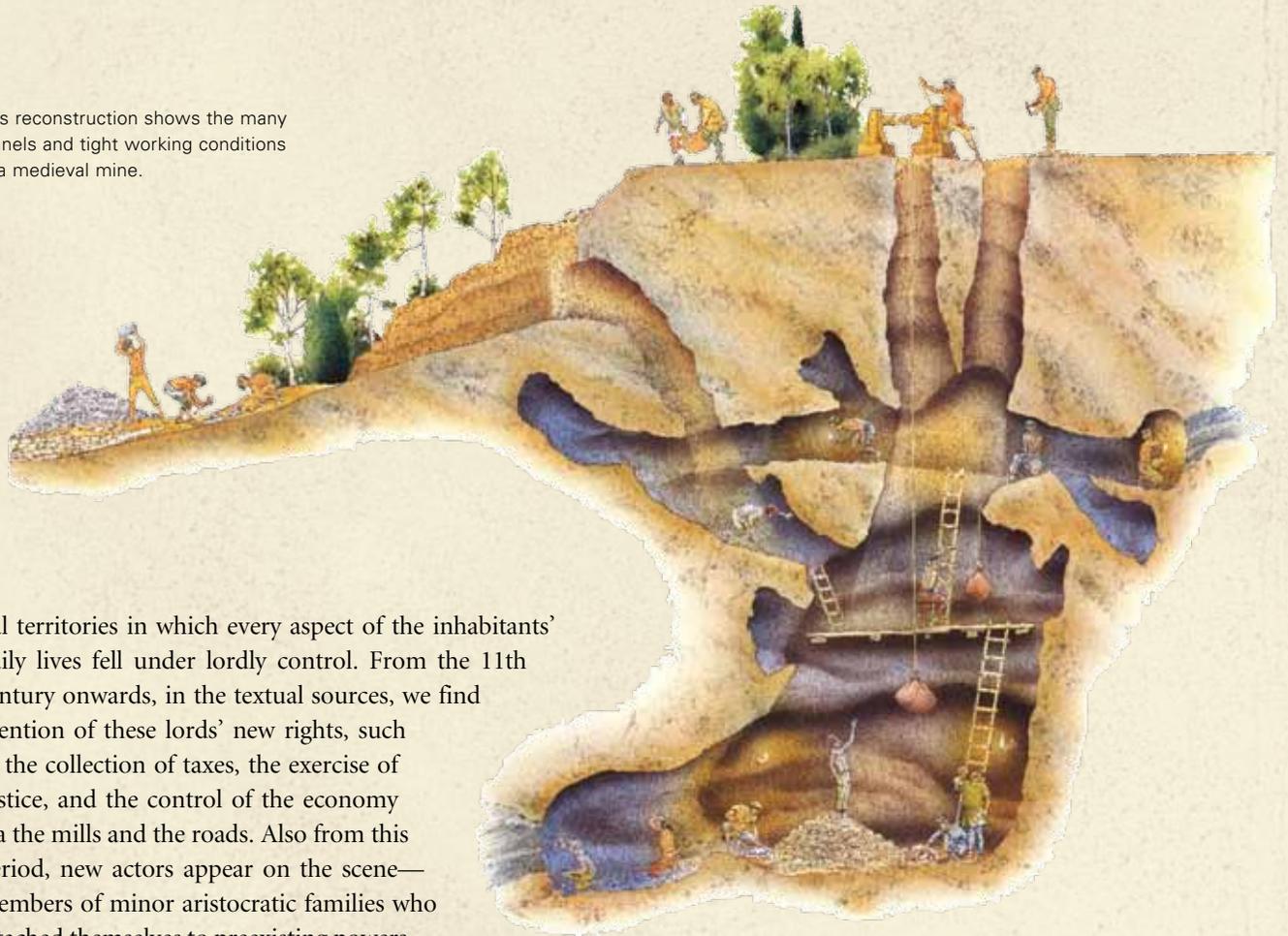


The Metal Hills area is located on the west coast of Italy. This map shows the region and associated archaeological sites.

