

Does **AACHEN** provide the missing urban splendor for the Early Middle Ages? For 300 years, Ravenna basically only shows *San Salvatore ad Calchi* – with a layout that fits the architectural styles of the 2nd/3rd or the 5th/ 6th century – in an otherwise ghostly wasteland. Ravenna's vivarium, although also dated in the 8th/9th century, does not help either, because structurally it resembles nymphaea of the 2nd/3rd century (Cerelli 2019, 294). But alas, Aachen also disappoints. For the 300 years of the Early Middle Ages, there are only Carolingian administrative buildings and one church.

Early medieval wasteland of downtown AACHEN (8th-10th century AD), lacking residential quarters, latrines, streets, and baths etc., from which the monuments of Charlemagne stand out in splendid isolation. The small structures in the model represent primitive huts sunk into the dark earth (“dunkler Moder”) separating the High Middle Ages (10th/11th c. AD) from Roman civilization. [Photo G. Heinsohn from a video in Aachen's *Centre Charlemagne* with permission of the staff (2015). The video's co-author, Sebastian Ristow, points out that he plans to develop the model further; see also <https://www.medieval.eu/charlemagne-aachen-2014/>.]



Contemporary roads and latrines, housing for citizens and servants, lodgings for the warrior guards, stables, monasteries, water pipes, baths, parks for the peacocks, etc. have never been found. The famous monuments of Aachen protrude out of a death zone like broken teeth, reminding posterity of the magnificence of the once classically beautiful dentition: “Surprisingly, no excavation or construction site observation inside or outside the old town of Aachen has so far recorded clear settlement remains of Carolingian times, although tradition suggests the presence of merchants and numerous inhabitants as well as the existence of quite sophisticated aristocratic courts, some of whose buildings and material culture should be found in the ground. All previous claims about the road system, settlement structure and boundaries of this settlement are based solely on written sources and theoretical considerations” (Untermann 1999, 162).¹ Again and again, archaeologists are amazed at “the lack of information about Carolingian Aachen” (Keller 2004, 49).² Another decade and many excavations later, scholars lament the same early medieval void: “With the exception of the large Carolingian palace buildings, there are practically no early medieval houses” (Müller et al. 2013, 42).³

Gradually, however, the excavators are realizing that Aachen's Imperial Antiquity and Aachen's Early Middle Ages cannot have followed each other at a distance of 700 years, but must have existed simultaneously. This seems incredible. But even the floors of Charlemagne's Octagon are covered with tiles of *opus sectile* in the style of the 2nd century (see illustration below). Also in Ravenna, the *capella arcivescovile*, whose preserved remains are dated to the 8th century, has an *opus sectile* floor of Proconnesus marble (Deliyannis 2010, 191). Aachen's 2nd century drainage canals are so well intact that the early medieval Aacheners “tied themselves to the Roman sewer system” (Cüppers 1982, 67).⁴ The same applies to transport routes: “A continuous use from Roman times also applies to large parts of the inner city road and path network. [...] The Roman road, which has already been documented in the *Dom-Quadratum* [Palatinate ensemble] in northeast-southwest orientation, was used until the late Middle Ages” (Müller et al. 2013, 324).⁵

¹ “Erstaunlicherweise hat bislang keine Grabung oder Baustellenbeobachtung innerhalb und außerhalb der Altstadt von Aachen eindeutige Siedlungsreste karolingischer Zeit erfasst, obwohl die Überlieferung auf die Anwesenheit von Kaufleuten und zahlreichen Einwohnern sowie auf die Existenz durchaus anspruchsvoller Adelshöfe schließen lässt, von deren Gebäuden und Sachkultur einiges im Boden zu finden sein müsste. Alle bisherigen Aussagen zu Straßensystem, Siedlungsstruktur und Grenzen dieser Siedlung beruhen allein auf Schriftquellen und theoretischen Überlegungen.”

² “die fehlenden Kenntnisse über das karolingische Aachen.”

³ “gibt es mit Ausnahme der grossen karolingerzeitlichen Pfalzbauten praktisch keine frühmittelalterlichen Häuser.”

⁴ “an das römische Kanalsystem anbanden.”

⁵ “Eine kontinuierliche Nutzung aus römischer Zeit gilt auch für weite Teile des innerörtlichen Straßen- und Wegenetzes. [...] Die römische Straße, die im *Dom-Quadratum* [Pfalz-Ensemble] in nordost-südwestlicher Ausrichtung schon dokumentiert wurde, wurde bis in das späte Mittelalter hinein genutzt.”

Early 2nd century AD Roman *opus sectile* floor (Córdoba.)

[[https://pl.pinterest.com/pin/410320216042805371/.](https://pl.pinterest.com/pin/410320216042805371/)]



Early 9th century AD *opus sectile* floor (Charlemagne's Octagon in Aachen. [Konnegen 2012, 442.]. Ravenna's 8th century *arcivescovile* had a similar floor.



