

# *Aventicum* (Avenches), capital of the *Helvetii*: a history of research, 1985-2010.

## Part I. Early Roman *Aventicum* and its origins

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### Introduction

*Aventicum* was the capital of the territory of the *Helvetii* during the Roman period. It extended over a large part of what is now Switzerland, from the right bank of the Rhône near Geneva to Lake Constance, and from the Alps in the south to the Jura Mountains in the north; it also included the territory of the *Rauraci* with *Augusta Raurica* as its centre.<sup>1</sup> The Roman city, which once boasted up to 20,000 inhabitants, was located on the site of the small community of Avenches in the French-speaking Canton Vaud, just west of the border with the German-speaking part of the country.

The memory of the ancient past was always kept alive in Avenches.<sup>2</sup> An active interest in the Roman city began in the 17th c. and gradually intensified, until it found an institutional expression in the 19th c. with the founding of the Roman Museum in 1824<sup>3</sup> and the Association Pro Aventico in 1885.<sup>4</sup> Only since 1964, however, has the site been cared for by experts.

The authorities of Canton Vaud introduced legislation to protect the archaeological remains as early as 1898, which eventually led to the creation of the Spatial Planning Act in 1987. This law regulates construction and development within the area of the ancient city, outlining preventive archaeological measures within the development zone and designating as untouchable the preserved monuments and a considerable area around the forum.<sup>5</sup> In spite of these restrictions, Avenches underwent a phase of intensive development between 1985 and 2008, which included the construction of residential areas and industrial estates, the installation of a district heating system for the community, and a reparcelling of the agricultural zone within the municipality.<sup>6</sup>

The past 25 years of excavation and research in Avenches have yielded a great deal of information, which has significantly improved our understanding of the chronology of ancient *Aventicum*, its economic significance, and its integration into the Roman Empire. Because the most recent summary of the archaeology of Avenches was published in 1972,<sup>7</sup> it seems appropriate now to attempt a new synthesis that incorporates this abundance of new information and places it within a larger historical and topographical context.<sup>8</sup>

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1 Frei-Stolba 1999, 69-73; Meylan Krause 1999, 9, fig. 2.

2 Meylan Krause 2004.

3 In 1838 the Roman Museum was installed in the mediaeval tower of the amphitheatre.

4 Tuor-Clerc 1984; Brodard, Castella and Dal Bianco 2008; Dal Bianco *et al.* 2010, 4-14.

5 Meylan Krause 2004, 103, fig. 81.

6 See the "Chroniques des fouilles archéologiques" published annually in the *BPA* (for all abbreviations of the local series, see n.8 below).

7 Bögli 1972; Drack and Fellmann 1988, 337-48.

8 I managed the site of Avenches from 1995 to 2010. This paper summarises and interprets the research carried out during that period and in the preceding years by many former employees and colleagues. The list of references is incomplete; in many cases I have listed only the most

Between 1984 and 2009, a total of 144 excavations were carried out in Avenches within an area of c.45,000 m<sup>2</sup>. A further 13 km were excavated during the installation of sewage and water mains and power lines. Most of these excavations took place under serious time constraints and with minimal funding. Short reports of all the excavations were published in the *Bulletin de l'Association Pro Aventico*. We were also able to conduct comprehensive studies and detailed analyses of the finds and features from a small number of excavations.

Apart from the work of excavation itself, post-excavation research has also intensified over the past 20 years. The collaboration between local archaeologists and historians and archaeologists at various universities in Switzerland,<sup>9</sup> Germany<sup>10</sup> and France<sup>11</sup> has yielded invaluable results. Interdisciplinary collaboration with scholars in the fields of archaeozoology and archaeobotany,<sup>12</sup> historical anthropology,<sup>13</sup> dendrochronology<sup>14</sup> and other natural sciences has also increased during the past decade. The work has focused on the research interests of scientists working in Avenches (e.g., architecture, cemeteries, metals and crafts, pottery, glass, numismatics, mosaics, wall-paintings) and has also led to the creation of collaborative projects with scientists from other institutions (e.g., sculpture, epigraphy).

### The Avenches region in the 1st c. B.C.

Until the late 1990s it was widely believed that the region around Avenches was only sparsely settled in the 1st c. B.C., and that the material influence of the Roman Empire had hardly been felt in the area (fig. 1 in colour). Although the *Helvetii*, a tribe of Celtic origin, had after their defeat by the Roman army in 58 B.C. at *Bibracte* been forced to return to the Swiss plateau, where they came under Roman control,<sup>15</sup> material evidence for this resettlement during the period between the battle and the complete incorporation of their

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recent publications, which in turn contain references to earlier scholarship. The results of the research were published chiefly in the journal *Bulletin de l'Association Pro Aventico* (BPA), the *Documents du Musée Romain d'Avenches* (DocMRA), the *Cahiers d'Archéologie Romande* (CAR), and the *Jahrbuch von Archäologie Schweiz* (until 2005 the *Jahrbuch der Schweizerischen Gesellschaft für Ur- und Frühgeschichte*). A list of 234 articles published between 1887 and 2007 can be found in BPA 50 (2008) 24-38.

- 9 The collaboration with the Univ. of Lausanne has been particularly close: over the course of the past 25 years, 4 doctoral theses (H. Amrein, M. Fuchs, S. Delbarre-Bärtschi, G. Matter) and 15 Master's theses (H. Amrein, P. Blanc, D. Castella, A. Combe, J.-P. Dewarrat, A. Duvauchelle, S. Freudiger, C. Grezet, C. Meystre, S. Reymond, A. Schenk, S. Thorimbert, M. Tille, A. Voirol, N. Vuichard Pigueron) have been produced on topics relevant to *Aventicum*, and most of these have been published. The Univ. of Basel has also collaborated (V. Schaltenbrand-Obrecht, forthcoming).
- 10 Univ of Osnabrück (Oelschig 2009).
- 11 Univ. of Burgundy in Dijon (Lachiche, forthcoming); Univ. of Paris IV, La Sorbonne, with the Univ. of Lausanne (Delbarre-Bärtschi 2007); CNRS Bordeaux (Nelis-Clément 2008); CNRS Lyon et Orléans (Nenna and Gratuze 2009).
- 12 Castella *et al.* 2002; Deschler-Erb, forthcoming; Lachiche, forthcoming.
- 13 Castella *et al.* 2002; Kramar 2005.
- 14 Blanc 2001a, 26. Because of the high groundwater, the foundations of many of the ancient buildings at the site were supported on wooden piles. These piles, exclusively of oak, as well as other wooden artefacts (e.g., coffins), are often sufficiently well preserved that they can be dated by dendrochronological means.
- 15 According to Frei-Stolba 1999, 30-32, this control probably took the form of a *deductio*, not a *foedus* as previously assumed. Cf. Fellmann 1992, 9-30.

territory into the empire in 15 B.C. long proved very elusive. The fact, however, that the *Helvetii* were not mentioned on the *Tropaeum Alpium* at La Tourbie after the successful Alpine campaign of 16/15 B.C. may be an indication that the integration of their territory into the Roman empire had already been concluded by that time.<sup>16</sup> Although the territory was initially annexed to the province of *Gallia Lugdunensis*, then to *Gallia Belgica*, and from the period of Domitian to *Germania Superior*, administrative structures must have existed, most likely concentrated in one place. Was the administrative centre always *Aventicum*? We do not know. The fact that the colony of *Iulia Equestris* (Nyon) was founded already in 45/44 B.C. and the colony of *Augusta Raurica* in 44 B.C., suggests that these two settlements, one on the western edge and the other on the northern border of the territory of the *Helvetii/Rauraci*, may have been given a special rôle to put political pressure on the *Helvetii* prior to the Alpine campaign of 16/15 B.C and the following principal phase of Romanisation under Augustus.<sup>17</sup>

What did the material culture in the territory of the *Helvetii* look like in the first half of the 1st c. B.C., and in the period between 50 and 15 B.C., before and after their failed attempt to emigrate to SW France? Archaeological remains from these periods have increasingly been found at sites such as Yverdon-les-Bains, Gressy near Sermuz (VD), Ursins and Morat-Combette.<sup>18</sup> A certain degree of Romanisation, in the form of more frequent imports of everyday items, is unmistakable. It was obvious that a settlement must have been located near the *oppidum* on the Bois-de-Châtel just south of Avenches, which was in use after the defeat at Bibracte in 58 B.C.,<sup>19</sup> and near the future city of *Aventicum*. Nevertheless, the remains of the period between 50 and 15 B.C. were difficult to recognise in Avenches for two reasons. First, a change of attitude was necessary. Researchers have now realised that the 35 to 50 years in question could not have been entirely free of human activity, and since the corresponding artefacts had to be present, they urgently needed to be found. Second, archaeological assemblages with datable material had to be discovered in order to be able to define and date the local products. From 1995 onwards, we directed research in Avenches towards these goals.

By coincidence, rescue excavations in Avenches between 1994 and 2009 brought to light several burials and pits dating to the period between the 2nd c. and c.40 B.C. (fig. 2 in colour, fig. 14, and fig. 20 in colour). The earliest graves were two *Hockergrab* burials (“inhumation en position assise”), probably of the 2nd c. B.C., found beneath a later Roman round temple (fig. 2 in colour at E, figs. 7:1 and 14:1).<sup>20</sup> They have parallels in Geneva-Saint-Antoine and in Acy-Romance (France).<sup>21</sup> Two urn burials from the second quarter of the 1st c. B.C. were also found, one quite near the Roman theatre in the district of *Au Lavoëx* (fig. 2 in colour at B and fig. 14:4), the other beneath the later temple of *Derrière la Tour* (fig. 2 in colour at D and fig. 14:2).<sup>22</sup> The urns can be dated with certainty to the phase La Tène D1. The grave goods from the first burial (fig. 2 in colour at B, figs. 14:4 and 7:2) included

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16 See Frei-Stolba 1999, 30-32 and 69-73. I am grateful to R. Frei-Stolba for discussing this subject with me.

17 Fellmann 1992, 16-18; Frei-Stolba 1999, 31; ead. 2003, 70-71.

18 Curdy *et al.* 1997.

19 Kaenel and von Kaenel 1983.

20 Moinat 1993; Morel, Meylan Krause and Castella 2005, 31; P. Blanc in Bündgen *et al.* 2008, 128-30.

21 Mordant 1998; Haldimann and Moinat 1999.

22 Meylan Krause 1997, 11, fig. 6.



Fig. 4. Avenches *Sur Fourches*: Late La Tène pit with post holes (St 28/03); behind it a Roman drystone wall feature (L 3) (Bündgen *et al.* 2008, 46, fig. 7).

not only a brown trout, a pear and cereals, but also metal artefacts, two of which may be parts of weapons, a possible (Celtic?) helmet mount and a spear butt.<sup>23</sup>

The most important finds from the first half of the 1st c. B.C., however, were discovered between 2003 and 2009 in the area *Sur Fourches*, 60 m outside the W gate of *Aventicum* in the west cemetery of the Roman city (fig. 2 in colour at A, fig. 3 in colour, and figs. 4-6). The material dates from c.80-50/30 B.C.<sup>24</sup> and was found in the fill of three pits, a post construction and a cistern. One of the pits (St 28/03; fig. 3 in colour, fig. 4) was initially believed to have been a princely grave with the remnants of a funeral meal; this conclusion was suggested by the extraordinarily high quality of the bronze finds, which included rein rings (fig. 5) and bronze vessels (a wine strainer, drinking cups) of southern Alpine type, as well as an imported Dressel 1 amphora, many fragments of Celtic pottery and other finds. The

23 Morel, Meylan Krause and Castella 2005. I am grateful to J. Schibler, H. Hüster and S. Jacomet for access to the unpublished results of the archaeozoological and archaeobotanical analyses (IPNA, Univ. of Basel).

24 Bündgen *et al.* 2008.



Fig. 5. Avenches *Sur Fourches*: Late La Tène bronze rein rings (from pit St 16/03). W. of ring at bottom right 4.7 cm (Bündgen *et al.* 2008, 73, fig. 37).

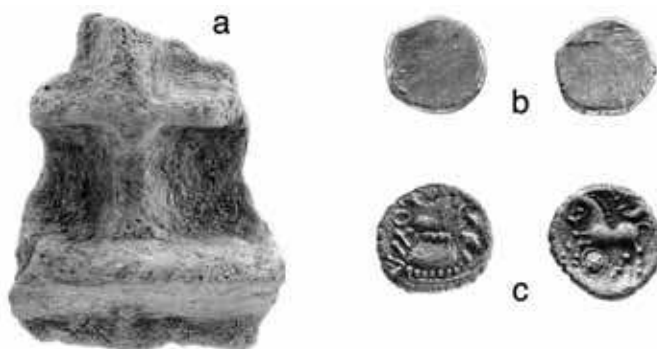


Fig. 6. Avenches *Sur Fourches*: (a) fragment of a Late La Tène coin mould, h. 3.5 cm; (b) *potin*; (c) silver *quinarius* of Viros type (c.75-25 B.C.) (from pit St 1/04-05) (Bündgen *et al.* 2008, 124, fig. 106:216, 217, 295).

interpretation was rejected, however, following analysis of the animal bones found in the pit; the extreme fragmentation of the bones and the fact that they were mixed with waste of the sort typically associated with floor-sweeping suggested that this was a domestic rather than a funerary context.<sup>25</sup> The finds helped to define the pottery produced locally during La Tène D2a, which will facilitate the identification and dating of other contexts in the future.<sup>26</sup> A fragment of a coin mould, a silver flan (*potin*), and several silver *quinarii* (fig. 6), found in the same section, have provided important evidence of the manufacture of Celtic coins at the site, and shed new light on a Celtic die used to mint gold coins, the die being an early find with an unknown provenance now in the Roman Museum in Avenches.<sup>27</sup> The excavations in *Sur Fourches* and a search of the area with a metal detector have added considerably to the total number of Celtic coins from the first half of the 1st c. B.C. found in Avenches, and highlighted the fact that the coins are concentrated in this district west of the later (Roman) city.<sup>28</sup> This too suggests a settlement rather than a funerary context. A test excavation in 2009 finally brought to light positive evidence of the existence of a settlement in the area, a pit with settlement garbage, with pottery from c.100 B.C., a *potin* from

25 J. Méniel in Bündgen *et al.* 2008, 127-28.

26 S. Bündgen in Bündgen *et al.* 2008, 59-70.

27 S. Frey-Kupper in Hochuli-Gysel 2001, 10, figs. 10-11.

28 S. Frey-Kupper in Bündgen *et al.* 2008, 98-104, 122-25 and fig. 106; Frey-Kupper 2008; ead. in Amoroso and Castella 2009, 99-102 and 102 fig. 24.

the same period, charcoal fragments and animal bones.<sup>29</sup> Future investigators will have the task of clarifying the lifespan of the settlement, its size and structural organisation, and its relationship with the La Tène D1 burials mentioned above.

Confirmation of the existence of a Late La Tène settlement in *Avenches Sur Fourches* does not absolve researchers from continuing the search for residential structures beneath the later (Roman) city, in order to test the possibility of continuity of settlement at that site. The fact that no such structures have ever been observed within the area occupied by the city of *Aventicum* may be due in part to the methods employed in the early years of archaeological investigation, when excavations usually reached no deeper than the bottom of the masonry foundations of the monuments of the Roman period. Nevertheless, several prehistoric sites (chiefly of the Bronze and Early Iron Ages) have been discovered, and excavations at the W edge of the forum in 2003 brought to light half a *stater* of the 2nd c. B.C. and a fragment of a Late La Tène glass bracelet.<sup>30</sup> These disparate prehistoric and pre-Roman finds have not yet been studied in detail, however, and their possible associations with actual settlements remain unclear. Whether or not the site of the Roman city was already inhabited in pre-Roman times must therefore remain an unanswered question, at least for the time being.

### The founding of *Aventicum*

No historical records of the founding of *Aventicum* have survived. In order to understand the choice of location, the chronology, and the Roman principles involved in the establishment of the city we must rely entirely on the archaeological evidence and our knowledge of Augustan provincial policy.

