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Archaeological and Anthropological Clues to Decipher the Epidemic Mortality Crisis (1st-3rd centuries A.D.) at the Dawn of the Catacomb of Saints Peter and Marcellinus in Rome

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The catacomb of *San Pietro e Marcellino* covers almost 3ha with 4.5km of subterranean galleries at three levels, containing between 20 000 and 25 000 burials. Located to the south-east of Rome on the ancient Via Labicana, it lies some 3km from the city walls and from the gate of the same name. The origins of this catacomb appear to go back to the last third of the third century AD, re-using an earlier network of drainage tunnels. The cemetery was developed in the early fourth century AD, when Constantine built an important mausoleum dedicated to his mother, Helena and the subterranean catacomb remained a funerary space up to the beginning of the fifth century AD. In 1852, the site came under the auspices of the Pontifical Commission for Sacred Archaeology (PCAS), a Vatican organisation dedicated to the safekeeping, study and preservation of all Christian catacombs in Rome.

Archaeological investigations

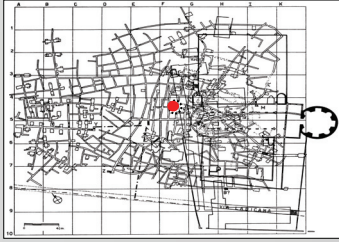


Figure 1. Plan of cemetery complex *San Pietro e Marcellino*. Taken from J. Guyon (1987)

The greatest part of the galleries was gradually cleared from the end of the nineteenth century up to the 1970s. However, a small area located centrally with respect to the network of underground galleries (red point, fig. 1), remained inaccessible because of substantial amounts of rubble. In 2002, investigations from the PCAS were carried out there as a result of necessary maintenance of the area's waterworks.

The traditional scheme observed in the catacomb, and indeed in other catacombs are normally characterised by straight galleries provided with *loculi* (simple individual burials), *arcosolia* (more elaborate burials) or *cubicula* (small chambers in which are regrouped several individual burials) (fig. 2a, b, c).

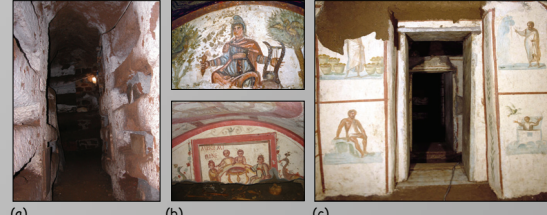
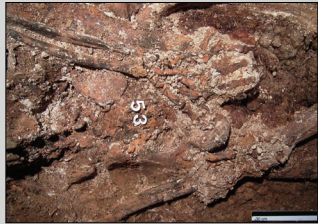


Figure 2. a : Loculi, b : arcosolia, c : cubiculum. Photos archives PCAS

By contrast, the newly examined burial area was formed of different large rooms (fig. 3). Each of them comprised articulated skeletons laid down at the same time, and so constitute a mass grave. Our intervention targeted two burial areas both threatened by the construction of new supporting pillars (T16 and T18, red points).



Arguments can be put forward in support of deposition in a single event. Precise osteological observations could be made in situ suggesting that individuals were deposited simultaneously or quasi-simultaneously (fig. 4).

Figure 4. Superposition of one individual's hand (carpus and metacarpus in perfect anatomical connection, green arrow) on the knee of another individual (red arrow). Photo UMR 5199 PACEA.

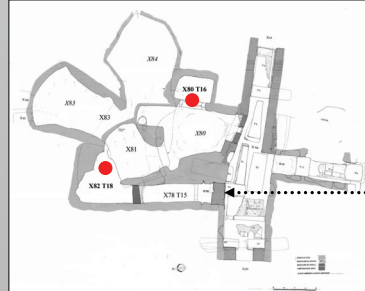


Figure 3. Plan of the central sector of the catacomb and location of interventions. Drawn by M. Ricciardi.

The exposing of an early Mediaeval wall painting, which sealed the access corridor of one of the burial areas, at first led to the hypothesis of a mass grave of martyrs, because of certain pictorial details (fig. 4).



Figure 5. Wall painting. Photo archives PCAS

Burial rites

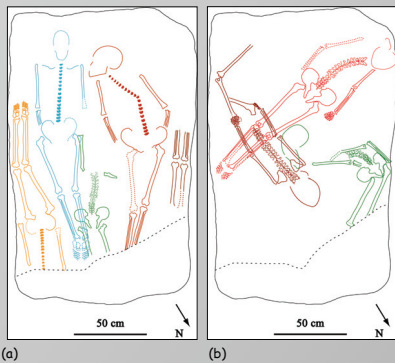


Figure 6. Successive levels of one tomb: the most common orientations are north-south (a), but some skeletons completely diverge from the norm (b). Drawn by M. Coquerelle.

In each burial several individuals lie side by side or on top of each other. On many levels the bodies were supine, often next to each other, occasionally turned 180° from the dominant axis (head to toe). This organisation was not applied uniformly on all levels. Sometimes some individuals are not found lying on their backs, but on their side or even prone (fig. 6).



The bodies were treated in a specific and systematic manner. Skeletons showed many signs of compression (fig. 7). A whitish-grey matter, plaster, covered the body from head to foot and often showed imprints of textile on its external face (fig. 7a), implying that the bodies were first covered in it before being wrapped in cloth. A red crystallised residue covering some bodies was identified as amber (fig. 7b) and many small gold threads were repeatedly observed (fig. 7c).

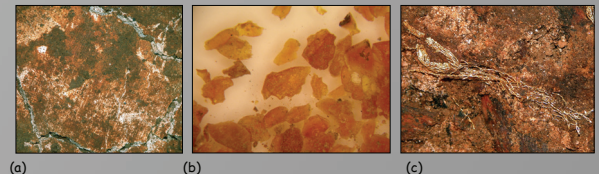


Figure 7. All the individuals are rigorously aligned within a restricted space linked to the treatment of the bodies (a : cloth with plaster ; b : amber ; c : gold)

Biological assessment

Despite the poor preservation, we have attempted to estimate the age and sex of each individual. Tombs T16 and T18 contained 84 and 78 individuals respectively but we have also re-analysed an another tomb X78/T15 and studied the bones from sections and probes (in all, 315 individuals). Taking into account unexcavated sectors, we estimate the total number of individuals to be in excess of 1300 individuals. In terms of age at death we have been able to highlight a predominance of young adults and a dearth of children. Sex determinations suggest a high percentage of female subjects. We have not detected any traumatic lesions, a fact that would exclude the hypothesis of a massacre. We have been able to estimate stature and propose an average height of 1.6m, a height relatively tall for the period, perhaps indicating the presence of a middle or higher social class.

A recent carbon 14 analysis of a skeleton gave a calibrated age 28-132 A.D., a datation which proves the anteriority of the excavated sector to other funerary activity in the catacomb. Several elements lead us to conclude that the inhumations discovered reflect a fatal incident affecting a large group of people. The absence of traumatic lesions on the bones lends support to the hypothesis of an epidemic, perhaps the famous 'Antonine plague', in fact an epidemic of smallpox? However other epidemics, such as typhus or dysentery, may be incriminated. The site's unusual character lies in the funerary treatment of its individuals. Indeed, the treatment carried out recalls mummification, and seems to refer to some 'exotic' practices, possibly connected to very early Christianity. There are also some indications of a high social status. Continuing research and thorough investigation of relevant texts should answer many of the questions raised by these archaeological remains.

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