those of Lucca or Pisa, who began to exploit these villages and their inhabitants as part of a larger project of rural political and economic expansion. The most recent research shows that this process of the organization and exploitation of both hilltop and, to a lesser extent, lowland sites really took off in the second half of the 9th century, thanks to the intervention of bishops and counts, who, in their role as representatives of state power, represented public law. The difficult and even chaotic situation in central-northern Italy following the end of Carolingian rule created the ideal conditions for the fragmentation of political power, such that, from the end of the 9th century onwards, public law began to fall into private hands. It was this historical process, called the “rise of feudalism,” that took place at various speeds throughout Italy, due to the rising power of individual aristocrats. This theme, now a major field of study of both historians and archaeologists, is the focus of our current work.

The Metal Hills, distant from the influence of cities, was an area in which this privatization of power happened readily, and where it was easy for various lords to create individ-

This reconstruction shows the many tunnels and tight working conditions of a medieval mine.



ual territories in which every aspect of the inhabitants' daily lives fell under lordly control. From the 11th century onwards, in the textual sources, we find mention of these lords' new rights, such as the collection of taxes, the exercise of justice, and the control of the economy via the mills and the roads. Also from this period, new actors appear on the scene—members of minor aristocratic families who attached themselves to preexisting powers.

The centers for these new lords were the castles, which in the majority of cases were built over previous settlements. From the 12th century onwards, the lords living in the cities began to decamp to the countryside, exerting more direct control over their human subjects and their lands. In the older villages, they replaced the wooden palisade defenses with robust walls of stone, replaced wooden huts with masonry houses, and at the summit of the hills, constructed towers, palaces, and other fortified habitations. The names of these aristocrats are well-known: the Della Gherardesca, the Aldobrandeschi, the Pannocchieschi, and the Alberti; beneath them lay a dusting of minor families: the Della Rocca, the Da Cugnano, and the Lambardi. All, however, shared the same objective: the exploitation of the Metal Hills, particularly its mineral resources, and most especially silver.

Recent archaeological research suggests that the exploitation of silver mines probably began in the early Middle Ages. Two open-pit mines for the extraction of silver have recently been found at the site of Cugnano and seem to date to a period

before the 10th century. The form of these early mines and the modes of extraction, however, have yet to be discovered and will form one of the most exciting avenues of future research.

The extraction of silver underwent a period of major expansion and reorganization between the 11th and 12th centuries under the enthusiastic support of the landed aristocracy; private administration of these operations took place inside castles specifically dedicated to mineral extraction. Of these “mining castles,” three have been excavated archaeologically: Rocca San Silvestro, Rocchette Pannocchieschi, and Cugnano.

Life in one of these mining castles had both advantages and disadvantages. These centers offered the security afforded by great walls, the possibility of living in a stone (versus wooden) house, and the advantages of an economic system that assured a good diet, consumer goods of good quality, and thus a higher standard of living than was typical during the Middle Ages. The inhabitants of Rocca San Silvestro, for instance, lived to be 40 or 50 years old—a relatively advanced age in this period. These positives were counterbalanced by the hard work of



This illustration of a work site depicts the smelting of silver. In the photograph below, one can see the remains of such an installation found at Cugnano.

mining. The castles founded for the exploitation of minerals were surrounded by a complex of small mines. Contrary to today, these mines were cavities of small to medium dimensions, accessed through cramped galleries where 8 to 10 hour workdays could not have been pleasant or easy. The extracted stone had to be first crushed, typically outside the mine, and then transported along the narrow path to the castle by hand or by mule-back. Physical traces of these activities are evident in the pathology of the inhabitants' skeletal remains, in which severe cases of bone malformation are evident.

