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polis with a major sanctuary. In this respect, Aphrodisias presents the anything but unique case of a community named after the major deity it worshipped, gradually appropriating the myths and properties of the patron goddess, and exploiting them for the construction of an identity and the endorsement of diplomatic enterprises. Exceptional in the case of Aphrodisias is only the wealthy source material that permits a better study of this phenomenon from the early first century B.C. to Late Antiquity. The role played by Aphrodite in the civic life, self-representation, and collective memory of the Aphrodisians is evident in the epigraphic material summarized in this paper (the ideological connotations of Aphrodite's epithets and attributes, the position of priesthoods in the civic *cursus honorum*, benefactions and festivals, the association of Aphrodite with other divinities and divine personifications, references to Aphrodite in documents concerning the history of the relations between Aphrodisias and Rome, and personal names inspired by Aphrodite and her myths). The prominent position of Aphrodite in the civic ideology of "her city" should be seen in the context of the latent rivalries between Aphrodisias and her neighbors, as a study of similar phenomena in other Carian cities may show. The close association of these civic communities with a single local divinity and the ostentatious commemoration of traditions related to their patron deity enabled them to strengthen their identity and to accentuate their individuality in an era of cosmopolitanism.

SESSION IIIA: COLLOQUIUM: WATER USE IN THE ANCIENT CITY

GEOLOGICAL DIFFERENCES IN ANCIENT WATER SUPPLY: SYRACUSE AND AGRIGENTO: *Dora P. Crouch*, Rensselaer Polytechnic Institute

The cities of Syracuse and Agrigento are similar, being founded in Archaic times and located at coastal sites that began with trade posts (*emporía*) and grew by the fifth century B.C. into very extensive cities. Yet in some crucial ways they are different, and those differences relate very strongly to the geology of the two sites. Both locations have karst shafts and channels, but the kind of rock has made important differences in longevity of the channel systems and their suitability as long-distance water lines. Both occupy saucer-shaped terrain, but that of Agrigento is much more steeply tilted.

The stone at Syracuse is two kinds of limestone, the upper one being relatively soluble. This has meant that karst channels have cut through the limestone, in some cases along fault lines, creating the openings that became Classical Greek aqueducts and Early Christian catacombs.

In Agrigento similar passages were first cut by water dissolving stone and later by humans enlarging the openings. The water channels known from the work of Schubring (1860s) and Arnone (1940s) are aligned with the geological discontinuities of the site, indicating that the human builders utilized natural features when building the water/drainage system. The stone at Agrigento, however, is weak

calcarenite. Therefore, the site is more susceptible to earthquake and landslide damage.

IMPERIAL WATER PIPES IN ROMAN CITIES: *Christer Bruun*, University of Toronto

Frontinus writes that about 17% of the water that reached Rome was distributed *sub nomine Caesaris* (Aq. 78), the rest being delivered to a small number of privileged private users and for the public at large (*usibus publicis*). Frontinus's information can be verified from numerous stamps on Roman lead water pipes (*fistulae*), which mention Roman emperors. The amount of water that was reserved for the emperor and the court seems disproportionately large. Or was it? What was meant by the phrase *sub nomine Caesaris*? Was this portion intended wholly for the personal use of the emperor and the court, or was water distributed "under the emperor's name" to other destinations as well? Archaeological evidence proves that the latter could be the case; the large public Baths of Trajan, e.g., were undoubtedly supplied by water pipes bearing the name of the emperor Trajan.

This paper investigates whether one can establish a public destination for other imperial water pipes in Rome and elsewhere. I have collected, with some omissions, the inscriptional evidence from lead pipes for Rome and the rest of the empire (Ostia, Lugdunum, Syracuse, etc.) and argued that also the Castra Praetoria received water *sub nomine Caesaris*. Many other stamps still need to be analyzed in regard to content and archaeological context. This investigation also concerns general questions of imperial policy: upon what social groups and purposes did the emperor in Rome put a high value; in which cities is there an imperial involvement in the distribution of water?

WATER USE IN PRIVATE BATHS AT POMPEII: *Nathalie de Haan*, Catholic University, Nijmegen

Ancient Pompeii contains at least 28 houses with a private bath suite, a number which is far higher than previously known. This paper explores the use of water in these private baths. First, I focus on a set of "practical questions" and the archaeological evidence for solutions: how did the house owners provide their baths with water? How did they get rid of the waste water? How was water heated for the bathing tub in the caldarium?

The demand for water depended on the size of the private baths and on the facilities offered. I can now distinguish three groups of private baths based on their need for water. Furthermore, there is a direct link between the building of the so-called Serino aqueduct in Campania in the Augustan period, which presumably also branched off to Pompeii, and the increase in construction of private baths in the last decades of the first century B.C. Only from this period on did the more lavish private bath suites come into use, with a corresponding greater demand for water. For such baths, which are sometimes equipped with an open air piscina, tap water was a *conditio sine qua non*. Finally, consideration of the private baths in Pompeii contributes significantly to the ongoing debate about the ex-

tent to which facilities in the city still functioned in the post-earthquake period (A.D. 62–79) and about how water management was handled in general in the last years before the eruption of Mount Vesuvius.