It is well known that streets last a long time, while apartments wear out quickly. And yet, in Aachen one finds a repetition of the durability miracles of Spoleto or Zurich: “Essential parts of [2nd c.] Roman buildings were at least preserved in such a way that a further use for residential and other purposes was still possible in the [9th c.] Early Middle Ages” (Müller et al. 2013, 270).⁶

Researchers want to make sense of this strange situation. They are looking, if you will, for an analogy to Valentina Manzelli's “palimpsest” model, whereby Late Antiquity is formed out of material from Imperial Antiquity. They leave Aachen's miraculously preserved Imperial Antiquity intact, but they remove one of its blocks from the urban context, and plant Aachen's one and only piece of undisputed early medieval architecture in the vacated space: “Only the area for the large main buildings, between aula and Mary's church [octagon], was cut out of the Roman ground plan, as it were, probably to allow the church to have an exact west-east orientation” (Müller et al. 2013, 324).⁷

⁶ “Wesentliche Teile römischer Bauten [waren] zumindest so erhalten, dass eine Weiternutzung zu Wohn- und anderen Zwecken im frühen Mittelalter noch möglich war.”

⁷ “Lediglich der Bereich für die großen Hauptgebäude, zwischen Königshalle und Marienkirche [Oktogon], wurde aus dem römischen Grundplan gleichsam herausgeschnitten, wohl um der Kirche die exakte West-Ost-Ausrichtung zu ermöglichen.“

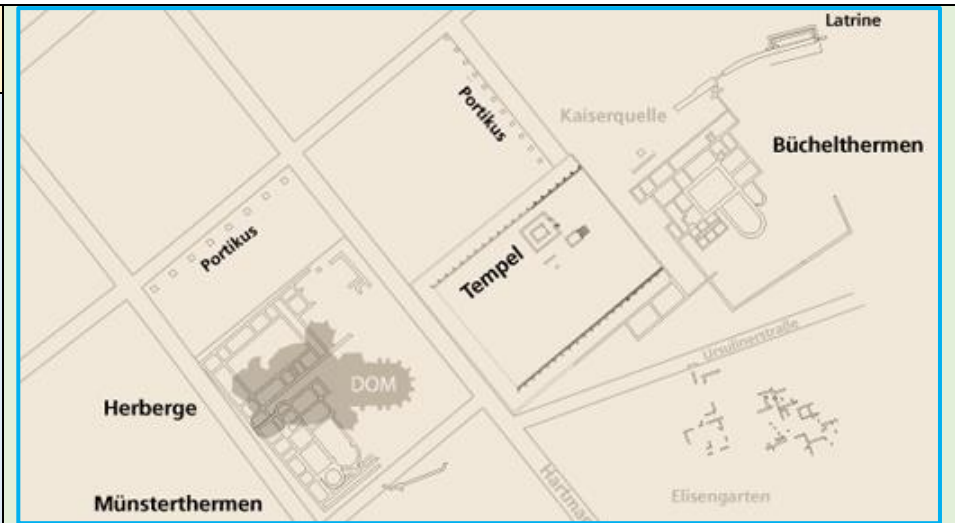
Aachen's expansion to include a Christian center may indeed have been carried out in this way. But when? Some 700 years after the miraculously intact Imperial Antiquity, or in its last decades? But that would only be possible if Imperial Antiquity actually belongs to the time of the Early Middle Ages. After all, the Carolingian buildings cannot simply be made 700 years older. Right after them

**Part of AACHEN's Roman road network in the
2nd century AD.**

One block (with grey structure) is cleared to accommodate Charlemagne's octagonal church which, unlike the neighboring temple ["Tempel"], is oriented east-west.

The dome ("DOM"; also "Chorhalle") is a 14th/15th century addition.

[<http://www.archaeologie-aachen.de/DE/Geschichte/Epochen/Roemerzeit/index.html>.]



There follow primitive huts of the High Middle Ages from the 10th century. They are immersed in a "layer of mud or alluvial deposits", which here, too, overlap the purely Roman layers everywhere in great thickness" (Sage 1982, 93).⁸ This occurs from the "second third" of the 10th century onwards (Erkens 2013, 580), thus after the *Tenth Century Collapse* of the 930s AD.

The fact that Imperial Antiquity coincides with the Early Middle Ages is also demonstrated by the fact that Aachen's Carolingian buildings are thoroughly antique in style and construction, and yet are found directly before the High Middle Ages of the 10th/11th century: "The Palatinate was planned as a closed complex in the sense of antique palaces and was tackled using Roman techniques" (Sage 1973, 2).⁹ But because modern architectural historians firmly believe that many centuries separate Imperial Antiquity from Charlemagne, they report on his buildings as if they had been created by some miracle: "The royal palaces with their halls, chapels,

⁸ "Moder- oder Schwemmschicht", die auch hier überall die rein römischen Schichten in großer Mächtigkeit überlagert."