Inside the walls of the castles, aside from communal habitations, were industrial installations—furnaces for the pro-



From left, the author and archaeologists Francesca Grassi and Jacopo Bruttini, surrounded by heaps of slag from metal working, found in the excavations at Cugnano.

cessing of minerals, which were managed by specialized personnel. To understand this process, some further explanation is necessary. Silver is not extracted ready to shape into coins. In the Metal Hills a significant percentage of natural silver was associated with lead. The first phase of work after ores were extracted required the use of furnaces: the crushed stone was placed in the bottom, and the furnace was heated to the lead/silver fusion point through the use of hand-bellows. The lead thereby released, the resultant purified product could then be formed into ingots. In the excavations clear traces of this phase were found in the form of small furnaces built of stones faced with clay, inside of which was placed the metal plus the wood for heating. These were simple structures, which at the end of the cycle were often dismantled or partially destroyed, leaving traces not always easily detectable by archaeological excavation. At Rocca San Silvestro these structures have been interpreted as forming part of a system designed to test the quality of the extracted mineral rather than to produce large quantities of purified silver, which was carried out at some other, as yet undiscovered place and from there shipped out for minting. At Cugnano, only the continuation of the excavation will help us understand if this site was a true ingot production center, or merely set up for testing quality.

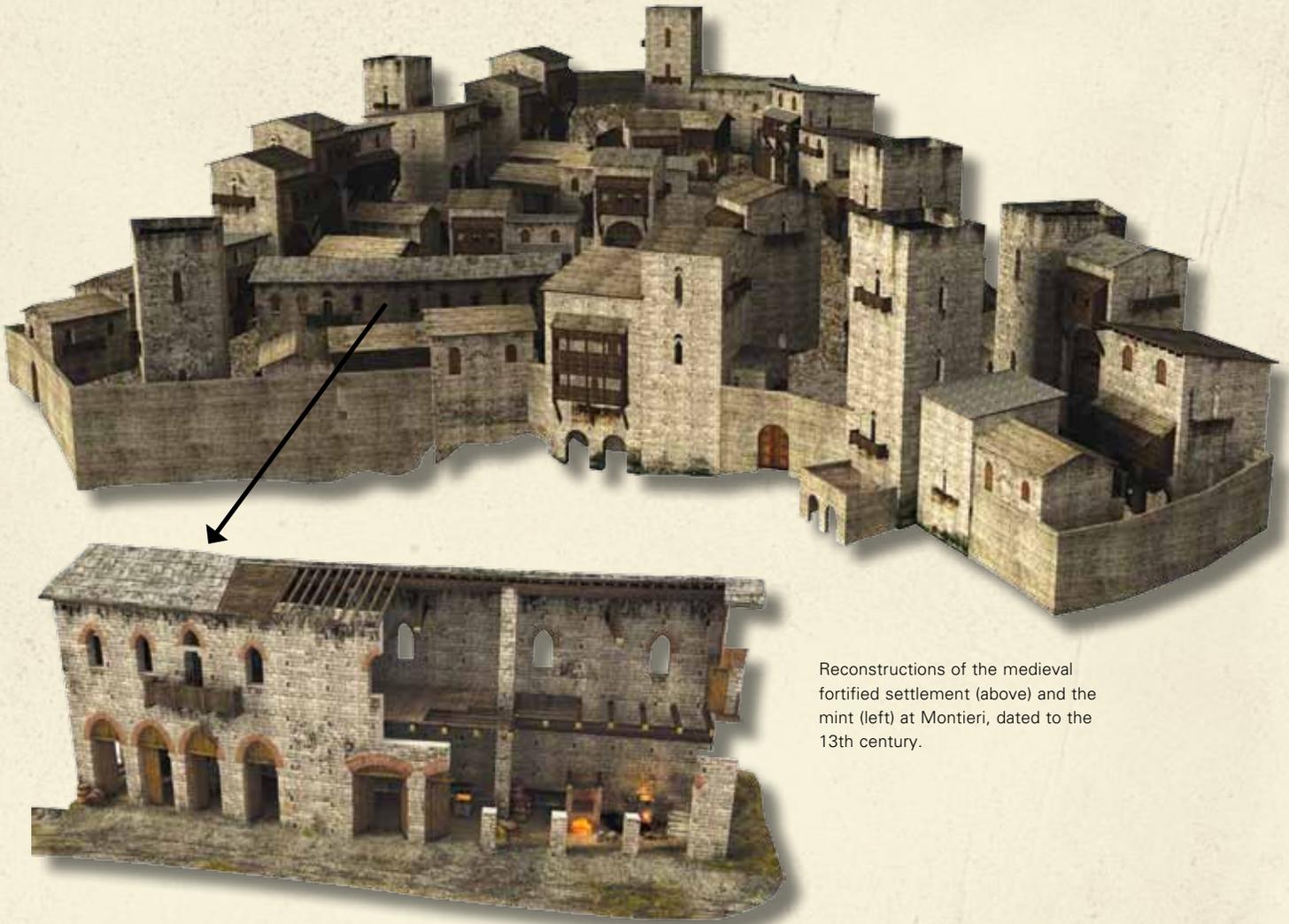
Different stages of production are shown in this drawing of the inside of a hypothetical medieval mint.



