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THE WORLD AT LARGE: ROMAN CONCURRENCES

During the reign of Hadrian, the Roman Empire attained the zenith of its material prosperity and the outermost limits of its growth. (Fig. 10.1) The Euphrates formed the natural border in the East beyond which Persia, the long-time adversary of Western ambitions, lived precariously under Parthian rulers. Along the length of North Africa, the Egyptian desert and its continuation determined the width of coastal land subject to Rome, its numerous cities fattened by maritime trade. Hadrian strengthened the most unstable boundary for the empire, the northern frontier, with a system of fortification that included a wall between England and Scotland and strongholds along the Rhine and Danube. Mounted peoples—Sarmatians, Alamanni, Visigoths—ranged restlessly across central and eastern Europe harassing settled agrarian communities and seeking any advantage against their formidable neighbor to the south. Westward the world ended with the Atlantic.

It was a time of peace, a happy time. The provinces were contented and, for the most part, quiet. The troublesome spirit of Jewish independence flared briefly, but their revolt was crushed in 135. Jerusalem, renamed Aelia Capitolina after Hadrian's family name, was disciplined architecturally with a cross-axial scheme, a proper Roman forum, and the usual catalogue of theaters, circuses, and baths.

There were buildings under construction in every corner of the empire. Hadrian himself sponsored hundreds of public structures, most notably in Athens and Ostia. (Fig. 10.2) He traveled around, so an ancient source tells us, with a contingent of "geometers, architects, and every sort of expert in construction and decoration . . . whom he enrolled by cohorts and centuries, on the model of the legions." An amateur architect, he found time to work on his favorite villa at Tibur, the modern Tivoli, a short way east of Rome, and for the capital he oversaw the design of several monuments—among them a temple to his predecessor Trajan, which completed the cycle of the imperial forums, a temple to Venus and Rome, confronting the Colosseum on the west, and a unique creation in the heart of the Campus Martius called the Pantheon. (Figs. 9.28, 10.3, 11.2)

The Roman Cosmos

It is the Pantheon, perhaps, that best stands for the crowning moment of the Roman Empire. It faced north toward the incoming traffic of the coastal highway, the Via Flaminia. The approach was commonplace: a closed forum, long and narrow, at the south end of which rose a standard temple front. But passing through this porch of smooth monolithic columns of Egyptian granite, one entered a mighty domed rotunda, 150 Roman feet (43 meters) both in height and diameter, that enclosed a vast, unobstructed, thoroughly ordered space suffused with the even light that shone through an oculus and the open bronze doors. (Fig. 10.4) The hemispherical concrete dome, with five diminishing rows of coffers verging toward the oculus and harboring gilded bronze rosettes like gleaming stars, rested on a multicolored wall arranged in two storeys. Niches carved in the thickness of the wall, each screened by two columns of colored marble and flanked by pilasters, alternated with small tabernacles or "temple fronts," which stood in front of the wall plane and were crowned by segmental and triangular pediments. At the entrance niche and the apse across the way, the screening columns were omitted. The apse semidome and the barrel vault over the entrance lifted their arc into the second storey. This second storey was actually a broad frieze of blind windows and triplets of tall thin panels patterned with colored marbles. The floor was paved with disks and squares of granite, marble, and porphyry set in a grid that was aligned with the main north-south direction of the building and reflected the grid armature of the coffering overhead.

The easy grace of this superb interior is entirely deceptive. Behind the tapestry of Classical niches and precious stones that wraps around the rotunda is a tremendously thick wall, 6 meters or 20 Roman feet across, which is what really supports the approximately 5,000 tons of weight exerted by the dome. The relationship of load and support is not direct. The wall, rather than being solid, has been riddled with stacked chambers. These chambers helped to hasten the drying process of the concrete, and

transverse barrel vaults over some among them distributed the weight of the superstructure onto eight points of the perimeter, so that in effect the dome is held up by eight thick piers like some gigantic canopy. The octagonal hall in Nero's Golden House is the logical prototype, but the Pantheon, being free of abutting structures, was forced to resolve its statics wholly within its own big frame. It then proceeded to camouflage the elaborate precautions, so that the user might be duly amazed by the unstrained elegance of this calmly billowing space.