The questions surrounding the choice of location cannot be conclusively answered. Why did the capital of the territory of the *Helvetii* in the Roman period develop at Avenches and not at Nyon, Yverdon, Berne or further east on the Swiss plateau? Was the choice linked with decisions made at the same time about future military installations, the first of which was the legionary camp at *Vindonissa*, founded in the early 1st c. A.D.?<sup>31</sup> With the establishment of *Aventicum* at Avenches and *Vindonissa* at Windisch, the administrative and military centres were evenly distributed within the territory of the *Helvetii*. To what extent were Helvetian aristocrats involved in the decision? Important members of this class, such as the family of the *Camilli*, must have been based in what is today western Switzerland.<sup>32</sup> Moreover, the archaeological evidence shows that several sites between Lausanne and Neuchâtel, among them, for example, Yverdon, had already developed into important centres in the second half of the 1st c. B.C. Was Yverdon not chosen because that area was too marshy in antiquity and did not therefore provide enough suitable land for the heavy Roman stone buildings?

One factor in favour of Avenches was its convenient location (fig. 1 in colour).<sup>33</sup> The city was linked with the surrounding region by a network of long-distance roads that already

29 Amoroso and Castella 2009, 99-102.

30 Blanc 2009, with fig.

31 On the so-called Walensee towers, which were among the earliest military installations on the E edge of Helvetian territory, see Frei-Stolba 2003, 70-71; Fischer 2005 (with a summary of the controversy).

32 Frei-Stolba 1996; ead. 1999, 73-74.

33 Castella 2001.

existed and could be further extended, and to waterways that formed a continuous route from Lake Morat to the North Sea. The early use of this water route is confirmed by harbour constructions on Lake Morat, the oldest timbers of which have been dated to A.D. 5.<sup>34</sup>

The founding of the city did not necessarily coincide with the archaeologically dated construction of the orthogonal street grid and the earliest buildings. It is entirely possible that the decision to establish the city was made a few years before the work actually began. A striking aspect of the street grid is its orientation: the *decumanus maximus* runs from southwest to northeast, a divergence of 45° from the usual E–W axis. This orientation must have been derived from the course of a pre-Roman cross-country road, which was itself determined by the general topography of the site.<sup>35</sup> The swampy areas along the river Broye and its confluence with Lake Morat were the reason why the old arterial road had run around the S edge of the hill on which the mediaeval and modern city of Avenches now stands; it then continued east below the sloping terrain, past the site of the later NE gate of the city, probably along the same route that subsequently ran through the suburb of *En Chaplix* (fig. 2 in colour).

An analysis of the allotment system has shown that Roman land-surveying is readily recognisable within the city of Avenches but not in the region around it where different orientations can be identified,<sup>36</sup> as for instance towards the rising sun on the days of the solstice. Another orientation may reflect the re-allocation of plots after the riots that took place in A.D. 69 and again when the city's status was elevated to that of a colony in 71/72.<sup>37</sup>

The archaeological record of the earliest phase of the Roman city consists of a series of disparate finds. One of the earliest 'Roman' features is a pit beneath the *cella* of the *Derrière la Tour* temple, located near the second La Tène D1 burial mentioned above (fig. 2 in colour at D and fig. 14:2). The pit, which was filled in a single operation and must pre-date the temple, contained a variety of ceramic vessels, mainly local ware, but also several examples of terra sigillata and imported fine wares, including an Arretine plate (stamped *L.Tetti/Crito*) and a plate from Lyons (black sigillata).<sup>38</sup> Thanks to these imports one may tentatively suggest a date between 40 and 20 B.C. Although the function of the pit is not clear — was it linked with a burial or connected with religious ceremonies that took place in the vicinity before the temple was built in the 1st c. A.D.? — it represents a period which has so far yielded only a small number of finds and no residential structures, and the fact that it is clearly dated has allowed researchers for the first time to draw conclusions about the local pottery of the period. A pit of similar date was discovered in the *Au Lavoëx* area, in the immediate vicinity of an earlier grave (fig. 2 in colour at C and fig. 14:3).<sup>39</sup> Yet another pit with a fill of the late 1st c. B.C. (fig. 2 in colour at D and fig. 14:2),<sup>40</sup> found beneath the entrance stairs of the later round temple, was probably closely linked to a contemporaneous small religious structure of mixed timber and loam construction, and to two (or possibly three) *Hockergrab* burials from the 2nd c. B.C. (fig. 2 in colour at E, figs. 7:1, 14:1).<sup>41</sup>

34 Bonnet 1982; Orcel and Orcel 1985.

35 See Combe 1996, 11-12; de Pury-Gysel 2008, 25.

36 Combe 1996, 12.

37 Ibid. 19.

38 Meylan Krause 1997, pl. 1:1-7.

39 Morel, Meylan Krause and Castella 2005, 36, figs. 9 and 17.

40 Meylan Krause 2008, 62-63.

41 Morel and Blanc 2008, 40-41.



Although the purpose of these pits remains uncertain, they constitute direct evidence of human activity in the area during the late 1st c. B.C., and suggest the existence of trade links with the Roman world, as well as a certain rapprochement towards it.

Also significant is a female burial of the Augustan period (c.15-10 B.C.) found in the cemetery at *En Chaplix* (fig. 2 in colour at F and fig. 17:1).<sup>42</sup> The grave goods recovered from this *bustum* burial (figs. 8-9) appear aristocratic in nature. They include, among other things, 5 brooches (2 Norican-Pannonian brooches of the type Almgren 238, and 3 *Distelfibeln* or thistle brooches), 5 Italian terra sigillata vessels, two of which are stamped (*C. Senti* and *C. Memmi*), a Pascual type 1 amphora, local pottery, and a large number of coins dating to the Republican and Augustan periods (Nîmes, series I and II; Lyon, mint-master series and altar series). On the evidence of the brooches, the deceased may have been a 'foreign' lady who was familiar with Norican-Pannonian dress of the Menimane type.<sup>43</sup> The remains of two other grave deposits of a somewhat later date were found near this earliest *bustum* burial. Subsequently, probably in the Tiberian period, a *fanum* was built over the earlier grave (figs. 17:1 and 18). A second temple a little further to the south is even later. Like the west sanctuary precinct, the *En Chaplix* area contained a succession of burials and religious complexes. Whether these constitute evidence of ancestor worship is a question worth further investigation.<sup>44</sup>

These earliest Roman graves and the associated sacred facilities in *En Chaplix* and in the

Fig. 7. Late La Tène and Early Imperial burials in the W sanctuary precinct and *insula* 20 (Castella 2008, 119, fig. 19).

1. Crouched burial (*Hockergrab*) (Middle or Late La Tène; fig. 14:1).

2. Cremation burial (Late La Tène D1; fig. 14:4).

3. Cremation burial? (Augustan; *insula* 20; fig. 14:5).

<sup>42</sup> Castella 2008, 106-9.

<sup>43</sup> Castella 1993; Mazur 1998, 34-35.

<sup>44</sup> *Ibid.* 117-20.



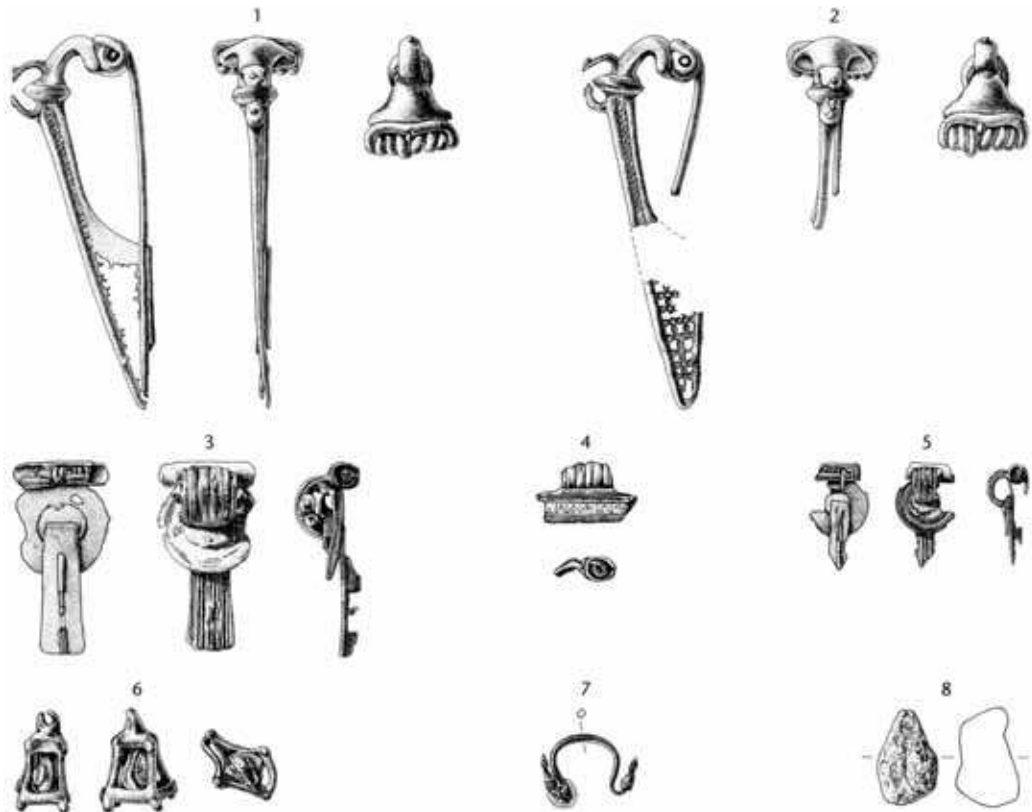


Fig. 8. Avenches *En Chaplix*: grave goods from an Augustan cremation burial (St 269: 15-10 B.C.) (Castella 2008, 107, fig. 5).

- 1-5. Bronze brooches.
- 6. Bronze pendant with rock crystal.
- 7. Bronze handle.
- 8. Rock crystal.

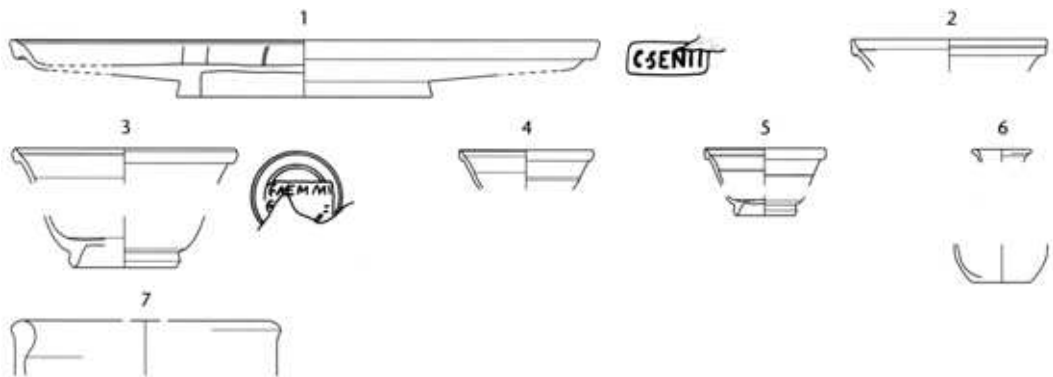


Fig. 9. Avenches *En Chaplix*: grave goods from an Augustan cremation burial (St 269: 15-10 B.C.). Scale 1 : 4; stamp 1 : 1 (Castella 2008, 108, fig. 5).

- 1-5. Italian terra sigillata.
- 6. Pottery balsamarium.
- 7. Pascual type 1 amphora.

west sanctuary precinct appear to have been placed at the edges of the city, although no contemporaneous or earlier residential structures have yet been identified that might be associated with the burials. This is another area in which we can expect further insights as a result of future investigations.

### The name of the city

Three names are attested for the administrative capital of the territory of the *Helvetii*: *Aventicum*, *Forum Tiberii*, and *Colonia Pia Flavia Constans Emerita Helvetiorum Foederata*. The names were used at different times and in different ways.

*Aventicum* has become the name most commonly used in modern scholarship. Although there is no epigraphic evidence for it, it is mentioned as the capital of the *Helvetii* by Tacitus (c.A.D. 100) in an account of the disturbances of A.D. 68,<sup>45</sup> and also by Ptolemy in the mid-2nd c.<sup>46</sup> When the name was first used remains unknown, but it was still in use in the 4th c., as shown by a passage in Ammianus Marcellinus,<sup>47</sup> and it appears as *Aventicum Helvetiorum* in the *Tabula Peutingeriana*.<sup>48</sup> Whether the absence in inscriptions of the toponym itself is simply a coincidence cannot be determined, but the adjective *Aventicensis* is attested repeatedly, both in connection with *incoli* or *coloni*<sup>49</sup> and, as in the Chronicle of Fredegar, with terms such as *pagus* and *territorium*.<sup>50</sup> Also related is the name of *Dea Aventia*,<sup>51</sup> the tutelary goddess of the city, for whom epigraphic evidence begins to appear in the 2nd c. A.D.<sup>52</sup>

The name *Forum Tiberii* occurs only once, denoting a locality in the territory of the *Helvetii* on the 'map of the world' by the geographer Ptolemy.<sup>53</sup> Which city might it refer to? Because the map also included the name *Aventicum*, whether *Aventicum* and *Forum Tiberii* were two different cities or whether the latter was simply an alternative name for the former has been asked for years.<sup>54</sup> The name *Forum Tiberii* can have existed no earlier than the reign of Tiberius, from A.D. 14 onwards; moreover, it can only have denoted the capital of a *civitas*.<sup>55</sup> It is therefore likely to have referred to *Aventicum*. Here, as elsewhere, Ptolemy has erred in attributing names from two different sources to two different locations, when in fact the names refer to the same place.<sup>56</sup> One cannot rule out the possibility that the city experienced significant architectural monumentalisation under Tiberius, particularly in the area of the forum, as a consequence of a *Senatus Consultum* in A.D. 19; this might also have been the motivation for the erection of a group of statues depicting the imperial family (see below). There is, however, no other evidence concerning the date of the name *Forum Tiberii* and the context in which it was used, and it is not clear whether the two names were used simultaneously. If the name *Aventicum* is a later development, one would have to search for another name for the Augustan city.

Little more is known about the third name of the city, the title it carried after it became a colony under Vespasian in A.D. 71/72: *Colonia Pia Flavia Constans Emerita Helvetiorum*

45 Tac., *Hist.* 1.68.6.

46 Ptol., *Geog.* 2.9.21 (Stückelberger *et al.* 2006, 214-15).

47 Amm. Marc. 15.11.12.

48 See Meylan Krause 2004, 18, fig. 2. The name *Aventicum* eventually evolved into the modern name Avenches, which has appeared regularly in written sources since the 11th c.; *ibid.* 26-45.

49 Oelschig 2009, 359.

50 Wolfram 1982, 192 (in connection with events of A.D. 609/10).

51 Two seated statues of limestone have been interpreted by M. Bossert (2006) as possible depictions of *Dea Aventia*.

52 Frei-Stolba and Bielman 1996, 69-76, nos. 17-18.

53 Ptol., *Geog.* 2.9.20 (Stückelberger *et al.* 2006, 214-15). Cf. Rapin 2003.

54 Lieb 1989; Kaspar 1995.

55 Lieb 1989, 108.

56 Rapin 2003, 142. Frei-Stolba 1999, 71.

*Foederata*.<sup>57</sup> Debate over the interpretation of the name is still ongoing; certain questions, such as whether the term *Emerita* can be linked to the settling of veterans, or whether *Foederata* implies the existence of an earlier *foedus* between Rome and the *Helvetii*, are discussed in detail elsewhere.<sup>58</sup> The epigraphic material from Avenches includes only a single inscription that preserves the entire name and a second in which it is incomplete.<sup>59</sup> Other inscriptions use the abbreviated form *Colonia Helvetiorum*.<sup>60</sup>

### The urban development of *Aventicum*

The information about *Aventicum* gathered during the last two decades has led to important new insights about its urban development.<sup>61</sup> The results of excavations and the consequent refinements in the dating and interpretation of the many buildings have allowed us to distinguish three main periods of development (fig. 10 in colour), punctuated by two historical events that had a significant impact on the city's appearance. The first of these occurred in A.D. 71/72, when *Aventicum* became a colony, a political transformation that led to important urbanistic changes; the second was a series of incursions by the Alamanni in the late 3rd c., and probably an attack in A.D. 275 in particular, which put an end to most aspects of the city's development. The differentiation of these phases has not yet been completed, and the Augustan and Late Roman phases in particular have yet to be defined in detail.

