



## **Imperial Rome and Ostia**

### *The Dome of the Caldarium*

#### **Janet Delaine**

The dome of the caldarium, and the triple cross-vault of the frigidarium, are among the great feats of Roman concrete building technology. But the planning and execution of the complex as a whole in a relatively short period was itself a remarkable building achievement. The Baths of Caracalla we think were finished in six years, and if one calculates back from the structure to the quantity of manpower required, it means that perhaps ten thousand men would have been working on the site at peak periods, working twelve hour days and three hundred days a year, whereas if we include the production of building materials and the transport of materials, people like ox cart drivers, perhaps as many as sixteen thousand individuals could have been employed at one time. Supplying the marble to the Baths of Caracalla was a major undertaking. There are two hundred and fifty two columns in the central block alone, and there must have been a further hundred or more in the surrounding porticoes. The largest columns in the Baths of Caracalla, with fifty foot shafts, came from Mons Claudianus, that is they are the top range imperial material. It is probably true to say that the Romans were not technologically very inventive, what they were excellent developers of technology. It was the development and application of technologies such as concrete construction, aqueducts, heating systems and window glass which so enhanced the quality of life for the inhabitants of Rome and Ostia. The most spectacular results of technological developments, such as the great imperial baths, depended on a peculiarly Roman genius for large scale organisation without which neither the city of Rome, nor the Empire itself, could have existed. But it would be wrong to portray the Romans just as competent organisers with a practical flair. To construct out of concrete an architectural wonder such as the Pantheon requires the kind of imagination that lies at the heart of all technological creativity.