Faultless organization, daring, and a prodigious amount of labor were called for to achieve Hadrian's design, and the effort was thought justified by the uncommon message the building was to convey. The first theme was of course cosmic. This was a temple to all the gods, and the appropriate symbolism was that of the heavens where they resided. The statues of the gods, probably including those of the planetary deities, were arrayed on the edges of the great circle, and the eye of the sun, the central opening in the dome's swell, shone upon them one by one during the course of the day, highlighting their presence.

But the building also had a political content. There were images of Augustus in the entrance vestibule and of the deified Caesar within, and Hadrian held judicial court in the rotunda. The empire, it was being implied, was an analogy for the cosmos, and the Pantheon—like the empire, a structure of many units but one pervading unity—described this analogy in visual terms. The true religion was Romanism, the force that held the Mediterranean world together in a smoothly and reliably functioning order like the harmonious workings of the celestial sphere. Hadrian's, then, was an intellectual statement of what the state was all about. It was his answer to the applied populism of the Colosseum or the billboard swagger of the imperial forums.

As with Persepolis and other central monuments of empire, the Pantheon was also the physical repository of universal tribute from subject lands. It used the granites and porphyries of Egypt, the colored marbles of Africa, the white marbles of the Aegean, pavonazzetto from central Asia Minor. What held it all together and gave it the authority of a single-minded conception was the Roman vaulted style and its versatile medium, concrete.

In the provinces where this technology was not employable, the effects of the vaulted style were aped in stone and on a small scale, within the predominantly late Hellenistic frame of public architecture. Interiors of Pantheon-like grandeur or interlocked configurations of the playfulness displayed in rooms on the Palatine and in Hadrian's villa at Tivoli were beyond the range of cut stone and wood, and where these enticing cages were modestly and laboriously reproduced they remained massive and earthbound. (Fig. 10.5) A technique of mortared rubble achieved some limited success in Asia Minor, and plain brick vaults were also experimented with both here and also in Syria and Egypt. But, for the most part, the strength of provincial work drew upon decorative virtuosity, notably in the carving of stone, and theatrical flare and sweep.

Hundreds of cities, large and small, thickly and prodigally dotted the shores of the Mediterranean and lands beyond in the north and east. They were linked by a network of paved highways. Some were old towns rehabilitated by their Roman masters; some were colonies founded by government decree; some had grown around army camps or to exploit a natural resource like a river port or mineral waters (for example, Bath in England). All enjoyed a

Fig. 10.1 Map: The Roman Empire at the time of Hadrian (A.D. 117–138). Dotted lines indicate major land routes.

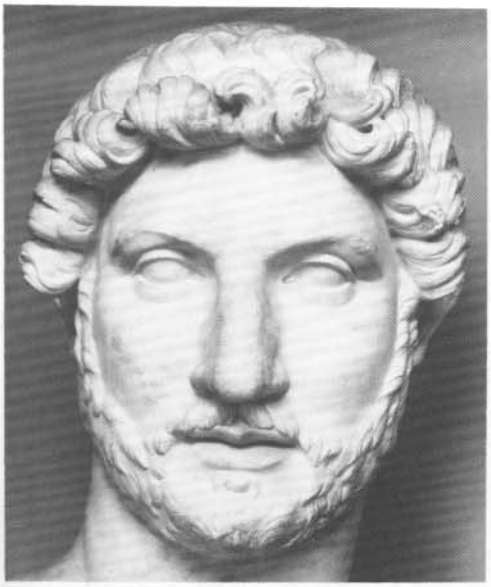

Fig. 10.2 Emperor Hadrian; marble bust. (Vatican Museums, Rome)

measure of local self-government. The majority of towns made do handsomely with agriculture and local trade. A smaller number manufactured goods for distant markets, such as cloth, pottery, and metal objects. In the eastern frontier, towns like Petra, Palmyra, and Gerasa capitalized on the caravan trade that dealt in spices and exotica. Major ports along the shores, equipped with breakwaters, walled basins and docks, handled grain, oil, wine, building materials, and slaves.