### The city prior to A.D. 71/72

If we remove from the plan the public buildings that date to the Flavian period or the early 2nd c. A.D. (the city wall, the *Cigognier* sanctuary, the forum baths in *insula* 29, the theatre and amphitheatre, the *Grange des Dîmes* temple and *Derrière la Tour* palace), we are left with a more modest town (fig. 10 in colour at A).<sup>62</sup> Before A.D. 71/72 *Aventicum* had c.36-42 regular *insulae*, a forum extending across three *insulae*, a public bathhouse in *insula* 23, and temples in both the forum and the *Derrière la Tour* district on the E slope of the hill west of the city, the latter of which may also have included a complex with a swimming pool in *insula* 19. The *cardo maximus* divided the *insulae* northwest of the forum into two sections<sup>63</sup> and continued out of the city in that direction; no corresponding road, however,

57 CIL XIII 5089. Schillinger-Haefele 1994. See also Le Roux 1992, especially 184-90; Frei-Stolba 1999, 73. According to Lieb (1989, 108, n.14) the full title is uncertain (cf. infra n.59).

58 See M. Tarpin, J. Favrod and A. Hirt in Flutsch, Niffeler and Rossi 2002, 57-59.

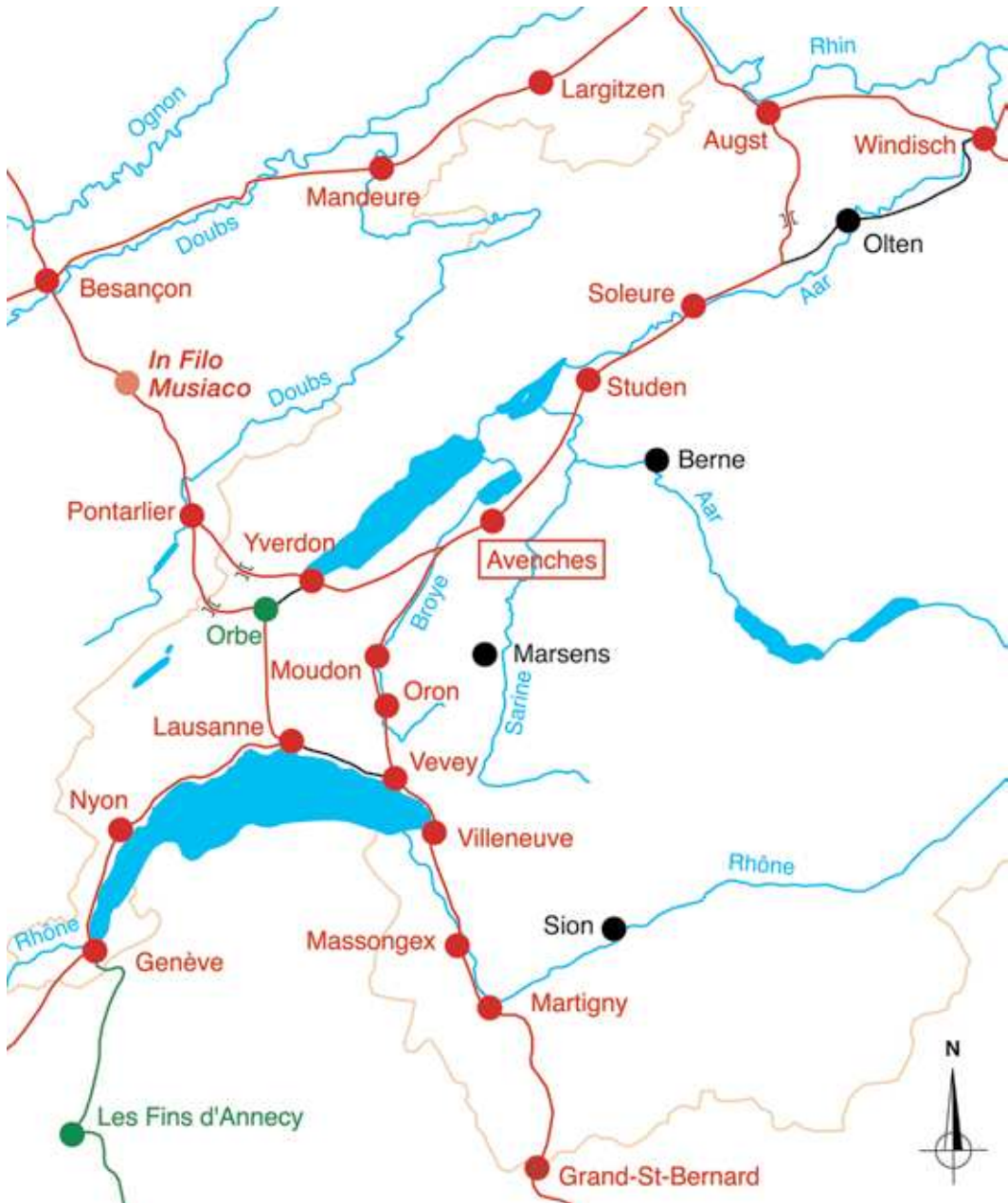
59 CIL XIII 5089 with the complete inscription *Colonia Pia Flavia Constans Emerita Helvetiorum Foederata*, and CIL XIII 5093 with the incomplete inscription *Colonia Pia Flavia Constans Emerita Helvetiorum*. See also Frei-Stolba 1999, 88-90. Lieb (1989, 108) wonders if the name in CIL 5089 may be still incomplete.

60 Van Berchem 1982, especially 132-41; Oelschig 2009, 359. Whether the names *colonia Helvetiorum* and *civitas Helvetiorum* may have been used to distinguish between the capital and the territory is a question to be discussed elsewhere.

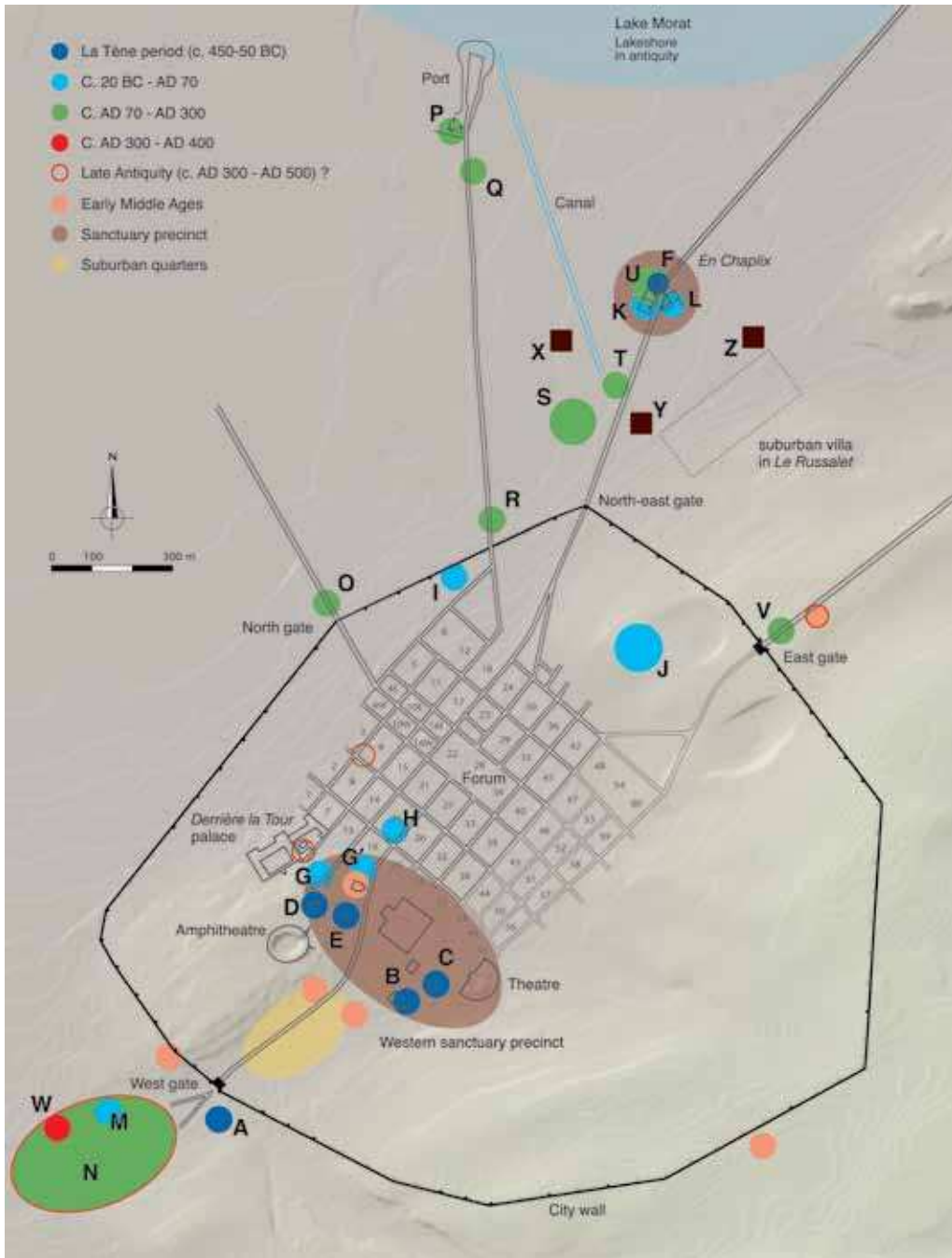
61 A preliminary synthesis was published shortly before important new discoveries were made: Paunier 1994, esp. 53-56.

62 This plan of the pre-colonial town was first presented in 1998 and 1999 in lectures at the 101st annual meeting of the Association Pro Vindonissa and at the University of Munich. Plans of all three main phases, similar to those in fig. 10, were first published in 2001: Blanc 2001a, 21, fig. 27.

63 The same unusual feature has been observed in other Roman cities, e.g., *Augusta Treverorum* (Trier), Cüppers 1990, 581, fig. 511.



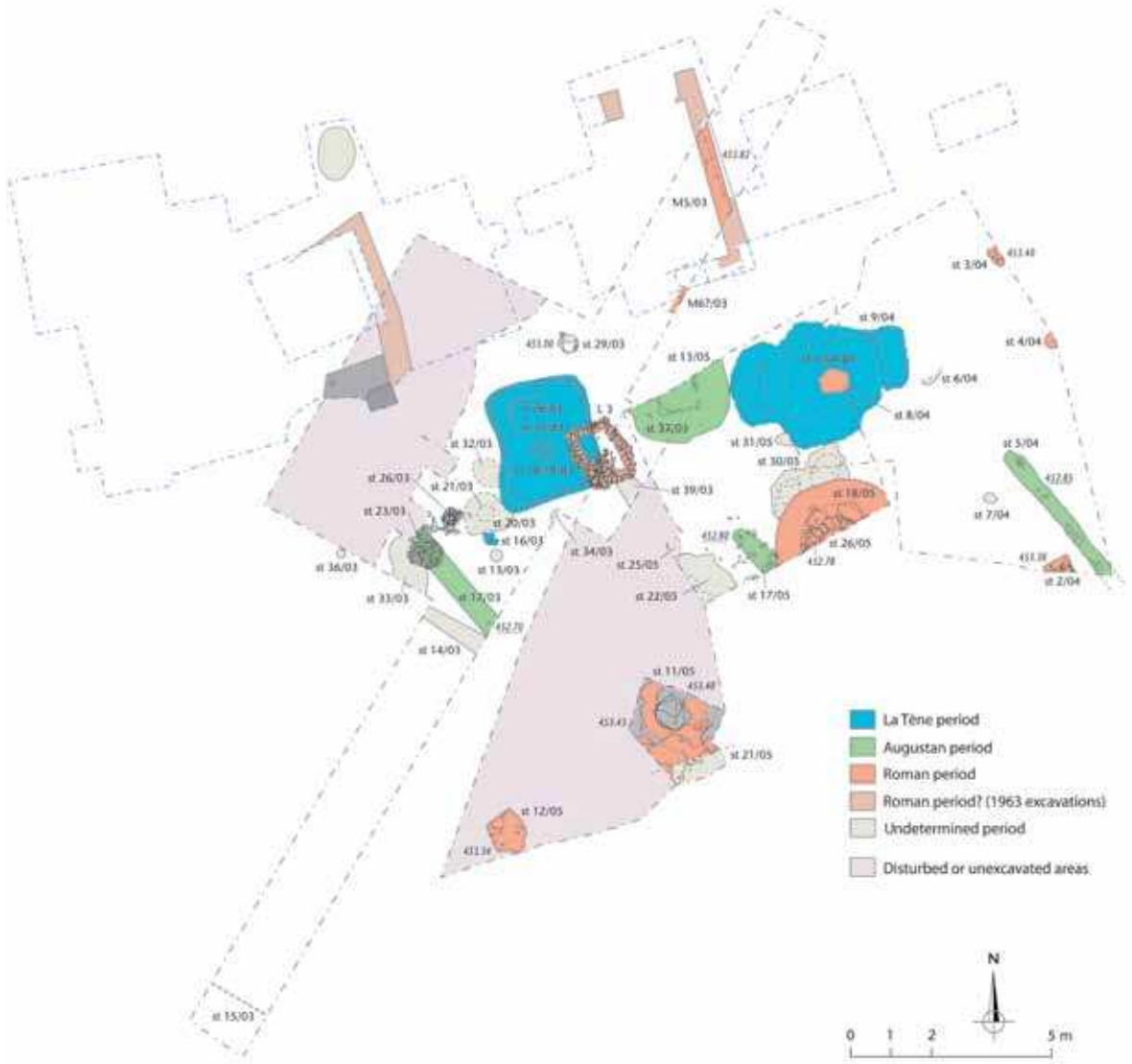
Colour fig. 1. Principal transport routes of the Roman period in W Switzerland. Red: roads and places in the *Tabula Peutingeriana*. Green: road and stations along the *Itinerarium Antonini*. Black: road sections and sites missing from these itineraries (De Pury-Gysel 2008, 22, fig. 1).