⁹ "Die Pfalz war als geschlossene Anlage im Sinn antiker Paläste geplant und unter Anwendung römischer Techniken in Angriff genommen worden."

colonnades and living quarters show the same clear overall composition as the Roman palaces in the diversity of the individual buildings. [...] In solving architectural problems, the builders based themselves on the mass construction of ancient Rome with its pillars, barrel vaults or domes and its preference for axes that were perpendicular to each other, on the one hand, and on the other hand, on the column architecture developed by the Greeks” (Binding 2003, 1633 f.).¹⁰

It is considered an even greater miracle that Aachen, despite the demise of Imperial Antiquity and Late Antiquity, has – other than Ravenna’s Agnellus – a perfect command of 1st/2nd century Latin: “All public communication – legal, religious, political or in school – takes place in Latin, no matter what language people may have spoken in private or domestic contexts. Thus Latin, in orthography and grammar of the older classical and Ciceronian norms, was indeed the *lingua franca* of the entire Carolingian Empire” (McKitteric 2014, 287).¹¹

Since nobody can imagine how or why all these wonders were accomplished across eons for an unknown purpose, Carolingian Europe “looks rather like an accidental rebirth of Rome” (Henning 2008, 52). A sober scholar like Joachim Henning doesn't like to resort to miracles. But does mere coincidence as the cause for the striking similarities across 700 years really look more convincing? However, this offhand remark reflects a profound truth. Today's researchers see Charlemagne as the promoter of a restoration of the Roman Empire (*restitutio imperii*). They see his time as an ingenious and conscious renaissance of a perished civilization. Charlemagne himself, however, knows nothing about such notions. Orders to architects, canal builders or teachers to do everything exactly as it had been done 700 years earlier “are not accounted for” (Grewe 2014, 181).¹² On a purely archaeological basis, Charlemagne is clearly part of Antiquity. Nowhere does he proclaim that he lives many centuries after the glories of imperial

¹⁰ “Die königlichen Pfalzen mit Hallen, Kapellen, Kolonnadengängen und Wohnräumen zeigen in der Vielfalt der einzelnen Gebäude die gleiche klare Gesamtkomposition wie die römischen Paläste. [...] In der Lösung architektonischer Probleme stützen sich die Baumeister auf den im antiken Rom ausgebildeten Massenbau mit seinen Pfeilern, Tonnengewölben oder Kuppeln und seiner Vorliebe für senkrecht aufeinander stehende Achsen, andererseits auf die von den Griechen ausgebildete Säulenarchitektur.“

¹¹ “Jegliche öffentliche Kommunikation – juristisch, religiös, politisch oder im Unterricht – auf Latein statt, ganz egal welche Sprache die Menschen in privaten oder häuslichen Zusammenhängen gesprochen haben mögen. Somit war Latein in der Tat die *Lingua franca* des gesamten Karolingerreichs / [in] Orthografie und Grammatik / der älteren klassischen und ciceronianischen Normen.”

¹² “nicht nachzuweisen.”

Rome. Charlemagne and Louis the Pious wear Roman chlamys and diadems on their coins as a matter of course. They do not portray themselves in imitation Roman costumes, but, again, show themselves to be an inseparable part of imperial Roman civilization.

<p>Charlemagne with Roman chlamys and diadem: KAROLUS IMP AUG. [https://en.wikipedia.org/wiki/Charlemagne.]</p>	<p>Charlemagne with Roman chlamys and diadem: KAROLUS IMP AUG. [https://www.emaze.com/@AIWOOWCT.]</p>	<p>Louis the Pious with Roman chlamys and diadem: DNH LUDOVICUS IMP AUG. [https://en.wikipedia.org/wiki/Louis_the_Pious.]</p>	<p>Louis the Pious with Roman chlamys and diadem: DNH LUDOVICUS IMP AUG. [http://www.kornbluthphoto.com/images/LouisOb514.jpg.]</p>
			

But if the two emperors actually lived in the time of Imperial Antiquity, where in the history of Rome should we look for them? That question cannot be answered by schematically equating the approximately 230 years – with its first millennium imperial substance (1-230s AD) – with the 230 years of the Early Middle Ages (700-930s AD) on a 1:1 basis. Thus, one cannot say that 100 AD necessarily corresponds to the year 800 AD (the textbook year of Charlemagne's imperial coronation). A coin of Louis the Pious (conventionally 814-840 AD), for example, is the last Carolingian coin found in Truso, which did not perish before the 10th century.

Stratigraphically, therefore, Charlemagne and Louis therefore do not belong to the 8th/9th century, but to the 9th/10th century. They live through the turmoil of the plague of Marcus Aurelius and Commodus of the late 2nd century (both with coins in late 9th c. Truso; Jagodziński 2010, 134), which was also the time of the Antonine/Commodan Fires, a time when Rome could no longer govern the provinces: “Around the middle of the 2nd century, AQUAE GRANNI seems to have actually been struck by a major fire event. Extensive burnt layers of this period were observed at the Elisa gardens” (Schaub et al 2011, 386).¹³ Rome's Frankish citizens do not

¹³ “Um die Mitte des 2. Jahrhunderts scheint AQUAE GRANNI dann tatsächlich von einem größeren Brandereignis heimgesucht worden zu sein. Ausgedehnte Brandschichten dieser Zeit wurden am Elisengarten beobachtet.“

see this weakening of the empire as a blessing at all, but rather as a threat to their existence. For this reason, the native Franks do not want to lose the infrastructure and laws of Roman civilization (on Germanic loyalty to Roman law see Matthews 2000, 31 ff.)

