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gust. The sacking lasted only three days, and churches, at least, generally were left untouched. The damage was more psychological than material. For the first time in 800 years Rome had fallen. No longer could the city be called *Roma Invicta* (Unconquered Rome).

After leaving Rome, Alaric and his band, which had been augmented by many stray barbarians and even Romans, traveled south, hoping to cross to Sicily. Foiled in this endeavor when the Gothic fleet was wrecked, Alaric turned back north, and on this journey he became ill and died in Bruttium. He reportedly was buried in the bed of the Busento River after the stream had been diverted. His position then was taken by Athaulf, who two years later led the Goths into Gaul.

Alaric and his Goths had a devastating effect on the Roman national consciousness. The Goths' ability to roam the empire freely, under their own commander, put an end to the belief in Roman military superiority. Other barbarian groups quickly followed the Gothic example. The sack of Rome, in particular, was a devastating blow. Shortly thereafter, pagan arguments that Roman failures were the result of the abandonment of the pagan gods were countered by Augustine in the *City of God*. The Visigoths, meanwhile, went on to found kingdoms based first at Toulouse and then in Spain.

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R.W.M.

Alchemy

Alchemy—or more correctly for late antiquity, the "sacred" or "divine" art—refers to the harnessing of metalworking techniques for religious goals. It is uncertain when and where a theory of the salvific value of the transmutation of metals arose. Egypt is usually held to be the country of origin, though this may merely repeat a late antique topos. Papyrological evidence and the first major compiler of alchemical traditions, Zosimus of Panopolis, both point to the second half of the 3rd century C.E. Diocletian's order at the end of that century to burn "the ancient books of Chemia dealing with gold and silver" (John of Damascus, the *Suda*) evinces the prestige and power of these techniques.

The earliest extant texts associated with alchemy, the Leiden X and Stockholm papyri (mid-3rd century), were part of a rich collection of esoterica found in a tomb at Thebes. These texts include metalworking techniques unlikely to yield any practical results, indicating a shift from considerations of jewelry making to new social concerns. Similar recipes appear in the earliest texts in Berthelot's idiosyncratic reconstruction of the alchemical "corpus" (1888), including Pseudo-De-

mocritus's *Physical Things and Mysteries*. In this text recipes are combined with a narrative recounting the author's search for true illumination, culminating in the optimistic revelation that the process for "conquering" the natural world is obtainable from the natural world.

Zosimus's theology of alchemy (before 400 C.E.) reflects spiritual desires to make the corporeal incorporeal, to undo through ascent the fall of the first man into the body and his consequent subjection to fate, and to transform nature. Zosimus also preserved excerpts both from "legendary" authors of the previous several centuries and from Maria the Jewess, a historical figure probably of the 1st century C.E. Maria refined the standard alchemical operations on volatile substances by distillation and sublimation and elucidated the vocabulary of transmutation. Her prime goal was to impart a series of color changes to metals: to make them black, white, yellow, and violet. These external changes represented inner changes undergone by the metals. Metals were believed to represent the natural world, and changes in them were evidence of natural processes. Every metal was seen as on its way to being gold; the alchemist merely sped up the process by adding a catalyst.

Alchemists grounded their work in ancient traditions based on divine revelation and related to sacrificial practices. In the context of late antique cosmological beliefs, alchemical practices were understood to transform the lower order (earthly) matter into higher order (heavenly) matter. In contrast to the "Gnostic" vision, which sees an unbridgeable gulf between matter and divinity, alchemical metallurgy implies a positive attitude toward the natural world and a belief in its redeemability even at the lowest level of nature. In addition to these theoretical concerns, late Roman alchemy continued to be concerned with the technology of imparting worth to worthless objects through dyeing, gilding, and silver plating. An interest in the techniques of applied chemistry survived throughout late antiquity.

For several centuries after Zosimus, alchemical texts and pseudoepigraphical works were collected and commented on by Byzantine authors. Some attempted to explain the meaning of alchemical processes in the context of Neoplatonic ideas, others in terms of Christian spirituality. When the Muslims began to study the Greco-Egyptian tradition of alchemy in the 7th century, they found a wide array of texts in several languages, including Syriac and Coptic. A work of Aristotle, for example, was translated into Syriac in 618 C.E. at the bidding of Heraclius; the Bishop of Sinjar (in Mesopotamia) wrote a commentary on it that still exists in an Arabic translation. Some of the important early Greek texts were preserved most fully (or solely) in Arabic translations of the 8th and 9th centuries. Although alchemical recipes were known in western Europe in late antiquity, alchemy did not become a

scientific discipline there until the 12th century, when a large number of Arabic texts (translations of earlier texts and original works) were translated into Latin. The idea of the alchemical process as an allegory for the spiritual transformation of the alchemist became popular in early modern Europe but was not common in late antiquity.