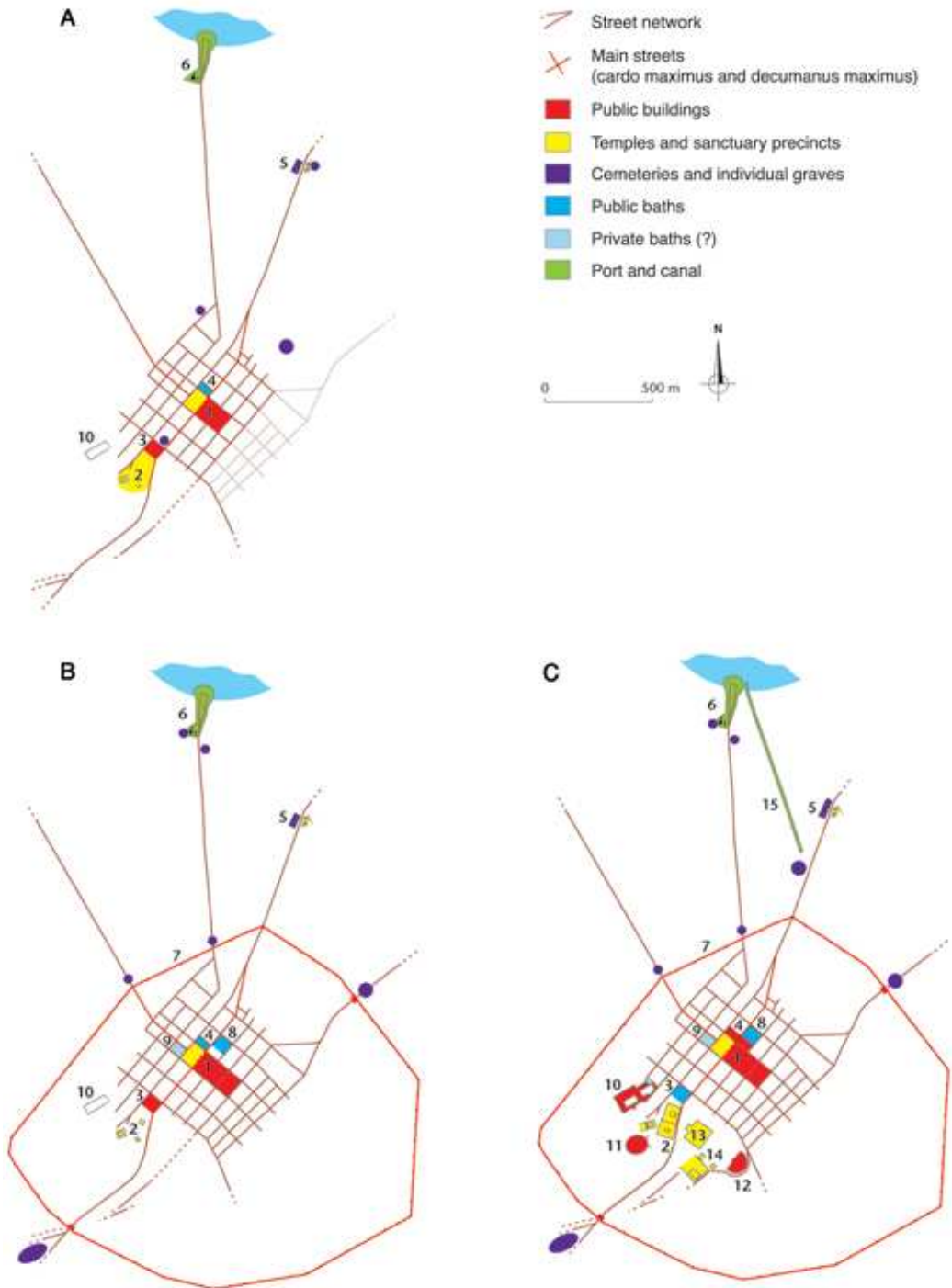
Colour fig. 2. General plan of *Aventicum*, showing location of the cemeteries, the sanctuary precincts and the W suburban quarter (Site et musée romains d'Avenches, J.-P. Dal Bianco).

- A: Late La Tène features at *Sur Fourches* (see fig. 3).
- B-F: Late La Tène graves.
- G-L: Graves, c.20 B.C.–A.D. 70.
- M: Gravestone of Iulia Censorina, first half of 1st c. A.D.

- J: *À la Montagne* cemetery, c.A.D. 30-70.
- N-V: Graves, c.A.D. 70-300.
- N: Western cemetery, A.D. 70-300.
- P: Port cemetery, A.D. 70-c.200.
- S: *Les Tourbières* cemetery, A.D. 150-250.
- U: *En Chaplix* cemetery, c.A.D. 90-250.
- W: Grave, A.D. 300-400.
- X: Water mill, A.D. 57/58.
- Y: Water mill, A.D. 150-173.
- Z: Tile yard, 2nd-3rd c. A.D.



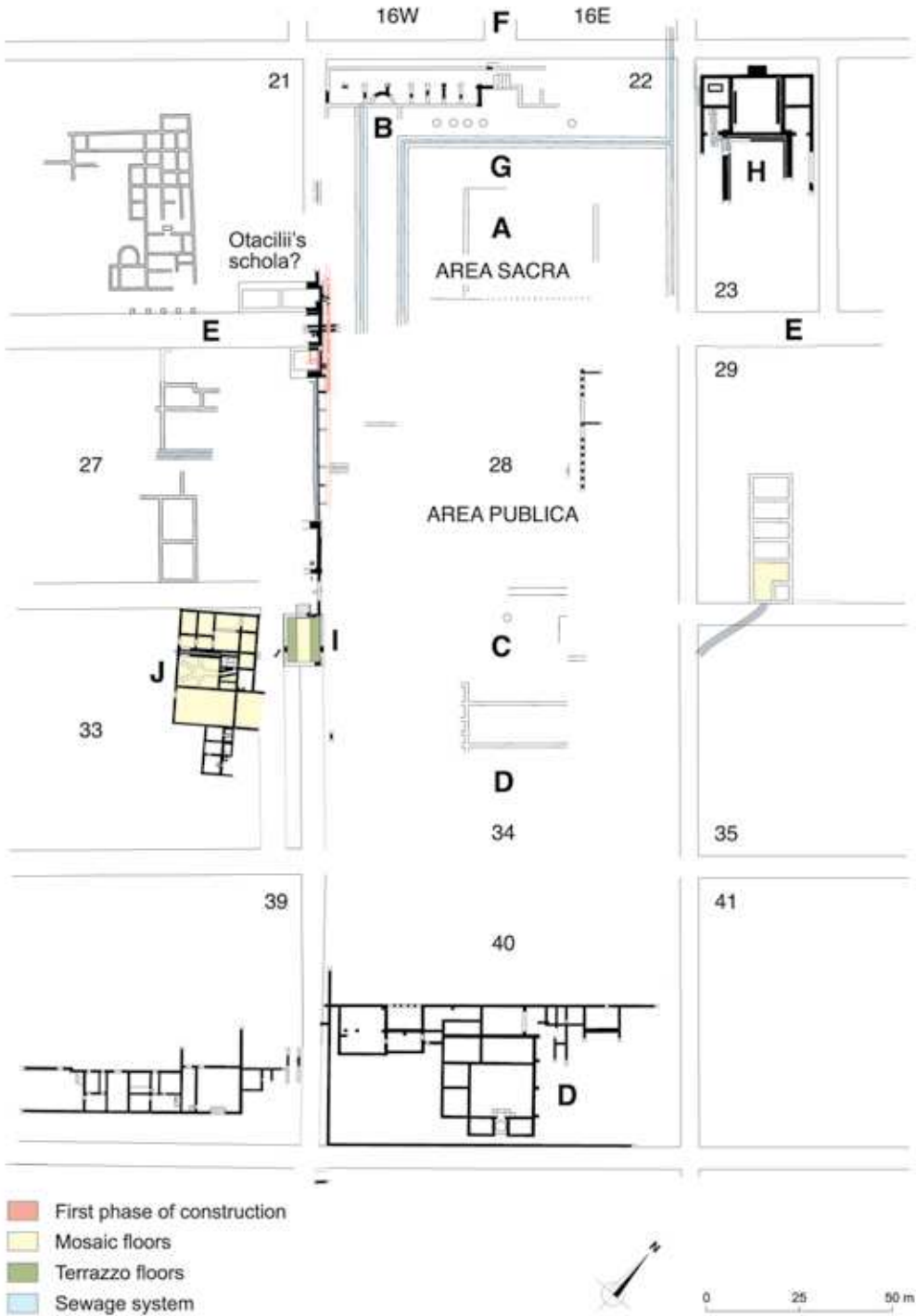
Colour fig. 3. Avenches *Sur Fourches*: excavated areas and Late La Tène features. Elevations are indicated for the lowest areas (Bündgen *et al.* 2008, 46, fig. 6).



Colour fig. 10. Plan showing the main phases of urban development in *Aventicum* (de Pury-Gysel 2008, 24, fig. 3).

A. Late 1st c. B.C.–A.D. 71/72.  
 B. A.D. 71/72–96.  
 C. 2nd–3rd c. A.D.

- |                         |   |
|-------------------------|---|
| 1. Forum.               | 9. <i>Insula</i> 16 west.               |
| 2. Sanctuary precincts. | 10. Palace at <i>Derrière la Tour</i> . |
| 3. <i>Insula</i> 10.    | 11. Amphitheatre.                       |
| 4. <i>Insula</i> 23.    | 12. Theatre.                            |
| 5. <i>En Chaplix</i> .  | 13. <i>Cigognier</i> sanctuary.         |
| 6. Port.                | 14. <i>Au Lavoëx</i> .                  |
| 7. City wall.           | 15. Canal.                              |
| 8. <i>Insula</i> 29.    |   |

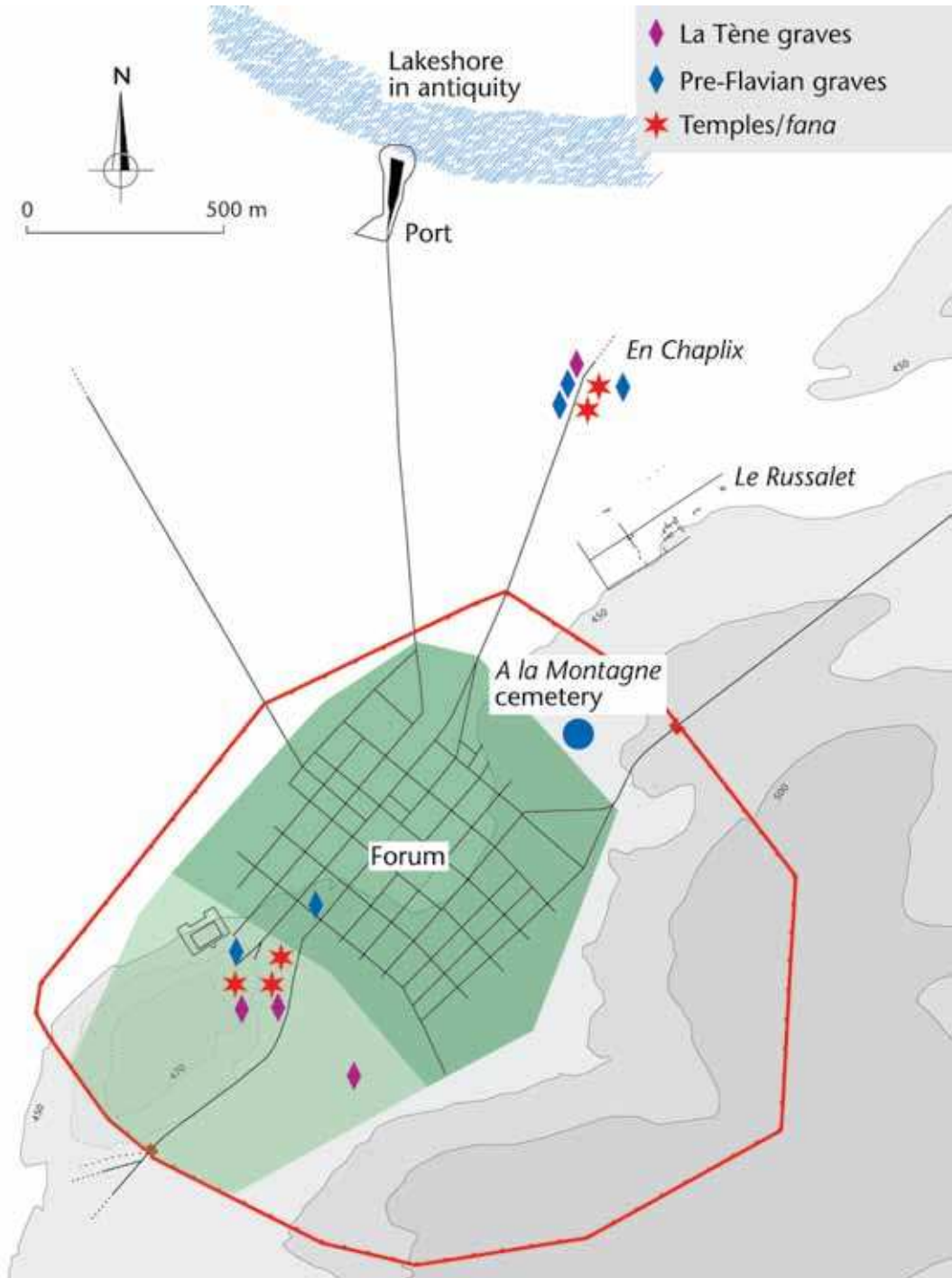


Colour fig. 12 . Schematic plan of the forum of *Aventicum* (Morel and Blanc 2008, 37, fig. 2).

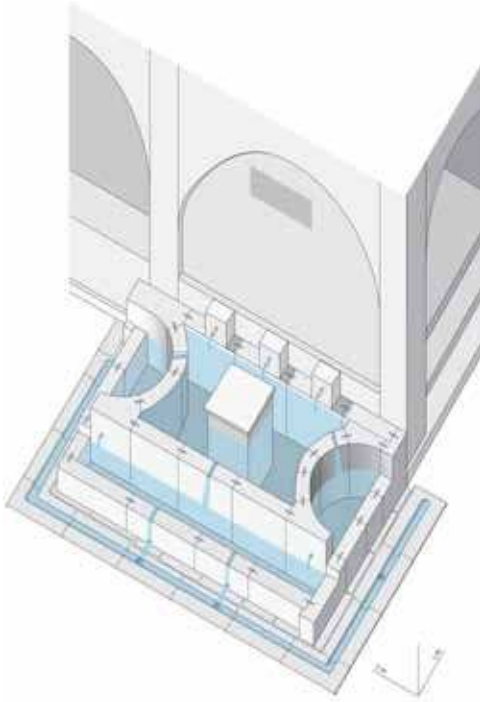
- A. Temple.
- B. Cryptoporticus and shops.
- C. Basilica?
- D. Curia?
- E. *Decumanus maximus*.

- F. *Cardo maximus*.
- G. Location of a group of monumental sculptures depicting members of the Julio-Claudian family.
- H. Public building in *insula* 23.
- I. *Schola*.
- J. *Schola*.



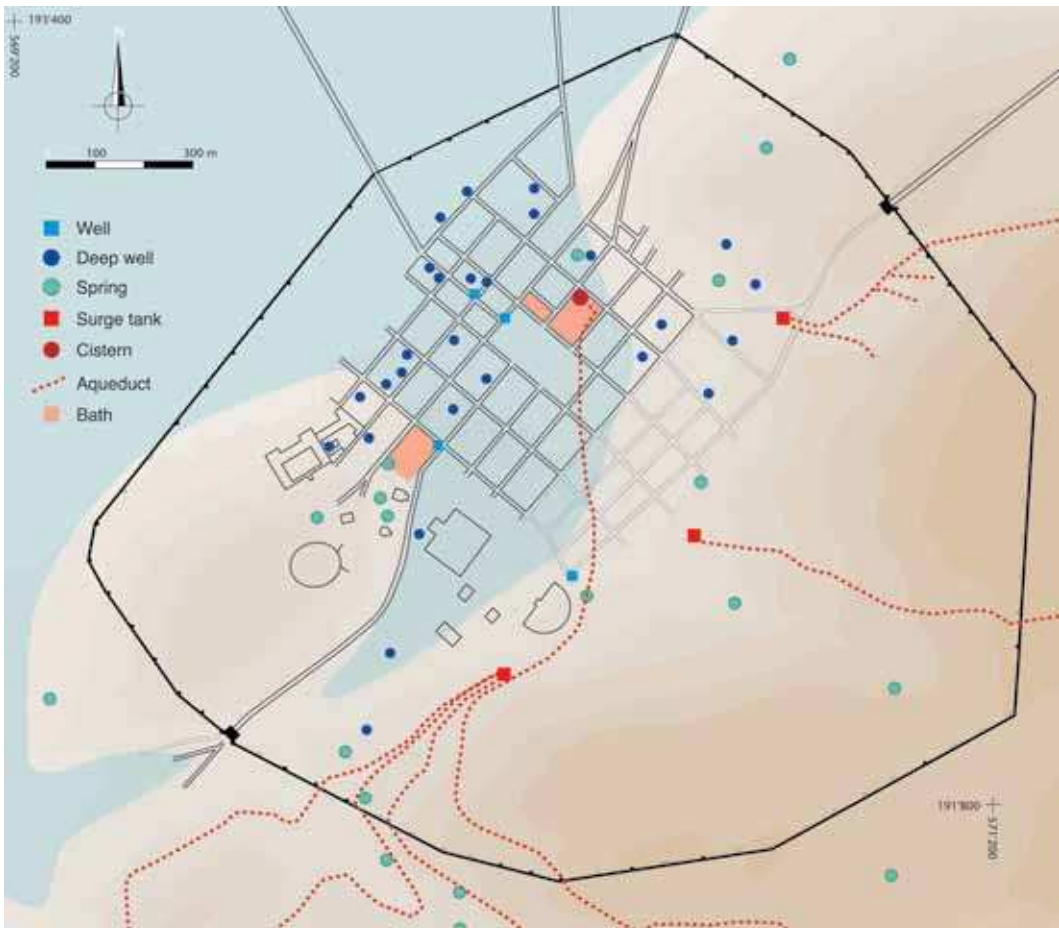


Colour fig. 20. Plan of *Aventicum* in the 1st c. A.D. Green: hypothetical boundary of the city before its elevation to the status of a colony. Blue dot: cemetery at *À la Montagne* (in use A.D. 30/40-70/80). Red line: course of the *pomerium* and city wall of the *Colonia Pia Flavia Constans Emerita Helvetiorum Foederata* from A.D. 71/72 (De Pury-Gysel 2008, 28, fig. 6).