They want to be federates of Rome who defend the empire for their own well-being, even without orders from the capital. They demonstrate loyalty by fighting against Moors/Saracens that attack Spain in the time of Marcus Aurelius (see already Heinsohn 2014, 38). They obtain religious legitimacy from their Christian shepherds in the city of Rome. In Aachen itself, they build a new district with a church that was constructed in an architectural style that looks to be late 2nd/early 3rd century. Why did they choose such a style? Because – it is logical to assume – they really were living in the late 2nd/early 3rd century. Stratigraphically, however, this textbook date belongs in the 9th/10th of the Early Middle Ages. In Ravenna the same events are dated to the 5th/6th century, when its citizens built with stones from the 2nd/3rd century. Stratigraphically, however, these events in Ravenna belong to the 9th/10th century, too. This date also applies to Andrea Agnellus.

Not so fast, dissenting archaeologists from Aachen might say. We have always been jealous of Ravenna. It is the 'Capital of Late Antiquity', i.e. it flourishes in the period when Aachen has no monuments at all. The fact that we ourselves are regarded as the 'Capital of the Early Middle Ages' was never a consolation for our three centuries of architectural emptiness during Late Antiquity. After all, in spite of hundreds of years of research, “there are hardly any observations from Aachen for Late Antiquity” (Keller 2004, 45).¹⁶ Therefore, it may be true that our Early Middle Ages and Ravenna's Late Antiquity are merely facets of the final phase of Imperial Antiquity, which stratigraphically do not belong to the 2nd/3rd century, but to the 9th/10th century. However, since 2015 we finally have had an archaeological find that belongs to Late Antiquity, and thus possibly confirms Ravenna's Late Antiquity, too. It is a military camp with an irregular layout, which was found under Aachen's 9th century aula (Kyritz/Schaub 2015).

For a very long time, a military camp from the Augustus-Tiberius period (31 BC to 37 AD) has been sought in Aachen. There are coins of Spanish mintage from this period. Spanish soldiers are stationed in Upper Germania from 13 BC on (Zeitreise 2009). Therefore, one is looking for a small camp with an irregular layout, because “most legionary camps of the Augustus-Tiberian campaigns had individual rectangular structures, but their polygonal ground plan adapted to the topographic conditions, which could

have been expected in Aachen” (Keller 2004, 32).¹⁴ Now such a small camp (less than 2 ha) is found on an elevation favoring an irregular layout. It fits very well into the first century and could have been demolished in the late 2nd century (stratigraphically late 9th c.) to allow construction of the assembly hall, which the Carolingians needed as a government building for an administration independent from Rome.

LEFT: Polygonal Roman camp VINDONISSA/Switzerland (15-30 AD; adjusted to the hilly terrain like Aachen but significantly larger). [https://www.moneymuseum.com/en/coins?&id=768.] **RIGHT: AACHEN’s polygonal Roman camp (red lines) with an early 1st century AD layout but dated into the 4th century AD.** [Kyritz/Schaub 2015, 156; the “Rathaus” {city hall} contains the 9th c. Carolingian aula.]



¹⁴ “die meisten Legionslager der augusteisch-tiberischen Feldzüge wiesen zwar einzelne rechtwinklige Strukturen auf, passten sich aber in ihrem mehreckigen Grundriss den topographischen Gegebenheiten an, was auch in Aachen zu erwarten gewesen wäre.“

But the excavators date the camp to the 4th century. Finally and happily, they can soften Aachen's *horror vacui* of the emptiness in Late Antiquity: “It's about a building program of the Romans in the time around 300 AD. ‘In Aachen [according to excavator Andreas Schaub], we have so far not seen ourselves as part of this [late antique; GH] period’ ” (Vogel 2015).¹⁵ And yet uncertainty mixes with joy. The area of the camp has already been explored over many years. As the site is slightly elevated and therefore easier to defend, it was even hoped that it would reveal the nucleus of Roman Aachen. After all, small finds start in the beginning of the 1st century AD and continue into the 2nd/3rd century AD. Eventually, the 2015 excavations add the rough walls of the military camp. However, the excavators decide, this find will not be employed to finally furnish evidence for Imperial Antiquity, i.e. the period with the small finds, but for the subsequent Late Antiquity, in which Aachen is so far non-existent whilst Ravenna wondrously reaches its peak.

Yet, we know that the “4th” century buildings of Maxentius actually belong to the first half of the 1st century AD because pre-50 AD mausoleums are cut deeply into the perimeter wall of his own mausoleum (see chapter I above). Just as the polygonal military camps do not repeat themselves, so the wars take place only once. We are not talking about two different wars, but about sources of two different participants or persons responsible for the same operation.