Minting coins required another metal—copper—which had to be produced. Luckily this mineral was also abundant in the Metal Hills. To separate the metal from its impurities (especially sulfur), it was reduced in special furnaces, remains of which have also been found in the archaeological record, for example at the castle of Rocca San Silvestro and Cugnano.

What was the destination for these products? In the castles, the minerals were extracted and subjected to preliminary processing. Then, thanks to the political ties between the local aristocrats who controlled the mine settlements and their respective cities, the ingots were transported to mints where coins were produced. The mints were typically associated with some kind of public entity—for instance, the bishop or

the *comune* (town council)—that had received the authority (typically from the king) to mint their own coinage and to place it in circulation within a relatively wide territory. In the mint, thanks to the process of cupellation—the process of raising ores to high temperatures to separate out precious metals—more lead was separated from the silver, producing pure silver ingots valued by *saggiatori* or assayers to a determined denomination. The silver was then combined with copper. The resultant mixture was poured into metal bars, then reduced to sheets, and finally cut into thin strips and then into squares. These were then tested by the *affilatori* and finally shaped into circles before being passed to the *saggiatori* again who verified their weight. These roundels were



Reconstructions of the medieval fortified settlement (above) and the mint (left) at Montieri, dated to the 13th century.

then treated with a substance like tartar or alum that enhanced their silver color. Lastly, the roundels were passed to the *monetieri* who stamped them with the desired imagery. One of the goals of our research in the Metal Hills is a more sophisticated understanding of the details of this process. In this respect, the new excavations in Monteleo are of great interest: here we have found furnaces for the production of alum, a mineral essential for lightening the color of coins in order to make them look shinier.

Pisa, whose owner was the Della Gherardesca, lord of the castle at Rocca San Silvestro, was the mint of reference for the coastal portion of the Metal Hills. In the interior, the activities of the mining lords may have been carried out at not

only Pisa, but also the more ancient mint of Lucca or the later mints at Volterra and Siena. The recent research project around the current town of Montieri, originally a castle at the center of this inland portion of the Hills, has excavated an actual mint, opened by the bishop of Volterra at the end of the 12th century. The mint of Montieri had a short life, but its advent was the result of complex political alignments that linked the bishop to the lords who managed mineral extraction. In the historic center of modern Montieri recent excavations in a 13th century building have revealed the original seat of the mint, one of the few in Italy ever excavated. It was a large, multi-floored building, provided with an arcaded opening on the ground floor where all the activities for the coining