Colour fig. 21. Roadside fountain on the *decumanus maximus*, SE corner of *insula* 19. Scale 1 : 50 (Privot *et al.* 2006, 150, fig. 165; reconstruction suggested by P. Bridel).

Colour fig. 22. Plan of *Aventicum*, showing springs, aqueducts (location of surge tanks is hypothetical), wells, cisterns and baths (Site et musée romains d'Avenches, J.-P. Dal Bianco and C. Grezet).



existed on the same axis in the SE district of the city. The *decumanus maximus* crossed the forum along the *area sacra* at its N end, and from the E edge of the city continued in a more northerly direction, probably following the same route as a pre-Roman cross-country road (see above). From A.D. 5 at the latest, the city had a port on Lake Morat, with which it was linked by another road.

We do not know to what extent the individual city *insulae* were developed from the outset. The earliest datable architectural elements from this phase are wooden beams from *insula* 20, dated to c.A.D. 6/7.<sup>64</sup> A black terra sigillata bowl with an *Ateius* stamp (15-10 B.C.) containing charred human bones, with two deliberately-bent thistle brooches of the same date on top (fig. 7:3), was found in the same location, in the bottommost layer of *insula* 20. Was this a burial unrelated to the building, or might it have been some kind of sacrifice associated with its construction?<sup>65</sup> If it was a burial, it would mean that *insula* 20 was still outside the boundary of the city in the second decade B.C., and that the area was part of one of the earliest cemeteries at *Aventicum*. The nearby *insula* 19, however, already contained buildings in the mid- to late Augustan period,<sup>66</sup> and structures in the area where the *Cigognier* sanctuary would later be built may date to the same period.<sup>67</sup> Other Augustan graves were discovered c.50 m further north in the *Chemin de Derrière la Tour*<sup>68</sup> and perhaps also in the area where the *Grange des Dîmes* temple would later be erected (fig. 2 in colour at G and fig. 14:7). Around A.D. 6/7 regular *insulae* measuring 75 × 110 m were laid out in the W area of the city, up to and including *insula* 20. Although detailed information is lacking, it is safe to assume that the residential buildings in *insula* 15,<sup>69</sup> as well as *insulae* 12 and 18 in the E part of the city, were in use as early as the Augustan period.<sup>70</sup> Furthermore, recent excavations have yielded contemporaneous finds and features in the NE quarters.<sup>71</sup> It is difficult to assess the situation elsewhere in the city, where the Augustan period is, however, well represented by coins, and the pottery<sup>72</sup>, glass<sup>73</sup> and brooches<sup>74</sup> found do, at least, allow us to postulate a Late Augustan occupation.<sup>75</sup> The recent interpretation of a funerary inscription for an imperial slave named Donatus Salvianus, who held the office of *exactor*, may indicate that some form of fiscal administration existed already under Augustus (fig. 11).<sup>76</sup>

### *The forum*

The forum of *Aventicum* was partially excavated in the 19th and early 20th c.; more recent excavations were carried out in 1972 in the N part of the area (*insula* 22) and in 2003 on the W periphery including the W entrance of the *decumanus maximus* (fig. 12 in colour).

64 Blanc *et al.* 1997, 31-32.

65 For an example of such a sacrifice from Haltern, see *ibid.*

66 Morel and Blanc 2008, 43, fig. 9.

67 *Ibid.* 43-44, figs. 9-10.

68 Blanc 2004, fig. 16.

69 Tuor 1981, 45-46.

70 Morel 2001a, 19-25.

71 Blanc *et al.* 1995, 13 and 33, fig. 26.

72 Tuor 1981, 74-75 (Italian terra sigillata).

73 Nenna and Gratuze 2009, 200.

74 Mazur 1998, 15.

75 De Pury-Gysel 2008, 26-27. Drack and Fellmann (1988, 340) also argued in favour of an Augustan phase in *Aventicum*.

76 Lieb and Bridel 2009, 60-62. I am grateful to H. Lieb for sharing information about the possible early date of this inscription.

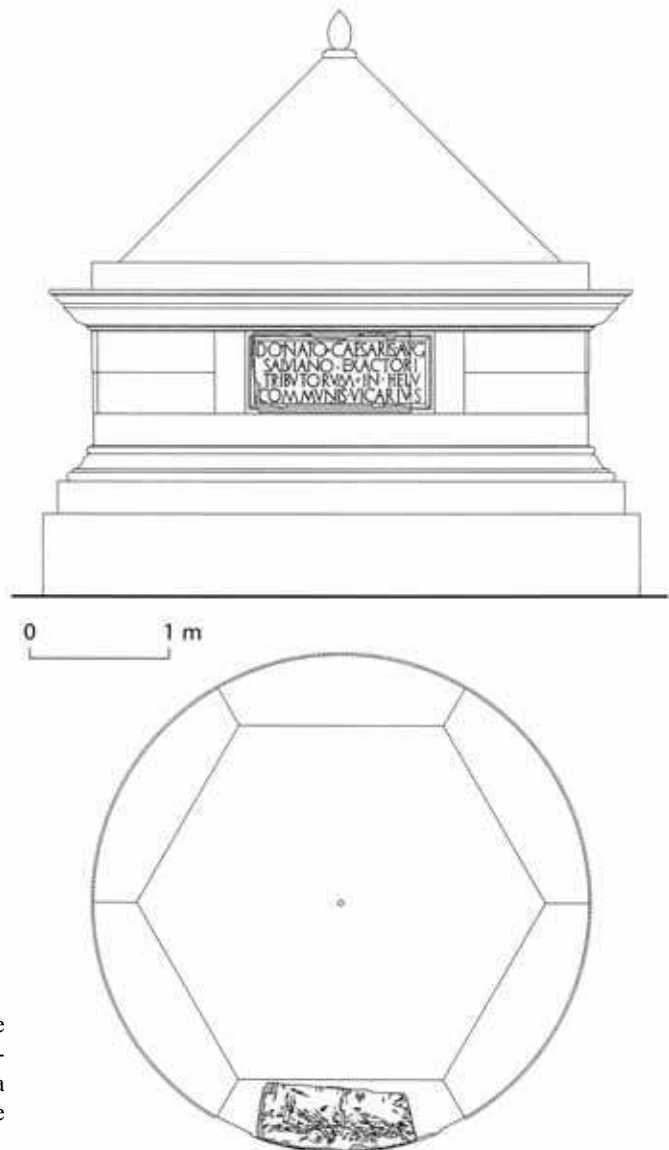


Fig. 11. Tomb of the imperial slave Donatus Savianus, *exactor*. Reconstruction drawing by P. Bridel based on a model of the tomb of Sarsina. Scale 1 : 50 (Lieb and Bridel 2009, 66, fig. 6).

Analysis of the results of the recent investigations has not yet been completed.<sup>77</sup> While the existence of structures dating to the Augustan period within the city's orthogonal grid leaves little doubt that a forum must have existed by that time, the date and appearance of the earliest Augustan forum remain uncertain.<sup>78</sup> The excavations of 2003 also yielded finds from the Late La Tène period.<sup>79</sup>

77 Blanc 2003; id. in Delbarre-Bärtschi *et al.* 2006, 11-16; these excavations brought to light many pottery fragments and other small finds, which are still under study.

78 The forum was certainly redesigned and redecorated under Tiberius, and the fact that Bossert and Fuchs (1989) list no pre-Tiberian features in the categories of "architectural sculpture", "statuary" or "inscriptions" may have encouraged the assumption that the forum could not have been constructed before then. In the years since, however, our knowledge of the urban development of the city has increased and more and more evidence now points to the existence of an Augustan phase of the forum.

79 *Supra* n.30 (stater and glass bracelet).

More is known about the forum in the Tiberian period. Because of the early date of the excavations, the documentation is incomplete and very few stratigraphic records exist. Nevertheless, on the basis of architectural style, sculptural remains and inscriptions, a Tiberian date was proposed in 1989 for this phase of construction.<sup>80</sup> A careful study of the original excavation documents has led to the conclusion that the Tiberian forum consisted of three parts: an *area sacra*, an *area publica* with a basilica, and a curia.<sup>81</sup> The *cardo maximus* entered the forum through a monumental entrance on the N side (fig. 12 in colour at F); in its approach, it cut *insulae* 16, 10 and 4 into two halves. The *area sacra* was flanked by porticoes, supported by a cryptoporticus (fig. 12 in colour at B).<sup>82</sup> The appearance of the *area publica* remains practically unknown.

The excavation of the forum yielded a remarkable assemblage of marble fragments, some with remnants of paint, which once belonged to a group of monumental dynastic statues, 3.3-4.0 m in height, dating to the Julio-Claudian period (second quarter of the 1st c. A.D.).<sup>83</sup> These had originally been exhibited in an elevated position near the N end of the forum, either above the cryptoporticus or in front of the temple facing the entrance to the forum from the *cardo maximus* (fig. 12 in colour at G), an arrangement paralleled by a group of statues found in the forum at Lepcis Magna.<sup>84</sup> A statue of Agrippina the Elder depicted as Fortuna has been positively identified.<sup>85</sup> Of the remaining figures, at least 5 in all, one was armoured and probably depicted Germanicus, another male c.4 m in height can be identified as Divus Augustus, and the others are presumed to have represented Drusus Minor, whom Tiberius had originally intended as his successor, and Claudia Livilla.<sup>86</sup>

A Tiberian date for this group of statues is supported by a *terminus post quem* of A.D. 19, the date of a *Senatus Consultum* passed after the death of Germanicus, which ordered the erection of monuments in honour of the deceased.<sup>87</sup> A rare blue glass *phalera* with a portrait of Agrippina the Elder, a military medal awarded to members of the Rhine legions, which therefore must have been brought to Avenches by one of their number, dates to the same general period, and more precisely to A.D. 23-31 (see Part II).<sup>88</sup>

Ninety-one fragments of honorary inscriptions, including the bases of statues, were discovered during the old excavations on the forum.<sup>89</sup> Many of them are not datable. Two,

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80 Bossert and Fuchs 1989, 38 and list on 48-70.

81 Ibid. 44. Of the 91 inscriptions found in forum (including stone and bronze as well as graffiti on wall-paintings, all preserved in fragments), many are not datable and only two may date to the first half of the 1st c. A.D.: Bossert and Fuchs 1989, 51, nos. I 16-17.

82 On the reconstruction of the wall-paintings in the central exedra of the cryptoporticus, see Béarat and Fuchs 1996, 37, fig. 1.

83 Bossert and Kaspar 1974.

84 Bossert and Kaspar *ibid.* originally suggested that the statues stood with their backs to the entrance, a proposal later rejected by Kaspar (1995, 8), who argued that they must have faced the entrance. For the situation in Lepcis Magna see Bossert and Meylan Krause 2007, 194, fig. 34 and Rose 1997, pls. 217 a-b.

85 Bossert and Kaspar 1974, pl. 18.

86 My thanks to M. Bossert for information about these statues. See Bossert 1998, 128; Bossert and Meylan Krause 2007, 178-79, fig. 20, and 192. Cf. also Rosso 2006, 247-49.

87 Kaspar 1995, 7-9, where the *Camilli* are suggested as possible patrons.

88 Jucker 1975, 50-60; Voirol 2000, 19-20, fig. 11.

89 Bossert and Fuchs 1989, 38 with list on pp. 48-62.

however, belonged to the forum's second (second quarter of the 1st c. A.D.) and third (first half of the same century)<sup>90</sup> phases.

### *The baths*

The public buildings of the Julio-Claudian period included baths in *insula* 19 and *insula* 23 west. The only recent study deals with a mosaic depicting a marine *thiasos* on the curved wall of a water basin in the baths of *insula* 23 west,<sup>91</sup> which were abandoned after the Flavian forum baths in *insula* 29 were completed.<sup>92</sup> Excavations in the SW part of *insula* 23, which has not yet been investigated, would shed light on the construction history of this important quarter.<sup>93</sup> In *insula* 19, remains known since the 18th c. pointed to the existence of a bath. It was not until 1994, however, that the excavations brought to light a series of remarkable stone bathing facilities, built perhaps as early as A.D. 29 and gradually altered and expanded until A.D. 135-37 (figs. 13-14).<sup>94</sup> The date is based on dendrochronological analyses of the oak piles that were necessary to stabilise the waterlogged ground.<sup>95</sup> The principal surviving feature of the earliest Tiberian phase was a large *natatio*, 17.5 x 10.3 m in area and 1.2 m deep, including an apse with an *opus spicatum* floor. Although the complex was initially interpreted as a public bath, this identification could not be confirmed



Fig. 13. Baths in *insula* 19, view of the cold section: Tiberian *natatio* with apse (St 133), part of which was sectioned off in the 2nd c. to form the *frigidarium* of the bath (St 129) (Martin Pruvot *et al.* 2006, 93, fig. 99).

90 Bossert and Fuchs 1989, 51, nos. I 16-17.

91 Rebetz 1997, 28-29; V. Fischbacher in Hochuli-Gysel *et al.* 2004, 222, fig. 19 (additional fragments); Delbarre-Bärtschi (forthcoming).

92 See Bossert and Fuchs 1989, 40 and 79, pl. 4.

93 Unfortunately, the excavations conducted in *insula* 23 cannot be analysed because all the records are missing. This is all the more regrettable because an unusually large number of finds of various types were recovered from this area.

94 Martin Pruvot *et al.* 2006. Although the finds suggest that the area was occupied before A.D. 29, no associated structures of earlier date have been identified.

95 *Ibid.* 39, 43 and 327.