Selected Roman wars of the early 1st century AD that are re-enacted in the early 4th century AD . [Borhy 2014.; Lehmann 2011; Schneider 2008.]			
43 AD	A Roman fleet, starting in Bononia (Boulogne), invades England. The landing port is unknown.	A Roman fleet, starting in Bononia (Boulogne), invades England via Portsmouth (<i>Portus Adurni</i>).	343 AD
16 AD	Germanicus crosses the Rhine in Cologne without a bridge (although bridges are built in his time), but Germanic tribes on the right bank of the Rhine are not subjugated.	Constantine crosses the Rhine from Cologne to <i>Divitia</i> (built with 1st c. bricks) on a bridge, but Germanic tribes are not subjugated.	307 AD
15 AD	Bructeri and Chauci are defeated by Rome.	Bructeri and Chauci are defeated by Rome.	307/308 AD
10/20 AD	Iazyges/Sarmatians attack Rome in Pannonia, are pacified and settled by unknown emperors.	Iazyges/Sarmatians attack Rome in Pannonia, are pacified and settled by Diocletian + other tetrarchs.	Early 4th c. AD

¹⁵ “Es geht um ein Bauprogramm der Römer um 300 nach Christus. ‘In Aachen haben wir uns bisher nicht als Teil davon gesehen’.”

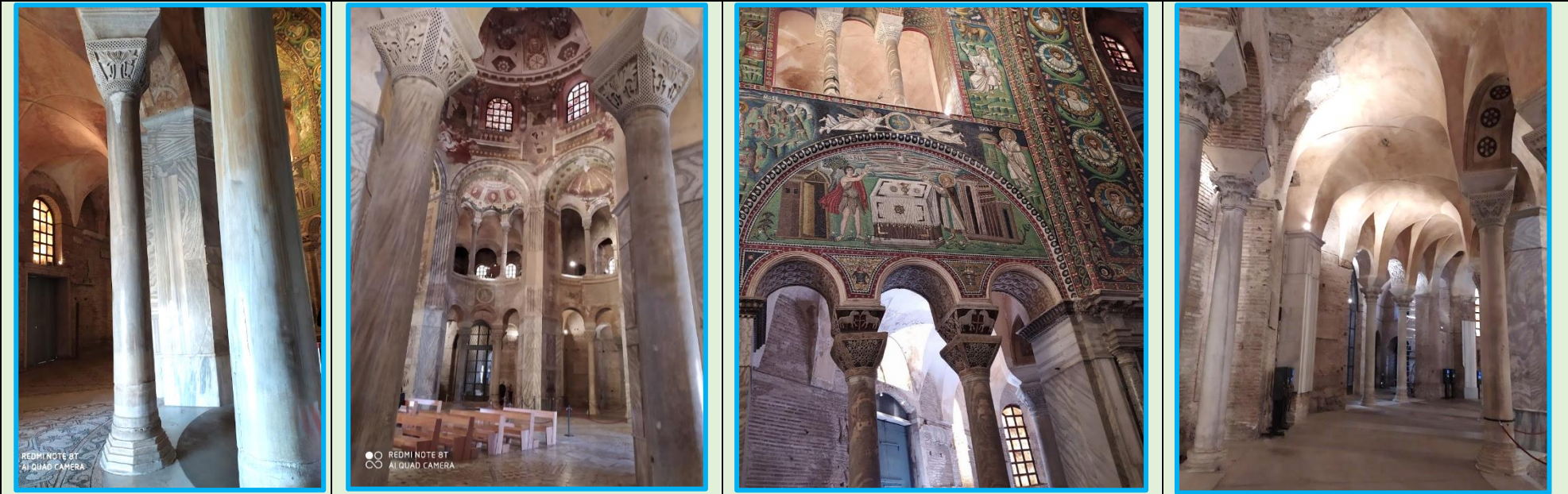
However, dating Aachen's polygonal camp to the 4th century leads to a bizarre situation. The famous city, finally, can present all three periods of the 1st millennium AD. Imperial Antiquity leaves behind rich architectural remains. Late Antiquity looks like a death zone. It has only the camp. There are no apartments for the people it guards and those who supply it. Right after that there is a second death zone in the Early Middle Ages. It contains only administrative buildings and a splendid octagonal church, but not a single apartment for high-ranking or simple people, for Christians or other denominations. From the 3rd to the 10th century Aachen is without ordinary residential buildings.

However, if one looks at the situation stratigraphically, the military camp provides the nucleus of Roman Aachen from the early 1st century AD, which, for so long, has been searched for in vain. The city then flourished until the late 2nd century. The city was then taken over by Frankish citizens of Rome. They replace the camp with the royal assembly hall. In another part of the city a previous building (a thermal bath) is replaced by the church, where the New Christians, distraught after plague and Antonine/Commodan Fires, find spiritual solace. All this happens between 700 and the 930s, when the Tenth Century Collapse buries the now Frankish-Roman city under a shroud of dark earth ("dunklem Moder").

Thus, Aachen provides no consolation for Ravenna. In both cities, the antique urban substance of the first millennium lasts for only about 230 years, which do not belong to 1 to 230s AD, but to 700 to 930s AD. The Carolingians are contemporaries of Theodoric's Ostrogoths. Like the Lombards, they are alternately allies and enemies, although from the time of the Marcus Aurelius Crisis to the catastrophic end in the Tenth Century Collapse, the Carolingians appear to be dominant.