WATER PIPE SYSTEMS IN THE HOUSES OF POMPEII: DISTRIBUTION AND USE: *Gemma C.M. Jansen*, Catholic University, Nijmegen

Although Roman aqueducts have been researched for many years and recently the distribution of the main water lines has been investigated in various ancient cities, no attention has been paid to the layout, distribution, and function of the water pipe system inside private houses and to the question of what water was used for inside these houses. Pompeii, with its well-excavated houses, offers good opportunities for such an exploration.

During the last few years these unstudied aspects of the water supply system at Pompeii have been the focus of researchers from the University of Nijmegen and engineers from the Technical University of Delft. Because only a few lead pipes have remained in situ, together with 30 bronze taps and 15 lead distribution boxes, it was difficult to obtain a clear picture of the whole system. However, on the basis of small indications (e.g., indentations in the tufa impluvia) and with the help of metal detectors, we have arrived at a reconstruction.

This paper presents the separate elements of the internal network and places them in the context of the pipe system in the house as a whole. I also discuss how the pipe system operated. The reconstruction reveals to what parts of the house the water was directed and for what it was used: to supply the fountains, as drinking water, and for domestic uses.

URBAN WATER STORAGE, DISTRIBUTION, AND USAGE IN ROMAN NORTH AFRICA: *Andrew Wilson*, Institute of Archaeology, Oxford University

Models of Roman urban water distribution are usually based on the well-preserved evidence for urban water supply from Pompeii and the literary evidence of Frontinus for Rome, and Roman aqueducts are generally assumed to have worked on the principle of constant offtake. Data from North Africa, however, suggest different arrangements for urban water supply networks in this region of unpredictable rainfall.

Examination of large aqueduct-fed cistern complexes in North Africa reveals a range of functions—as settling tanks, regulating reservoirs, and as storage chambers to which people might resort to draw water through openings in their vaults. Abundant evidence for sluices and stopcocks suggests the creation of reserves to balance supply against demand and to cope with drought.

Water distribution networks frequently lack intermediate pressure towers, and at some sites (Volubilis and Tingad) users drew water directly from the main conduit without a distribution *castellum*. Evidence from Volubilis and Djemila suggests the use of stopcocks to switch supply on or off at the point where it enters a house.

Different qualities of water were rationally used for ap-

propriate purposes, with poorer quality water used for industrial processes or watering gardens, and better water reserved for drinking. Combined use of wells, cisterns, springs, and aqueducts with reservoir complexes suggests a multifaceted approach to the risk of drought.

SESSION IIIB: ROMAN ARCHITECTURE: SYMBOLISM AND CONTROVERSY

EXCAVATIONS IN THE AREA OF SACRA VESTA: FINAL REPORT: *R.T. Scott*, Bryn Mawr College

A final month of excavation was carried out this past summer in the north wing of the Trajanic *Domus Virginum Vestalium* to confirm the long (seventh century B.C.–17th century) chronological sequence that has now been established in the area and to improve our knowledge of a principal east–west artery of presumed Late Archaic date that traversed the lower slope of the Palatine and terminated at either end in approaches leading up to the summit of the hill. We had been tracing it, as circumstances allowed, from west to east since 1988; and in 1995 the eastern approach was uncovered by University of Rome excavators working under the supervision of Paolo Carafa in an area not far from the place where we had located but not explored a portion of the street in 1993.

Checking of the chronological sequence was more successful than the search for additional, more substantial remains of the street, which investigation revealed to have been removed or rendered inaccessible by the deep Imperial foundations. Survey by total station, however, confirmed its projected course east to the junction with the uphill ramp. Its course overall suggests that on the east it should be associated in part with houses being reexamined by the University of Rome, while on the west it appears to have marked the southern limit of the sanctuary and sacred grove of Vesta.

TEMPLUM PACIS: THE SURVIVING ARCHITECTURE RECONSIDERED: *James Packer*, Northwestern University

Two fundamental articles publish the excavated antiquities of the Forum of Peace in Rome: *BullCom* 65 (1937) 7–40; *BullCom* 86 (1956–1958) 119–42. Only a limited number of other relevant materials survive in the city archives of Rome—although measurements on the original drawings render legible the occasionally indecipherable reproductions of the published versions. Examination of these figures and the other existing evidence thus suggests an explication and revision of the famous Colini/Gismondi reconstruction of the complex.

The high stone fire wall around the *Templum Pacis* resembled that of Augustus's Forum. The east and west Corinthian colonnades had red granite shafts, high attics, flat roofs, and aedicula. Behind each were two rectangular recesses (the northeast one built into the medieval *Tor de' Conti*). The unfluted Africano columns *en resaut* on the north side of the forum were probably the prototypes for the neighboring "Colonnacce" in the Forum Transitorium.