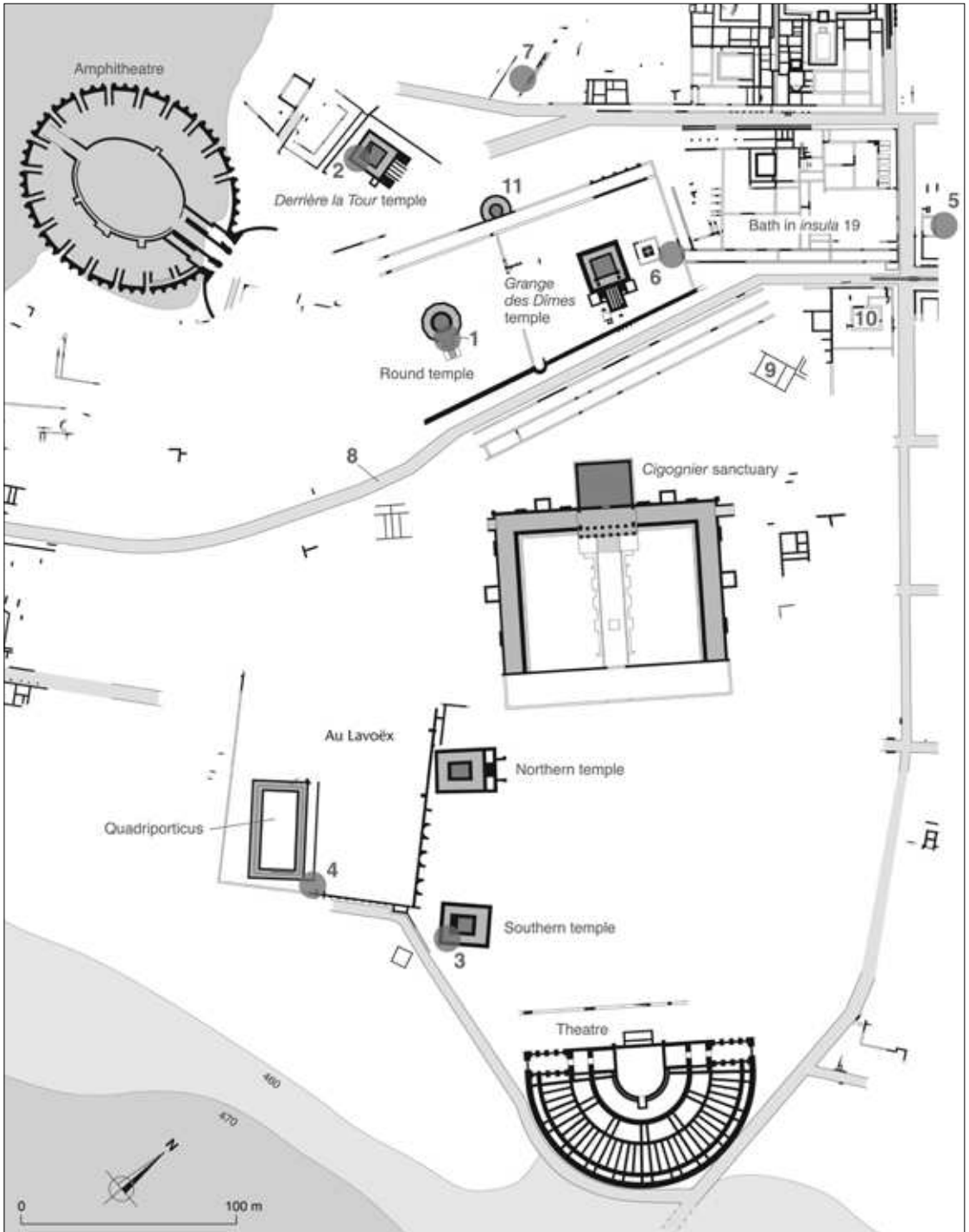


Fig. 14. Schematic plan of the W sanctuary precinct of *Aventicum* in the second half of the 2nd c. A.D. (Morel and Blanc 2008, 38, fig. 3; Castella 2008, 119, fig. 19).  
 1. Middle or Late La Tène grave.  
 2. Late La Tène grave.

3. Late La Tène grave.  
 4. Late La Tène grave.  
 5. Augustan grave?  
 6. Remains of funeral bed? First half of the 1st c. A.D.  
 7. Grave, first half of the 1st c. A.D.?

8. Western continuation of the *decumanus maximus*.  
 9. Building with a religious function?  
 10. Public building?  
 11. Public building or building with a religious function.

for the Tiberian phase. Was it perhaps associated with the sanctuary located in the *Derrière la Tour* area west of *insula* 19? Alternatively, is there evidence for a *campus*? We still do not have answers to these questions. Whatever the precise purpose of the complex at this phase, this early stone-built edifice, decorated with the remains of wall-paintings, mosaics and marble revetment, must have been an important building with a public function.<sup>96</sup> It was not until the 2nd c. A.D. that we can be sure that the complex was converted into a bath (see Part II).

#### *Water supply and disposal*

Before the city became a colony, the population relied on deep wells and springs that produced an abundant supply of water. Figure 22 (in colour) shows the strikingly dense distribution of springs on the E slope of the hill at the W end of the city, in the area of the west sanctuary and the immediate vicinity of *insula* 19.<sup>97</sup> The c.235,000 litres of water required to fill the basin of the Tiberian *natatio* in *insula* 19 must have come from one or more of these springs, although no hydraulic installations have survived.<sup>98</sup> The baths in *insula* 23 probably received their water from a spring in *insula* 24. Moreover, c.30 deep wells have been found distributed throughout the city, taking advantage of the high water table in many areas.<sup>99</sup> Not all of these wells can be dated, but at least some of them certainly belong to the period under discussion here, including those in *insula* 12 (Tiberian),<sup>100</sup> *insula* 15 (after A.D. 60),<sup>101</sup> and in the NE quarters of the city.<sup>102</sup>

It is not yet possible to make any detailed statements concerning the disposal of wastewater in this period. Nevertheless, the large amount of wastewater produced by the *natatio* in *insula* 19 alone suggests that some kind of disposal system must have existed from the Tiberian period at the latest, and one of the main sewers beneath the *decumanus maximus* might date to the first half of the 1st c. A.D.<sup>103</sup>

#### *Temples and sanctuaries*

Rescue excavations carried out between 1985 and 2005 have provided new insight into the sanctuaries of *Aventicum*.<sup>104</sup> No new evidence concerning the temple in the forum has come to light;<sup>105</sup> instead, the discoveries relevant to the pre-colony period were made outside the city in the suburb of *En Chaplix* (fig. 2 in colour and figs. 17-18) and in the west sanctuary precinct, located at the W edge of the orthogonal street grid between *insula* 19 and the later amphitheatre, which was built no earlier than the 2nd c. A.D. (fig. 2 in colour and fig. 14). This precinct included the *Derrière la Tour* temple, the round temple and the *Grange des Dîmes* temple, as well as their outbuildings and enclosure walls. The orientations of these buildings vary: the *Derrière la Tour* temple faces east, while the round temple and the monumental phase of the *Grange des Dîmes* temple are aligned with reference to

96 Ibid. 52 (mosaic), 155-59 (wall-paintings) and 206 (marble revetment).

97 On the springs around the city, see Grezet 2006, 57-58 and 106, map 1.

98 Martin Pruvot *et al.* 2006, 109.

99 Grezet 2006, 59-60, fig. 6.

100 Morel 2001a, 42, fig. 55.

101 Tuor 1981, 64.

102 Blanc *et al.* 1995, 14-16.

103 Morel 1994; Blanc 2003, 164 (near the forum).

104 An overview can be found in Castella and Meylan Krause 2008, 35-120.

105 Morel and Blanc 2008, 36-37.



the road that, further east, became the *decumanus maximus*.<sup>106</sup> The earliest Roman phases of these temples are not well understood, since they were largely destroyed by subsequent alterations.

#### *The Derrière la Tour temple*

The *Derrière la Tour* temple was discovered in 1996 (fig. 14).<sup>107</sup> Its ground plan (24 x 17.2 m) is that of a Romano-Celtic temple with a rectangular *cella*. A special feature of the *cella* in this case was a masonry wall that ran parallel to the rear wall with an added enlargement at the centre. Beneath the *cella*, as noted above, were found a La Tène D1 grave, the remains of a narrow post construction, and a pit with finds dating to the period between 40 and 20/10 B.C.<sup>108</sup> The post construction is presumed to have had a religious function. The remains of the stone-built temple consist of fragments of columns with foliated capitals and fluted shafts. This structure is dated to the period between A.D. 30/40 and 50/70. The deity to whom it was dedicated is unknown.<sup>109</sup> Among the remarkable objects recovered from the temple are the marble head of a statue that may have

depicted a female member of the Julio-Claudian imperial family;<sup>110</sup> the little finger from the right hand of a silver statuette, which would have stood c.70-100 cm high (fig. 15:1);<sup>111</sup> and a steelyard scale with a fixed weight (fig. 15:2), which would have been used to check the weight of *denarii* in the period before the coinage reform of Nero in A.D. 63.<sup>112</sup> The scale therefore confirms that coinage controls were already in place at *Aventicum* prior to this date. Although the scale was found in later fill, does it perhaps bear witness to the activity of a *nummularius* at the *Derrière la Tour* temple? Or should it be seen as a votive offering, dedicated after it was no longer useful, when *denarii* from the period before A.D. 63 had virtually ceased to circulate?

#### *The round temple*

The stone-built round temple is located southeast of the *Derrière la Tour* temple (fig. 14).<sup>113</sup> Its circular *cella* (inner diam. 7.2 m)<sup>114</sup> was surrounded by a dodecagonal podium



Fig. 15. Objects from the *Derrière la Tour* sanctuary:  
1. Finger from the right hand of a silver statue (inv. 96/9951-1), L. 3.6 cm, th. 0.6-0.8 mm.  
2. Steelyard with fixed weight (inv. 96/9952-5), L. 6 cm (sources: Meylan Krause 2008, 61, fig. 5; Hochuli-Gysel 1997, 200, fig. 1b).

106 This point will be discussed further in Part II.

107 Morel 1996.

108 Morel and Blanc 2008, 40, fig. 6.

109 For artefacts that can be identified as votive offerings, see Meylan Krause 2008, 68-69.

110 Bossert and Meylan Krause 2007, 197-99.

111 Meylan Krause 2008, 61; de Pury-Gysel 2009. The finger is 4.1 cm long and weighs 10 gm.

112 Hochuli-Gysel 1997.

113 Chevalley and Morel 1992.

114 A section of the *cella* wall is preserved in the cellar of the building at 14 Avenue Jomini.

(outer diam. 19.1 m) with 12 columns, of which bases, fluted shaft fragments and composite capitals have survived.<sup>115</sup> A study of the architectural elements and their *anastylosis* is currently under way.<sup>116</sup> The temple was built some time after the mid-1st c. A.D., above an area in which two or perhaps three individuals were buried in the 2nd c. B.C. (see above).<sup>117</sup> The deity worshipped in this temple remains unknown.

#### *The Grange des Dîmes sanctuary*

The development of the *Grange des Dîmes* sanctuary in the pre-Flavian period was clarified by excavations carried out in 2004 (fig. 14).<sup>118</sup> The earliest structures clearly dated to the Augustan or Early Tiberian period, although the only features that survived from that phase were a series of largely parallel ditches and pits, together with scattered traces of timber structures.<sup>119</sup> Shortly thereafter the layout of the buildings was changed: several small post-and-beam structures were erected,<sup>120</sup> as was a massive stone foundation, the orientation of which corresponded with that of the *decumanus* to the southeast.<sup>121</sup>

Before the temple existed in its monumental form, and probably at the same time (c.A.D. 20-35) that the statues of the imperial family were set up in the forum (see above), a second group of 5 or 6 monumental statues also depicting members of the Julio-Claudian family was erected on a podium in the *Grange des Dîmes* sanctuary.<sup>122</sup> Both groups were perhaps products of the same workshop in central Italy. The statues at *Grange des Dîmes*, of which 30 small fragments survive, included two female figures, a small *togatus* (h. 2.15 m), and, as in the group from the forum, a deified Augustus, the original height of which has been calculated as c.3.5 m.<sup>123</sup> The proposed identifications of the statues correspond more or less to those of the group from the forum,<sup>124</sup> but two questions raised by these figures require further investigation. The first concerns the difference in size between the figures. What is the significance of the smaller *togatus*, and whom does it depict? Was it a member of the imperial family, or perhaps a patron? The second concerns the motive for the erection of two such similar groups in the same city. Was this a marked reaction by the *Helvetii* to the *Senatus Consultum* of A.D. 19?

#### *Residential buildings*

The earliest datable buildings found so far are those in *insula* 20, the timber beams of which have been dated to A.D. 6/7.<sup>125</sup> Structures in other parts of the city, however, such as *insulae* 13 and 15,<sup>126</sup> *insulae* 12 and 18<sup>127</sup> and the NE quarters,<sup>128</sup> probably also date back to

115 Chevalley and Morel 1992, 38-40, figs. 13-15.

116 The study is being conducted by Ph. Bridel.

117 Morel and Blanc 2008, 39-41, fig. 4; for further bibliography, see Brodard, Castella and Dal Bianco 2008, 33.

118 Morel 2004; Morel and Blanc 2008, 41-43.

119 Ibid. 42, fig. 8:1-3 (c.15/10 B.C.–A.D. 30/40).

120 Ibid. fig. 8:7.

121 Ibid. 43, figs. 8:8 and 9:1.

122 Bossert and Meylan Krause 2007, 176-97.

123 Ibid. 177-81. Whether another male torso belonged to this group remains uncertain.

124 Ibid. 192.

125 Blanc *et al.* 1997, 35.

126 Tuor 1981, 60 and 64 (*insula* 15).

127 Morel 2001a; 2001b (*insula* 12); Freudiger 2001, 167-72 and 193, fig. 33 (*insula* 18).

128 Blanc *et al.* 1995, 13 (NE quarters); Morel and Pantet 2002, 162-63 (*insulae* 48/54/60).

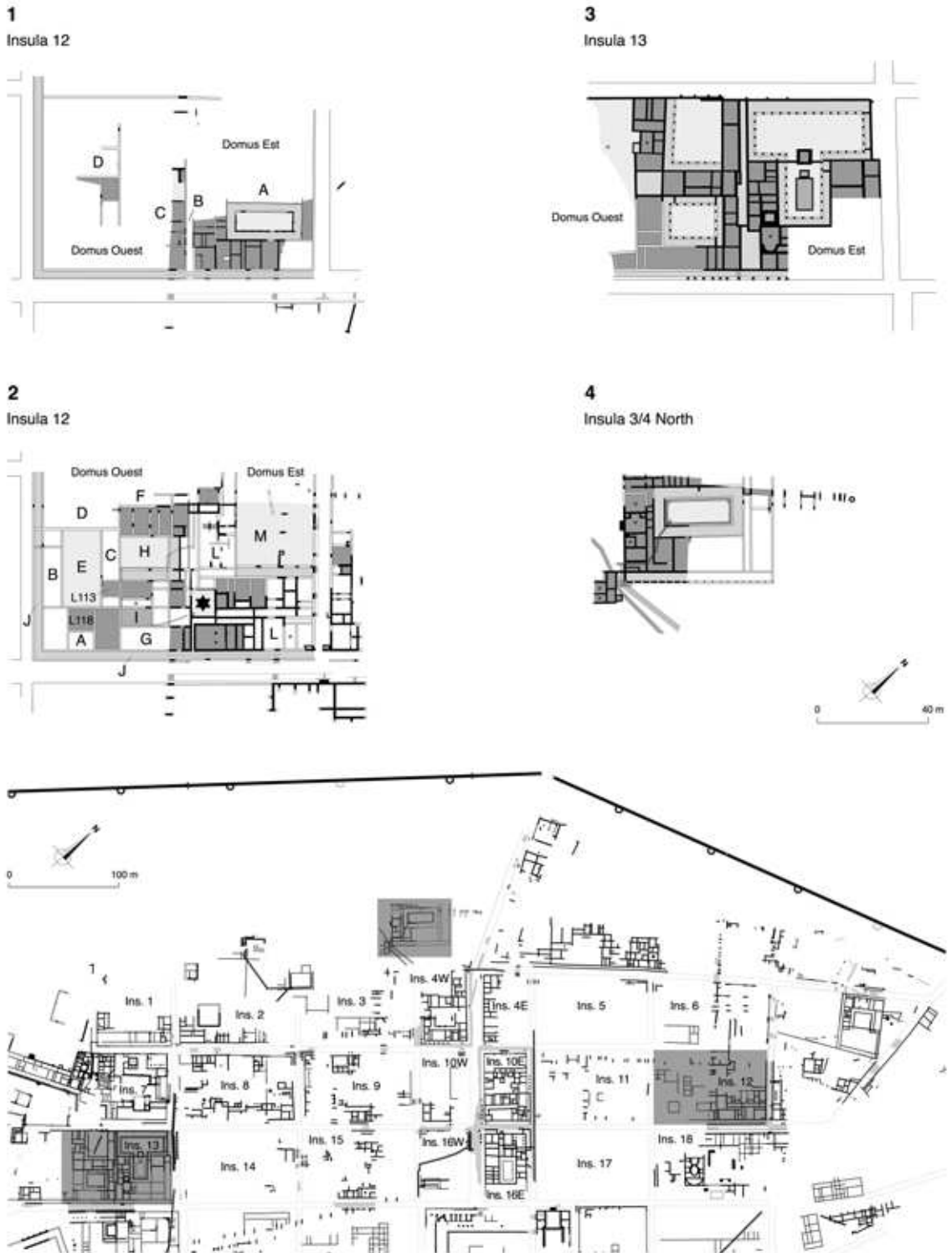


Fig. 16. Plans of three Roman *domus*.