In return, there is no consolation for Aachen from Ravenna, either. The popular legend that Charlemagne gutted Ravenna's buildings for his own monuments is unknown to Andrea Agnellus, who is well aware of the powerful Frank: "Agnellus does not mention the removal of these building materials" (Deliyannis 2010, 298). To the regret of the Ravennates, some precious objects are sold to Aachen. But a demolition of their own substance for the benefit of Aachen does not take place. The competition is fierce. Aachen's Octagon church surpasses Ravenna's Octagon church in size, if not in splendor, but not a single column is stolen from San Vitale. Many are still standing today.

Columns in Ravenna's San Vitale that were obviously not stolen by Carolingians. (Photos G. Heinsohn.)



The archaeology of Ravenna's columns confirms a magnificent discovery by Werner Jacobsen. He has seen that many of the supposedly centuries-old used Roman parts in Aachen's 9th century were not *spolia* at all, but were perfectly antique and brand-new at the same time. That's why he called them "pseudo-spolia" (Jacobson 1996). This designation gives us another ingenious idea for how we don't have to switch off our judgment in order to obey textbook chronology. Jacobsen understands that Charlemagne's 9th century used the same material as Romans of the 2nd/3rd century. The Ravenna researchers understand that the Goths of the 5th/6th century use the same stones as the Romans of the 2nd/3rd century.

The Ravenna scholars, therefore, develop the palimpsest theory. Jacobsen develops the "pseudo-spolia" theory. Both somehow recognize the simultaneity of 2nd and 5th or 2nd and 9th century, but neither wants to rebel against chronology. Ultimately, therefore, Ravenna and Aachen not only share the same historical period of the 8th-10th centuries, but also the astuteness of their scholars of the 21st century. They are more ambitious than their colleagues from Zurich or Spoleto etc. who declare houses to be so durable that even after 700 years without repair they are still good as new.

If *San Salvatore ad Calchi* from Ravenna's 9th century fits into the 6th century of Ravenna's San Vitale octagon (from 2nd/3rd century stones) and the latter could have been built in the 9th century of Aachen's octagon, then art of 2nd, 5th, and 9th century is produced

FOUR ANGELS POINTING TO CHRISTIAN DEITY.
 Early medieval Carolingian 9th century AD vault mosaic in Santa Prassede's small Chapel of San Zeno (Rome; mediocre artist).
 [https://commons.wikimedia.org/wiki/File:Santa_Prassede_-_Mosaic,_Chapel_of_San_Zeno.JPG.]