After the Muslim conquest of Egypt in the 7th century, the Arabs became acquainted with ancient Egyptian, Hellenistic, and Byzantine traditions. Other transmissions of texts may have taken place through contacts with Christians in the east. In addition, there are Chinese and Iranian influences on alchemy in the Islamic world. The earliest historical figure associated with the science is Khālid ibn Yazīd, an Umayyad prince who died around 704. He reputedly learned alchemy in Alexandria from the monk Marianos (Morienus) and ordered that Greek and Coptic scientific works be translated into Arabic. Jābir ibn Ḥayyān (d. ca. 812) is considered the first major figure in Islamic alchemy.

From the corpus of early Egyptian and Greek teachings on alchemy, Muslim alchemists derived both terminology and techniques. The Islamic tradition is significant not only for its preservation of texts but also for its emphasis on scientific experiments and observation. Plant, human, and animal substances were added to the array of materials used in alchemical processes, leading to advances in the related fields of pharmacology and medicine. Early Muslim alchemists were concerned with cosmological theory and natural philosophy, but the religious and allegorical interpretations associated with Zosimus did not become prevalent in the Islamic world until the 11th century.

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Alexandria

Despite the 3rd century ravages of plague, civil war, and foreign occupation, Alexandria in late antiquity retained its place as one of the preeminent cities of the Mediterranean. With a population of several hundred thousand, it vied with Antioch and later Constantinople as the Byzantine empire's second largest city. Alexandria owed its continued prosperity to its unique geographical setting. Linked to the Canopic branch of the Nile via canals and Lake Mareotis, Alexandria served as the Mediterranean entrepôt for the produce of Egypt and for luxury goods carried overland from

the Red Sea port of Berenike. During the 5th and 6th centuries, the Alexandrian grain fleet provisioned Constantinople with nearly 36 million *modii*, or approximately 220,000 tons, of Egyptian grain per annum. Other widely exported goods included papyrus, wine, olive oil, fine glassware, linen, ivory and bone carvings, embroidered fabrics, medicines, and precious stones. Alexandria's economic prosperity and status as a major trading center continued with only minor setbacks until the Tulunid period in the 9th century.

Although the late antique city preserved the basic gridlike configuration that dated from its Hellenistic foundation, the centuries had taken their toll on several famed topographical features. The palace district of Bruchion was destroyed during the 270s, and with it possibly the tomb of Alexander the Great and the celebrated museum. In addition, the Alexandrian gymnasium, the focal point of Hellenism in the city, is not attested past the early 3rd century. With the decline of these sites, other urban locales, like the Agora (or Mesopedion) and the hippodrome, increasingly became the foci of the city's ceremonial life—a development common to other late antique cities. Other prominent urban sites survived into late antiquity, owing to their Christianization during the 4th century. The Caesarion, which dominated the waterfront of the Great Harbor, was transformed into the patriarchal cathedral (or Great Church) during the mid-4th century. Likewise, near the Great Harbor, the Ptolemaic Temple of Kronos became the Church of St. Michael during the 320s. The Serapeum, the massive temple of the city's patron deity, was forcibly turned into the Church of St. John by the patriarch Theophilus in 391. Despite these alterations in the city's landscape, they took place within a relatively unchanging circuit of the city's walls, at least until the Sassanian and Arab occupations in the 7th century. Moreover, they all occurred within a topographical framework dominated by the city's principal east-west artery, the Via Canopica, and by the city's bustling twin harbors. The Pharos, the city's immense multistoried lighthouse, loomed over these harbors and acted as a beacon to sailors some dozens of miles out to sea. The Pharos is well attested in late antique pilgrim itineraries, and it stood substantially intact until the earthquake of 955.

Throughout late antiquity, Alexandria continued as the chief administrative center for the post-tetrarchic Egyptian provinces. At the apex of this administrative structure was the *praefectus Augustalis*, successor after ca. 380 to the *praefectus Aegypti*. Prefectural courts heard petitions submitted from all over Egypt concerning tax liability, estate division, and civic obligations. The prefect entrusted the assessment and collection of taxes (both monetary and in kind) to subordinate financial officers such as *logistēs*, *katholikos*, and the *procurator rei privatae*. Other prefectural officials included the *procurator Phari* who collected harbor dues at the ports of Alexandria and protected shipping lanes