1. *Domus* in *insula* 12 (1st c. A.D., pre-Flavian state).
  2. The same *domus* in *insula* 12 (A.D. 70/85-150). The star marks the location of a workshop where large bronze objects were cast.
  3. *Domus* in *insula* 13 (2nd c. A.D.).
  4. *Domus* in *insula* 3/4 north (1st -2nd c. A.D.).
- (sources: Morel 2001a, 45, fig. 43; id. 2001b, 44, fig. 58; Vuichard Pigueron 2003, 168, fig. 10).

the Augustan period, although the evidence of Augustan activity usually consists of finds from strata without associated architectural features. The same may be true of *insulae* 10 and 16, directly north of the forum, and of a number of other *insulae* as well. Until recently it was believed that the residential district of the city did not extend as far as the southeasternmost *insulae*. The rescue excavations carried out in 2001, however, brought to light the remains of domestic buildings in *insulae* 48/54.<sup>129</sup>

The excavations have confirmed time and again that until the mid-1st c. A.D. the residential buildings of *Aventicum* were mainly mixed constructions of timber and loam.<sup>130</sup> The preferred architectural form appears to have been the Mediterranean peristyle house, in one variation or another (fig. 16). These *domus* were lavishly furnished, as shown by the remains of wall-paintings, among them those of the so-called *salon rouge* in *insula* 18, which dates to the mid-1st c. A.D.<sup>131</sup> The peristyle courtyard in *insula* 12, which originally boasted stone columns, was abandoned when the house was redesigned as early as the Claudian period.<sup>132</sup> Some *domus* had gardens, as for instance that in *insula* 13, which included a water basin (fig. 16:3).<sup>133</sup> There is still no evidence of hypocaust systems in any of the houses of this period.<sup>134</sup> It is not yet clear whether any of the buildings had more than one storey.

Several commercial districts are also known to have existed in *Aventicum* during this period, among them glass workshops in *Derrière la Tour* and tile kilns in the NE quarters (see the discussion of crafts in Part II).

### *Cemeteries*

Individual burials dating to the late 1st c. B.C. and the early 1st c. A.D. have been found west of *insula* 19 (fig. 2 in colour at G and fig. 14:7), in the *Grange des Dîmes* sanctuary (fig. 2 in colour at G' and fig. 14:6), and possibly also in *insula* 20 (fig. 2 in colour at H, figs. 7:3 and 14:5).<sup>135</sup> Still, until the discovery of the funerary and sanctuary precinct at *En Chaplix* (see below), very little detailed information was available about the cemeteries of *Aventicum* in the pre-Flavian period. This was partly because the largest of the city's burial grounds, the west cemetery, had been excavated and partially destroyed in the 19th c. without any detailed records.<sup>136</sup> The excavators at the time were chiefly concerned with the density of the graves and whether they were inhumation or cremation burials; the associated assemblages were rarely conserved. A survey of the recorded finds, however, revealed a certain amount of pottery probably dating to the first half of the 1st c. A.D.<sup>137</sup> Additional evidence that the cemetery was already in use at this time is a funerary *stela* found in the area (fig. 2 in colour at M).<sup>138</sup> The *stela*, which has been dated to the second quarter of the 1st c. B.C., bears a portrait bust and an inscription commemorating a woman named Iulia Censorina.

129 Morel and Pantet 2002, 160-63.

130 Tuor 1983; Blanc *et al.* 1997, 40-43; Morel 2001a, 41-43.

131 Fuchs 1995.

132 Morel 2001a, 34-35.

133 Morel 1993, 19-21, fig. 1; *id.* 2001b, 44-45, figs. 58 and 60.

134 *Ibid.* 43. Further study of the *domus* in *insulae* 3-4 will determine whether the hypocaust system there belonged to the earliest phase of the building, which has been dated to the second half of the 1st c. A.D.; see Vuichard Pigueron 2003.

135 Castella 2008, 119, fig. 19:5-7 (carved bone fragments of a funeral couch).

136 For a list of known interventions in the area, see Brodard, Castella and Dal Bianco 2008, 33.

137 Margairaz 1989, 111.

138 *Ibid.* 137, no. 7; Frei-Stolba and Bielman 1996, 65, no. 15.

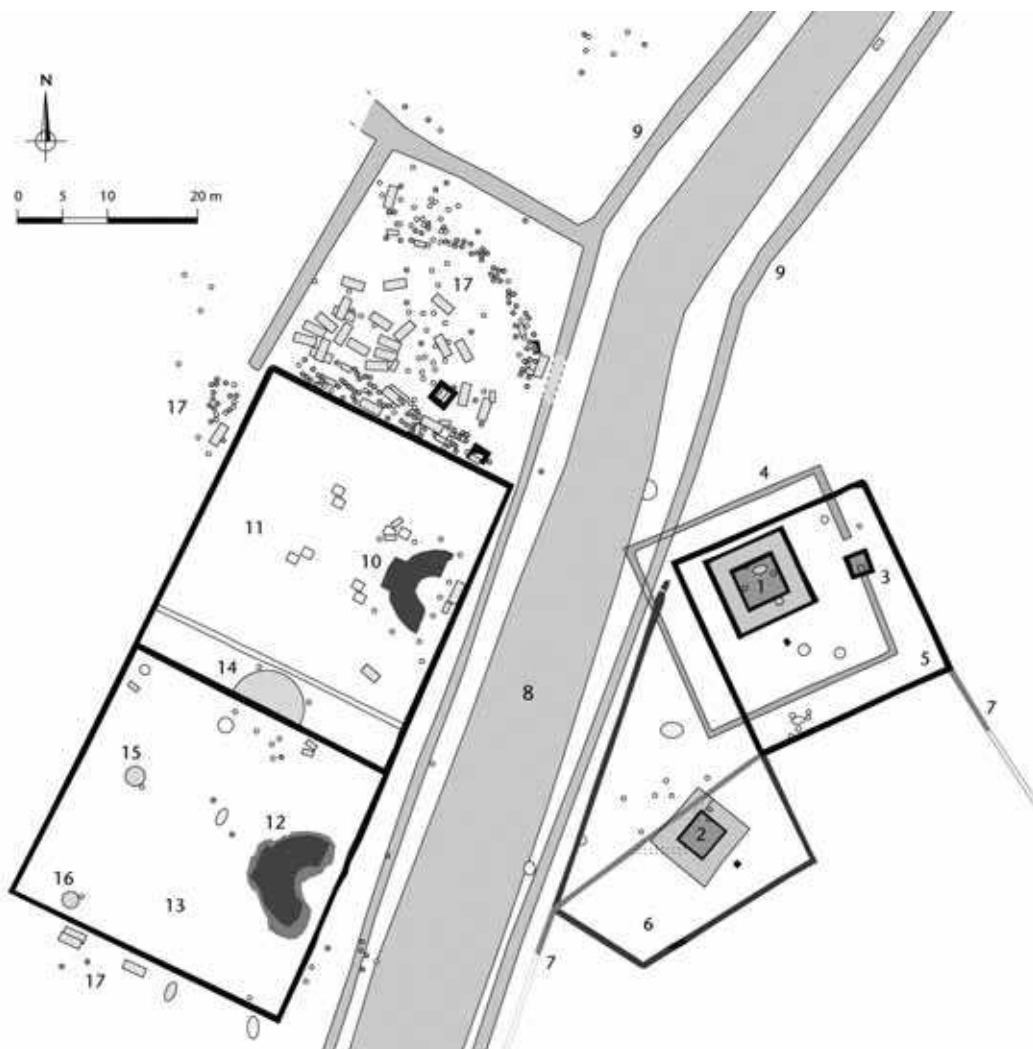


Fig. 17. Schematic representation of the sanctuaries and burial complexes at *En Chaplix* (Castella 2008, 104, fig. 2).

1. N temple and Augustan grave.
2. S temple.
3. N 'chapel'.
4. Augustan cemetery precinct (ditch).

5. N sanctuary enclosure.
6. S sanctuary enclosure.
7. Enclosure wall of *villa rustica* to the east.
8. Road.
9. Road ditch.
10. N mausoleum.
11. Cemetery precinct of the N mausoleum.

12. S mausoleum.
13. Cemetery precinct of the S mausoleum.
14. N grave assemblage (St 233).
15. S grave assemblage (St 241).
16. S grave assemblage (St 383).
17. Cemetery.

The Celtic name of her father, who dedicated the stone, and the hairstyle of the portrait, which has been identified as "indigenous", suggest that she was of local origin. A funerary inscription naming Iulius Iulianus, inscribed on a monolithic column and likewise found in the west cemetery, may also date to the pre-Flavian period.<sup>139</sup> Later excavations in the west cemetery have brought to light no other 1st c. burials, although it must be emphasised that the results of these excavations have not yet been completely studied.

<sup>139</sup> Margairaz 1989, 137, no. 6; Frei-Stolba and Bielman 1996, 55, no. 11.

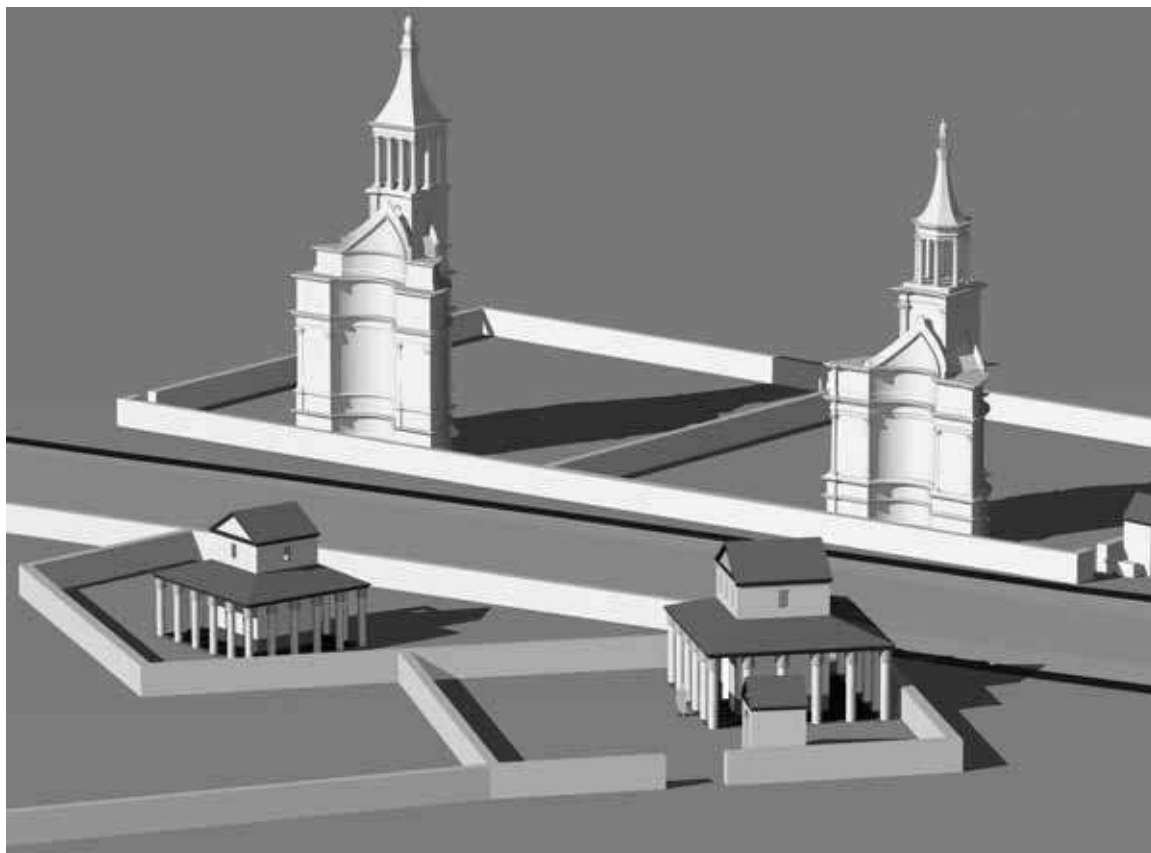


Fig. 18. Model of the sanctuaries and burial complexes at *En Chaplix* (Site et musée romains d'Avenches, D. Castella).

In 1988 the remains of a substantial burial and ritual complex were discovered in the area of *En Chaplix*, on the road out of *Aventicum* to the northeast (fig. 2 in colour, figs. 17-18, and fig. 20 in colour).<sup>140</sup> West of the road the remains of two mausolea were discovered, each more than 20 m in height and boasting richly sculpted decoration with Mediterranean themes (see Part II).<sup>141</sup> The mausolea have been dated on dendrochronological evidence to the Tiberian period.<sup>142</sup> Aristocratic burial deposits of the early 1st c. A.D. were discovered within the enclosure of the S monument (fig. 2 in colour at K and fig. 17:12,15,16).<sup>143</sup> From the 2nd c. onwards, a cemetery was established to the northeast of the N monument (fig. 2 in colour at U and fig. 17:17). Among the earliest Roman finds was a cremation burial found southeast of the road, which contained grave goods dating to the Augustan period (fig. 2 in colour at L, fig. 17:1). Over the course of c.40 years, other burials took place in the same area and two small Gallo-Roman temples were erected around the grave (fig. 17:1,2; fig. 18). Although such a dense concentration of funerary and ritual monuments of

140 Castella and Flutsch 1990a; Castella 2008.

141 Bossert 2002.

142 Castella and Flutsch 1990a, 14-16. The date of the S monument is c.A.D. 23-28; that of the N monument is c.A.D. 40.

143 Castella *et al.* 2002.

Augustan and Tiberian date has rarely been found in Gaul, similar examples are known from England.<sup>144</sup>



Fig. 19. Head of a life-sized portrait statue of the *togatus* found at the S mausoleum at *En Chaplix* (A.D. 30-40), H. 34 cm. (Bossert 2002, pl. 18, S 2a).

The ritual complex at *En Chaplix* is located directly north of a large *villa rustica* in the area called *Le Russalet* (fig. 2 in colour), which unfortunately is known only from aerial photographs.<sup>145</sup> This farmstead may have belonged to the aristocratic family of the *Camilli* and it is possible that they were responsible for the construction of the monuments at *En Chaplix*. (Much later, during the reign of Hadrian, a younger member of the same family, Caius Camillus Paternus, initiated the construction of a canal between Lake Morat and *En Chaplix*.<sup>146</sup>) If this was indeed the case, the statues that adorned the mausolea might have depicted members of the family. The head of a *togatus* from the S mausoleum (fig. 19) has drill holes for the attachment of a wreath, which may have been the insignia of the office of imperial priest held by C. Iulius Camillus.<sup>147</sup>

In 2003 another hitherto-unknown cemetery came to light in the *À la Montagne* area northeast of the city (fig. 2 in colour at J and fig. 20 in colour).<sup>148</sup> A total of 112 burials from this cemetery have been investigated archaeologically, of which 37 were inhumations (22 infants and 15 adults, one of whom was laid to rest in a coffin), and c.75 cremations (including a number of *busta*).<sup>149</sup> The different burial practices were apparently in use simultaneously. Preliminary investigations have already revealed that the cemetery was used for only a limited period of time, from A.D. 30/40 to c.70/80. The cemetery was abandoned when the city wall was built in the Flavian period (see below).