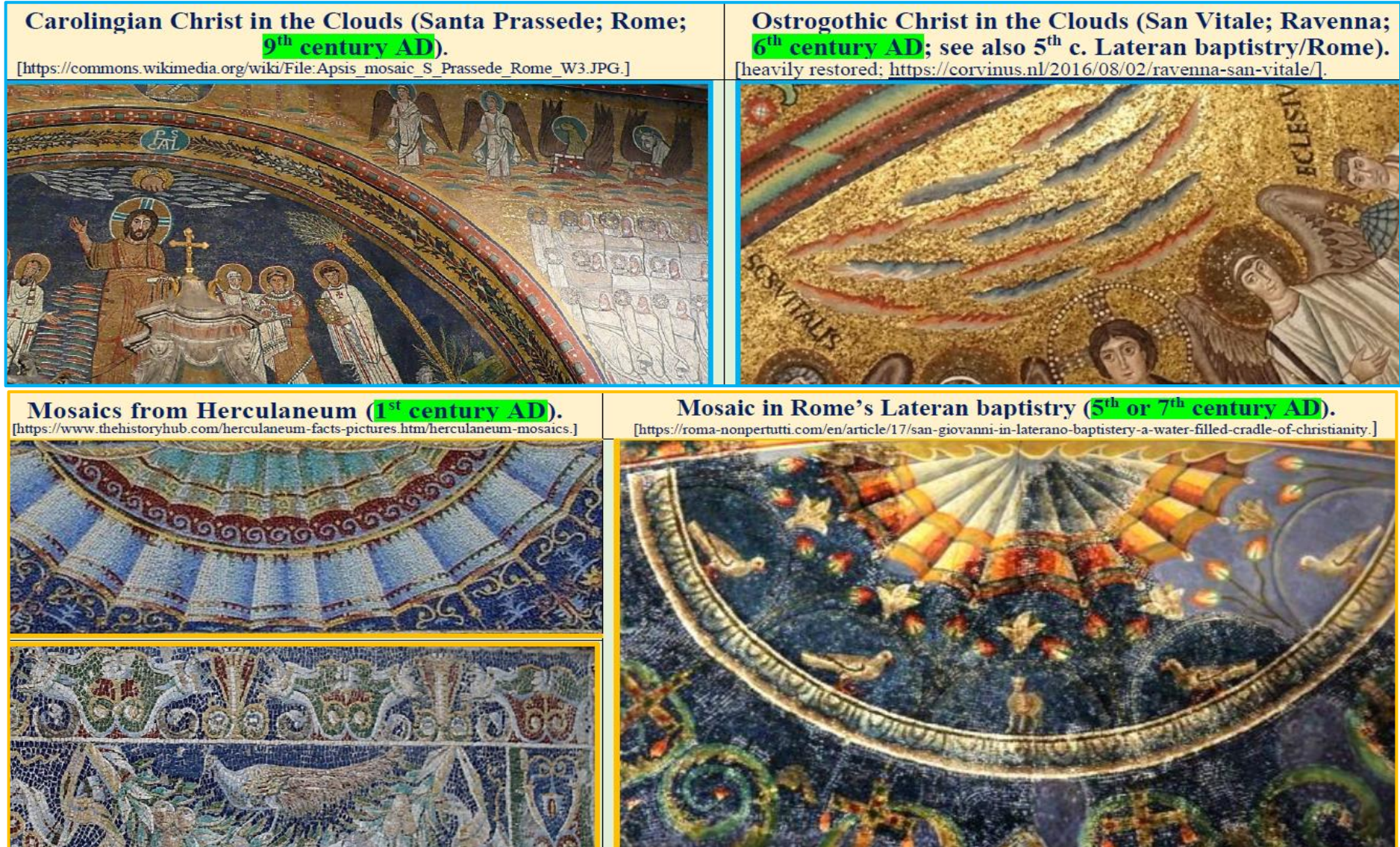


FOUR ANGELS POINTING TO CHRISTIAN DEITY
 Late Antique Ostrogothic 6th century AD vault mosaic in San Vitale (Ravenna; master artist).
 [Photo G. Heinsohn.]



Simultaneously. When comparing Rome's 9th century Carolingian Santa Prassede with Ravenna's San Vitale, a close observer recognizes that the mosaics of Imperial Antiquity, Late Antiquity and Early Middle Ages could fit into one and the same period. The Santa Prassede mosaics of the San Zeno chapel provide “a splendid example of current scholarly discussion about the stylistic origins

of these mosaics; i.e. whether they demonstrate the revival, or the survival of the antique. Whilst they have been seen as depending on the 6th century mosaics created during the reign of the Byzantine Emperor Justinian at San Vitale in Ravenna, in turn the mosaics



at San Vitale can be interpreted as being dependent on Roman floor mosaics. If this theory is accepted then the mosaics at San Zeno can be placed in a context which wends its way back to the Roman antique” (Crawford 2010). Indeed, Rome's mosaics of the 7th (if not the 5th) century AD (Lateran baptistry; above right) match pieces from Herculaneum's 1st century AD (above left).

One may add that the *Titulus S. Praxedis*, the legal basis for the mandatory construction of a church, is dated to the year 112 AD, i.e. about 700 years earlier. Whether mosaics from the 9th century look like those from the 2nd century or vice versa, their production stops abruptly in the early 10th century (Dale 2004, 743 f.). Only as long as one does not realize that the Tenth Century Collapse is identical with the crises of the 3rd century (Rome) and the 6th century (Byzantium), this end can be called unexplained. The same catastrophe appears three different times in our history books, and in three different centuries. The contemporaneousness of Imperial Antiquity, Late Antiquity, and Early Middle Ages also explains why the raw materials for all the glass cubes of the mosaics (tesserae) come from Egypt and the Levant (James 2017, 21 ff.).

When evidence from stratigraphy, construction techniques and art development forces us to recognize that three sequential textbook periods of history are actually contemporary, and therefore belong to the same period, mysterious urban histories are transformed into comprehensible narratives. The following overview shows schematically that the architecturally mysterious lean periods of Ravenna and Aachen provide enigmatically few finds. That’s because these rare items actually belong to Imperial Antiquity, the period with undisputed urbanity, which ends in the time of the Severans (1-230s AD in textbook chronology). Only in the 10th century, after the Tenth Century Collapse, does construction begin again with the primitive architecture of the High Middle Ages. Therefore, the stratigraphy cannot help but transform 1-230s into 700-930s.

	Early Imperial (up to Tiberius)	Imperial Antiquity (up to Antonines)	Imperial Antiquity Severan Period etc.	Late Antiquity	Early Middle Ages
RAV- ENNA	Early military camp found.	Remains with Trajan aqueduct.	Severan wasteland full of Severan building material.	Rich remains built in Severan style and building material.	Wasteland with just one building in Severan/late antique style.
AA- CHEN	Early Imperial camp missing.	Remains with Trajan aqueduct.	One Severan quarter cut out for Carolingian block.	Wasteland has camp that is missing in Imperial Antiquity.	Wasteland with Carolingian block planted into cut out Severan quarter.