By and large cityscapes were not dense. (Fig. 10.6) Skylines were low and the urban fabric generously aired with public spaces and parks. Safe under Roman auspices, towns broke through their walls with large public buildings and affluent suburbs. Luxury villas and handsome funerary monuments lined the highways for several miles beyond city edges. Manors and small efficiency farms blanketed the countryside between towns. The land bore the scars of resounding progress. There were colossal works of agricultural terracing. Dams, canals, tunnels, and aqueducts tamed the natural waterways, carrying fresh spring and stream water to the citizenry and diverting less pure sources to the fields, where pumps and wheels sent it where it was needed. Lakes and marshes were drained and forests felled to extend usable land. Wood was essential for construction and for heating houses, baths, brick kilns, and mines, but logging denuded the mountain slopes. The fact is that several centuries of Greek and Roman urbanization had profoundly transformed the face of the Mediterranean from what it had been at the time of Stonehenge, Knossos, and Troy.

Beyond the Empire

This costly prosperity stopped short at the borders. On the other side, peoples untouched by Roman technology lived simple lives that made only the gentlest demand on natural resources and left the land without permanent markings. That is why it is hard to recover their traces.

Africa

The African continent, outside of the northern littoral, behaved in the traditional ways of the Stone Age. There were hunters and gatherers, pastoral nomads, and farmers. They shaped a broad range of environments depending on the particular geography of a region, its mode of sustenance, its beliefs, and social arrangements. So there was no question of a pervasive pan-African architecture. The earthen round house with its thick insulating walls and soft patterns of shade and shadow was appropriate to the inland savannah; the rectangular house with its light screen walls, raised on a platform and oriented to the cardinal points to catch cross breezes, to the humid rainforests of the coast.

Mud was a prevalent building material. So were poles, brushwood, grass, and loose stones. The variety was seemingly inexhaustible. A recent taxonomy lists thirty-two basic forms for houses alone, from cave houses and underground or semiunderground dug-in buildings to tower houses that consisted of coalescing mud cylinders of one, two, or three storeys. Plans could be round, oval, or rectangular. Roofs might be flat or else conical, trumpet-shaped, or hemispherical with convex, concave, or asymmetrically peaked profiles; or they could be saddle-back or lean-to, hipped, pyramidal, or wagon-shaped. Construction methods ranged from *banco*, a wet-mud process akin to coil pottery, to a frame of poles and skins, which was used in the tents of seminomad tribes of the sub-Saharan belt.

Groupings of homesteads and villages reflected fine nuances of social structure, defining spheres of responsibility, territoriality, and ownership. (Fig. 10.7) Each function of an extended homestead would be allotted its own building: a building for each wife, with a grinding house and granary of her own, the goat house, the stable, the beer store, all arranged in simple constellations and linked by straight walls or embraced by an enclosure wall. In West Africa courtyard houses have abetted speculation about cross-cultural ties. Four buildings, singly or continuously thatch-roofed, faced one another across a courtyard, which in some cases was geared to collect rainwater. This latter feature seems to echo the impluvium in a Roman domus, and there are Egyptian parallels too.

But whatever the balance of indigenous and incursive elements, mainland Africa was the polar opposite of the Roman Empire. Hundreds of self-reliant tribes fended for themselves in the arid zone of the sub-Sahara and the tropical savannah land, in coastal forests, and in benign river basins. They were tied by the same basic verities: "a house, a family and the respect of old age." They built few religious structures. Material permanence was not a fundamental concern. On the contrary, built forms were something that responded to the changing circumstances of daily life and the domestic family cycle; they could be adapted, extended, replaced, or moved. A new wife was entitled to her own addition in the homestead compound; the departing dead and the young who set up their own households reduced the compound. Since no fixed administrative building was thought necessary, the election of a new chief might require the reorientation of the village away from the dead chief's house and toward that of the new chief. The permanence was in the land and its spirits, the

Fig. 10.3 Rome (Italy), the Pantheon, ca. A.D. 120–27; view from the north. The inscription refers to an earlier rectangular sanctuary on the site built by Augustus' great minister Marcus Agrippa, 25 B.C. See also Fig. 9.23