144 Castella 2008, 103 and 115-17.

145 Ibid. 104, fig. 2:E.

146 Castella and Flutsch 1990b, 185-86; Castella 2008, 115.

147 Frei-Stolba 1996. The same C. Iulius Camillus, who also received a *corona aurea* from Claudius, was probably portrayed by an over-lifesized statue found in the sanctuary at Thun-Allmendingen, which also has drill-holes for the attachment of a wreath; see Martin-Kilcher 2008, 253, fig. 8:1. Why the wreath was not simply carved in stone, as in other portraits of imperial priests, remains a mystery.

148 The cemetery has been partly excavated: Blanc 2001b; id. 2002; Kramar 2005.

149 Blanc 2002, 156, fig. 12.

Of the 112 burials, the cremations contained especially large numbers of grave goods. Although analysis of the finds has not yet been completed, certain categories of artefacts have been identified.<sup>150</sup> These include a group of lead-glazed vessels, most of which depict animals, and a terracotta figurine depicting a couple embracing which all come from the Allier area in France and can be dated to the third quarter of the 1st c. A.D.<sup>151</sup> The pottery was largely 'Roman' in style; several graves contained glass balsamaria. The datable finds also include 36 brooches.<sup>152</sup> Particularly notable are the graves of infants, observed here and in the other cemeteries of *Aventicum*. Like the adult inhumation burials, those of children usually contained no grave goods. One infant, however, was buried with an amulet consisting of a perforated coin of *Providentia* type, bearing a portrait of the deified Augustus.<sup>153</sup>

#### *The water mill*

An important feature discovered in the *En Chaplix* area was a water mill, which on the basis of dendrochronological evidence must have been built shortly after A.D. 57/58 (fig. 2 in colour at Y).<sup>154</sup> It is the oldest structure of its kind found in Switzerland to date. Located close to the *villa rustica* at *Le Russalet*, and certainly operated from there, it testifies to the production of flour on an industrial scale. The mill stones (diam. 65 cm) were made of basalt, which was probably imported from the Massif Central.<sup>155</sup> A second water mill was installed in the 2nd c. A.D. somewhat further to the northwest (fig. 2 in colour at X; see Part II).

### **The city in the Flavian period**

The first phase of monumental public building in *Aventicum*, along with the expansion of the residential quarters, occurred during the Julio-Claudian period. The Flavian period brought a new phase of intensive development and construction in the 'Roman' style (fig. 10 in colour at B). This activity was driven by the elevation of the city to the status of a *colonia* under Vespasian in A.D. 71/72.<sup>156</sup> The following discussion summarises the archaeological features linked to this change.

#### *The city wall*

One of the most important transformations was the expansion of the city's territory (*ager*) into an actual *pomerium*<sup>157</sup> and the construction of a circuit wall to mark the new

150 Ibid. fig. 13.

151 Ibid. fig. 13. Hochuli-Gysel 1998, 71-72 and 74 (animal-shaped vases); von Gonzenbach 1996, 168-69 (terracotta figurine); the Avenches figurine is a variation of the types discussed by von Gonzenbach.

152 Mazur 2010, 36-37 and 76. Not all of the brooches were actually recovered from graves.

153 Blanc 2002, 155, fig. 11 (A.D. 22-37).

154 Castella 1994; id. 1998, 60-62.

155 Querns made of shelly limestone quarried outside Cheyres near the capital were also used in *Aventicum*: see Castella and Anderson 2004.

156 Supra nn. 57 and 59. For the sake of convenience I will continue to use the name *Aventicum* when referring to the colony.

157 On the exclusive use of this term for the boundaries of Rome and Roman colonies, see *RE* 21.1 (1868-75) *s.v.* *pomerium* (A. Blumenthal); *Der Neue Pauly* 10 (2001) *s.v.* *pomerium* (H. Galsterer). See also Liou-Gille 1993; Favory 2005. The term is sometimes used rather vaguely (e.g., Pechoux 2010, 38).



boundary (figs. 2 and 20 in colour). The wall was 5.565 km long and included 73 watchtowers and probably 4 gates, of which only two, the E and W gates, have been excavated.<sup>158</sup> A smaller gate was situated to the northeast, where the *decumanus maximus* left the city and became a cross-country road.<sup>159</sup> The ditch outside the wall can be traced from the N gate to the village of Donatyre to the southwest, but in the N part of the circuit, which ran through the swampy plain, this feature has not survived.<sup>160</sup>

The wall was constructed largely of so-called *Hauterivien*, a yellow limestone from the region of Neuchâtel.<sup>161</sup> Much of the construction had to be underpinned with piles because of the waterlogged and unstable ground. Analysis of oak piles from 5 different sections has yielded felling dates for the trees between A.D. 72 and 77.<sup>162</sup> In 2008, in order to provide access to an industrial estate in the NW area of the city, a section of the wall 4 m long was demolished. Although regrettable, the project nevertheless allowed researchers to investigate the wall's construction.<sup>163</sup> The superstructure had not survived, but the 3-m-wide foundations were examined. The ground must have been particularly unstable in this area, for in an effort to support the wall more than 260 oak piles were driven into the ground in an area of no more than 12 m<sup>2</sup>, an unusually dense concentration.<sup>164</sup>

Although the city wall was the subject of a master's thesis at the University of Lausanne in the 1980s, the thesis was never published.<sup>165</sup> Further study of the wall is desirable, both for its architectural features and because of its historical importance. Among the many features of interest is the unusual position of the watchtowers, set inside the wall rather than on the outer face, a feature also found in the city wall at Xanten.<sup>166</sup> The design of the E gate, with its circular interior space, is similar to that of the *Porte de Rome* in Fréjus,<sup>167</sup> which likewise dates to the Flavian period. Larger historical questions also remain to be answered: Who initiated the construction of the wall? Who were the architects and builders of this massive monument, which was apparently erected in a short period of time, perhaps only 6 to 8 years? And what was its purpose?

Until recently the city wall of *Aventicum* was viewed as a Flavian construction project intended to mark visibly the territorial boundary of the newly established colony. The discovery in 2001 of the cemetery *intra muros* at *À la Montagne* (fig. 2 in colour at J and fig. 20 in colour), which was in use c.A.D. 30-70, for the first time suggested that the city before its elevation to colonial status must have been smaller than the area enclosed by the wall. The expansion of the city's territory could be measured for the first time in this location:

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158 Wall: h. 5.7 m, h. with battlements 7.7 m; w. 2.4 m. Foundations: w. 3 m; d. 1.5 m. Gate towers: h. c.9 m; diam. c.6.6 m.

159 This road has recently been traced further to the east; see Amoroso 2008.

160 Demarez and Castella 1991.

161 According to Bridel 2008, the construction of the wall would have required 115,000 m<sup>3</sup> of stone and more than 100,000 oak posts. Using suitable boats, c.9000 trips would have been necessary to transport the stone from the N shore of Lake Neuchâtel to the port of *Aventicum*. Land transport from the port to the city must also be taken into account.

162 Blanc 2008.

163 Ibid.

164 Ibid. 271, figs. 28-29.

165 Dewarrat 1984.

166 Müller 2008, 284-85, fig. 435. The towers project only 0.60 m beyond the outer face of the wall.

167 Rivet *et al.* 2000, 166 and 354-55, fig. 285 (with an illustration of the E gate of *Aventicum*). I wish to thank L. Rivet for this reference.

the NE boundary was moved *c.* 200 m further to the northeast and the old cemetery, which was now located within the city, was abandoned. But exactly how much smaller had the earlier city been? The boundaries proposal in fig. 20 (in colour) are based on the following premises. To the east, one would expect a regular expansion of the developed area, incorporating the built-up areas in the NE quarters. To the northwest the boundary of the earlier city cannot have been much different from that of the colony, since the *insulae* near the wall were already developed before A.D. 70. To the southeast and southwest the situation is more difficult to reconstruct. Along the SE side of the city one may assume that the earlier and later boundaries were both determined by the terrain. While the later boundary followed the contour line at 500 m asl, the proposed earlier line follows the contour at *c.* 465 m asl, just below the cemetery at *À la Montagne*. The distance between these two boundaries reflects a considerable expansion in the size of the city.

To the southwest lies the hill upon which the mediaeval city developed from the 12th c. onwards. Mediaeval and modern leveling has erased most earlier remains in this area, and nothing is known about the Roman or pre-Roman occupation of the hill. As noted above, however, La Tène D1 burials and a subsequent sanctuary precinct existed on the NE slope of the hill, while residential and possibly also funerary activity of the La Tène D period has been documented at *Sur Fourches* on the SW side. The question remains, then: was the hill part of the original territory of the city or not? It may be important that the city wall did not entirely encompass the hill; instead, it ran across the SW spur, overcoming a difference in altitude of *c.* 20-30 m. Was the *pomerium* (and before it perhaps the boundary of the earlier city too) forced to take certain pre-existing features into consideration? Was the course of the wall chosen for defensive reasons? In the Flavian period *Aventicum* would have been far removed from the borders of the empire and thus from any potential threat, so it seems unlikely that the city wall was intended as a defensive circuit first and foremost, but it was obviously designed like a normal military defence and could have served that purpose if necessary, to judge from its construction and its strategically well-planned course.

Who, if not the Roman army, could have been behind this project? Who else would have had the expertise and logistical skill necessary to manage the enormous amounts of material required for its construction?<sup>168</sup>

Was the wall built on the direct order of Vespasian, perhaps because of his personal connection with *Aventicum*, which had temporarily been his father's domicile? Was the legion involved *Legio XI*, which was newly garrisoned in *Vindonissa*? Regardless of the uncertainty of some of the details, the extension of the boundaries of *Aventicum* on the occasion of the city's elevation to colonial status represents one of the few cases in which constitutional change was accompanied by physical expansion.<sup>169</sup>

#### *Public buildings*

The Flavian era brought about a general flurry of building activity. The street network was also changed. The *cardo* to the west of the forum was diverted in order to make room

<sup>168</sup> Cf. Voirol 2000, 41.

<sup>169</sup> De Pury-Gysel 2008, 28-29. A similar case is Nida-Heddernheim in the early 3rd c. A.D. There, however, the expansion was not linked to a change in the town's legal status, but may have occurred as a consequence of the settlement's prosperity. Moreover, unlike the walled cities of the 1st and early 2nd c., Nida was not a colony but a *vicus*; see Wenzel 2000, 70-79. My thanks to H. U. Nuber for this information.

for an assembly hall built in the early 2nd c. (see Part II), and the street leading to the theatre, which was also erected in the early 2nd c., was re-aligned as well.

The forum was extended to the south by the addition of *insula* 40 (fig. 12 in colour at D), but otherwise saw only minor changes in the northernmost areas.<sup>170</sup> The bath-like complex in *insula* 19 was redesigned,<sup>171</sup> the baths in *insula* 23 abandoned, and the large forum baths in *insula* 29 newly constructed.<sup>172</sup>

#### *Temples and sanctuaries*

Once the status of the city was elevated to that of a colony and the *pomerium* was definitively marked, all the temples, including those on the slope of the hill, were incorporated within the city's territory. Whether this was already the case before the expansion cannot be determined as long as the W boundary of the earlier city remains unknown. Initially there were no significant architectural changes in the religious buildings during this period. It was not until the very end of the Flavian era that construction commenced on the *Grange des Dîmes* temple and at the *Cigognier* sanctuary.<sup>173</sup>

#### *Residential buildings*

From the Flavian period onwards significant alterations were carried out in many of the residential buildings. There was also a tendency to reduce open spaces (peristyles, gardens) and to fill the developed area more densely with buildings. To what extent this was prompted by a desire better to equip the buildings for the prevailing climate, or whether the aim was simply to make more efficient use of the space available for urban housing, has yet to be investigated.

The palace at *Derrière la Tour* is a special case. The history of its construction and remodeling began in the mid-1st c. A.D. and lasted for more than 200 years.<sup>174</sup> It was located outside the regular urban grid, west of *insula* 7, on the NE slope of the city hill (fig. 2 in colour), not far from a former glassblower's workshop (on which see Part II). In its first phase the building measured 80 × 40 m and its ground plan was symmetrical, with a large central hall and *Eckrisaliten* on its N side, a basement, and a wide portico-style gallery.<sup>175</sup> Like the city's earlier *domus*, this rich villa, the interior decoration of which has almost completely disappeared, must have been built and occupied by members of the upper class.

#### *Water supply and disposal*

The remains of fountains have been found at various locations within the city. The largest to date was discovered in *insula* 19, beneath a portico facing the *decumanus maximus* and probably accessible via a flight of steps on its longitudinal axis (fig. 21 in colour). It almost certainly dates from the Flavian period and was built at the time the changes were made to the complex of buildings in *insula* 19.<sup>176</sup>

Hardly any of the sewers, including the large drain that channelled the wastewater from *insula* 19 and ran north beneath the *cardo* and the drains in *insulae* 2 and 3, can be

170 Bossert and Fuchs 1989, 38. This expansion too may not have occurred until the early 2nd c.

171 Martin Pruvot *et al.* 2006, 63-76.

172 Morel 1995.

173 Morel and Blanc 2008, 43-45.

174 Morel *et al.* 2010, 71-98.

175 *Ibid.* 71-98 and 266, fig. 233. An illustration of this building will be provided in Part II.

176 Bridel 2006.

dated.<sup>177</sup> The sewage system in *Aventicum* has yet to be reconstructed using the scattered pieces of evidence gathered from many excavations.

### *Aqueducts*

Research into the aqueducts of *Aventicum* was brought up to date in 2006.<sup>178</sup> Six (or possibly seven) aqueducts have been traced from their sources to their destinations within the walls (fig. 22 in colour). A variety of survey methods was employed, as well as the help of a water diviner. All of the sources tapped in antiquity were located east and southeast of the city. The aqueducts varied greatly in length, from 200 m to 19.5 km. Construction techniques largely correspond with those commonly used throughout the empire. The locations of the surge tanks remain hypothetical. The gradients and flow rates of the various aqueducts have been calculated; the flow of the aqueduct of Coppet, for example, which was the longest of the lines, was c.15,000-47,000 m<sup>3</sup> per day, depending on certain architectural details and the degree of sintering.<sup>179</sup> The construction of the aqueducts was linked to the elevation of *Aventicum* to colonial status, as well as to the water requirements of the forum baths built at *En Perruet* in the Vespasianic period. It is not yet possible to offer more precise dates. No passages for the aqueducts beneath the city wall, which was built in the Flavian period, have yet been identified, so the sequence of construction remains unresolved for the time being.<sup>180</sup>

### *Cemeteries*

The cemetery near the port of *Aventicum* (fig. 2 in colour at P) was established in the Flavian period. Its use, however, dates mainly from the 2nd c. A.D.<sup>181</sup> Two aspects of the burials are particularly striking: the scarcity of grave goods suggests that the deceased came from rather modest social backgrounds, and a significant majority of them are male. These facts have been tentatively interpreted as evidence that many of the deceased may have been labourers involved in the construction of the canal and the operation of the port and transport facilities.<sup>182</sup>

One grave in the west cemetery is particularly worthy of note: that of Pompeia Gemella, whose tombstone has survived, with an inscription indicating that she was the wet nurse of an emperor, possibly Titus.<sup>183</sup>

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### **Note to the reader**

Part II of this article will be published in *JRA* 25 (2012). It will contain an account of the urban evolution of *Aventicum* from A.D. 100 to late antiquity, together with a discussion of crafts and trades as well as some aspects of cultural and art history.

177 Martin Pruvot *et al.* 2006, 109. For the drain from *insula* 19, see N. Vuichard Piguéron, “Chronique des fouilles archéologiques. 4. Avenches/*En Pré-Vert*, au nord des *insulae* 2-3,” *BPA* 47 (2005) 92-93, figs. 9-10.

178 Grezet 2006.

179 *Ibid.* 89, fig. 38.

180 *Ibid.* 90-91.

181 Castella 1987.

182 *Ibid.* 41.

183 Frei-Stolba and Bielman 1996, 28-30, no. 3. On the residence in *Aventicum* of Vespasian's father and one or both of his sons, see Van Berchem 1994, 110.

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