## TO VISIT



To visit the Parco Archeominerario di Rocca San Silvestro, see the website of the Società Parchi Val di Cornia: [www.parchivaldicornia.it](http://www.parchivaldicornia.it). For visits to the new excavations at Cugnano, Montieri, and other sites mentioned above, contact Giovanna Bianchi at [giobianchi@unisi.it](mailto:giobianchi@unisi.it), or the following archaeological associations: NESSO, [nesso@nesso.edu](mailto:nesso@nesso.edu) or OPUS, [coopopus@yahoo.it](mailto:coopopus@yahoo.it).

of money were focused. On the upper floor were probably living quarters for those connected with the mint. Excavations in the lower floor have revealed possible places for the mixture of copper and silver, as well as a large well that furnished the necessary water, and a forge in which the many tools necessary for minting—such as shears, pincers, sickles, and pans—were made and maintained.

The broader project at Montieri has included a mapping survey of the many mine entrances around the original castle, as well as excavation of a monastery in the area called

Canonica, near Montieri. Here, between the 11th and 13th centuries, the bishops of Volterra built a monastic complex only 10 m away from the entrance to a large, clearly marked silver mine. Even before the opening of the mint in Montieri, the monastery was envisioned as essential in controlling the extraction of that precious metal in the region. The importance of the place as an arm of one of the most consistently powerful political actors of the day, the bishop, is evidenced in the monastery's architecture: it has a church with not one or two, but six apses, the only example in Tuscany. The construction, around the cloister, of spaces used for more mineral exploitation, point to the close relationship between spiritual life and economic gain.

Thanks to projects like this, we are beginning to understand the complex system of relationships that connected each stage of production, from the extraction of metal to the production of coins. In the process, we are also revealing the political forces that oversaw production and the role that the mining castles played, not simply as individual entities but as cogs in a complex wheel of political economies dominated by individual lords and urban entities.

The future of this research will doubtless reveal more surprises, and for its continuation, the support of local government is essential. One of the mantras of my mentor, Riccardo Francovich, was that archaeological research was a public good, a tool in service to the people, in which historical interpretation must be made understandable to a wider public beyond academia. It was in this spirit that Francovich opened



Recent excavations of the monastery at Canonica near Montieri are located near a mine shaft. The site was controlled by the bishop of Volterra.



## THE HUNGRY ARCHAEOLOGIST

Throughout the Metal Hills, it is easy to find a restaurant where one can enjoy food that is both delicious and typical of the region. On the coast, there is excellent fish, while on the interior, dishes feature meats like pork or wild boar. In this area which has, until recently, been very poor, the philosophy of many dishes is tied to the idea of reuse—of day-old bread or of the least desirable parts of the animal. These are transformed into extraordinary sauces that cover a variety of local pastas. A typical meal in the Metal Hills might consist of the following: one begins with a *fettunta*—a piece of unsalted Tuscan bread roasted with garlic and brushed with some of the excellent olive oil of the region. For a *primo*, dishes that use old bread—such as *pappa al pomodoro* or *acqua cotta maremmana*—are popular. One also finds typical Siense pasta like *pici*, fat, handmade spaghetti served with a sauce of tomato, breadcrumbs, and garlic, or *tortelli maremmani*, small pockets of pasta stuffed with ricotta, spinach, and chard. As a *secondo*, in the interior one finds *cinghiale in umido*, stewed wild boar, or other meats stewed with tomatoes, rosemary, and red wine. On the coast, a typical soup is the *cacciucco* made of small fish, slow-cooked with a tomato sauce and served in a dish with garlic-soaked bread. Finally, one should not forget the region's excellent cheese, particularly the many varieties of *pecorino*.



An information center at the mining castles of Rocchette Pannocchieschi and Cugnano will soon open to the public. The exterior and interior are shown here.

the first archaeological park dedicated to mining in 1996 at Rocca San Silvestro. It is in this spirit that our projects today seek to transform scientific results into public archaeology. Ultimately, we hope that our work will spawn new excavations, new parks, and new publications that will help a place like the Metal Hills recover its own historical identity and transform its archaeological heritage into economic benefits through tourism. 🏠

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