VIII

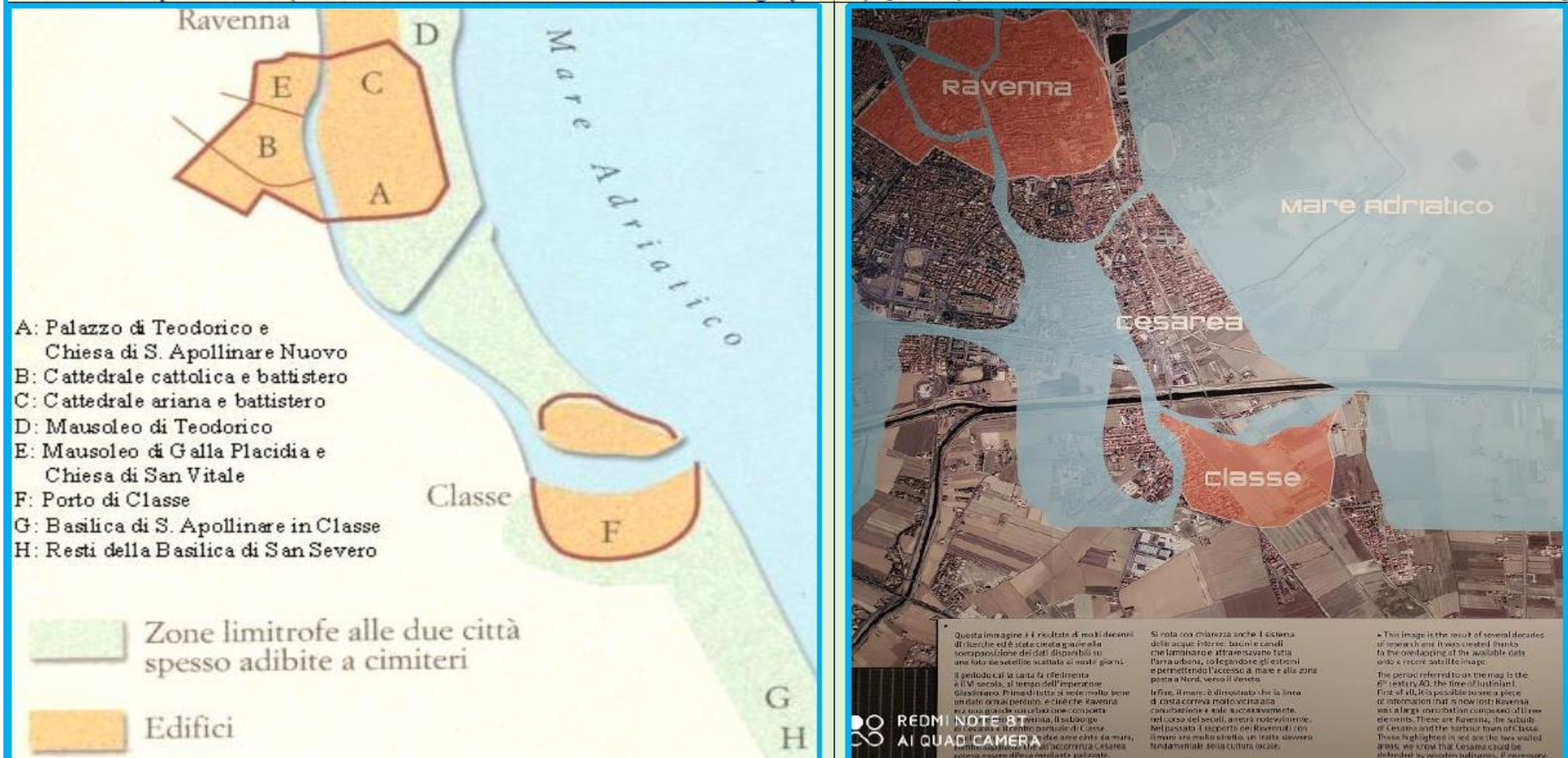
The fall of Roman Civilization and the destruction of Ravenna

From Ravenna's walls in the 3rd century BC to about 900 AD, the city was located on the Adriatic Sea. Andrea Agnellus, who lived in the 9th century, never gives any hint that the city has lost its port-based economy. Naturally, slight changes are always taking place

LEFT: Ravenna and Classis in the 6th century AD. The areas in light blue indicate the Adriatic Sea up to the 9th century of Andrea Agnellus.

[<https://img835.imageshack.us/img835/4991/ravennavisecolo.jpg>]

RIGHT: Somewhen after the 9th century AD much of Ravenna was partially destroyed. The sea, today some 10 km to the east, was replaced by land and slowly built over (shades of new structures are visible in blue-grey areas). [Photo by G. Heinsohn in *CLASSIS Ravenna – Museo della Città e del Territorio*.]



along the coast-line and also on the banks of rivers. Islands have to be reinforced to support quays and buildings. Even an occasional tsunami cannot be ruled out. A powerful force, however, which lifts up the land or which silts up huge areas is not reported in Ravenna before the 10th century AD. Geological stability also continues from c. 1600 until today, as shown by an anonymous drawing illustrating Ravenna's 17th century position far from the sea, a position which has not changed much since then (see below and next page).

**RAVENNA's 17th century
geographical position.**

**The city was already
located far away
from the sea.
Anonymous drawing.**

[<http://www.visualizzare-ravenna.it/cartografia.>]

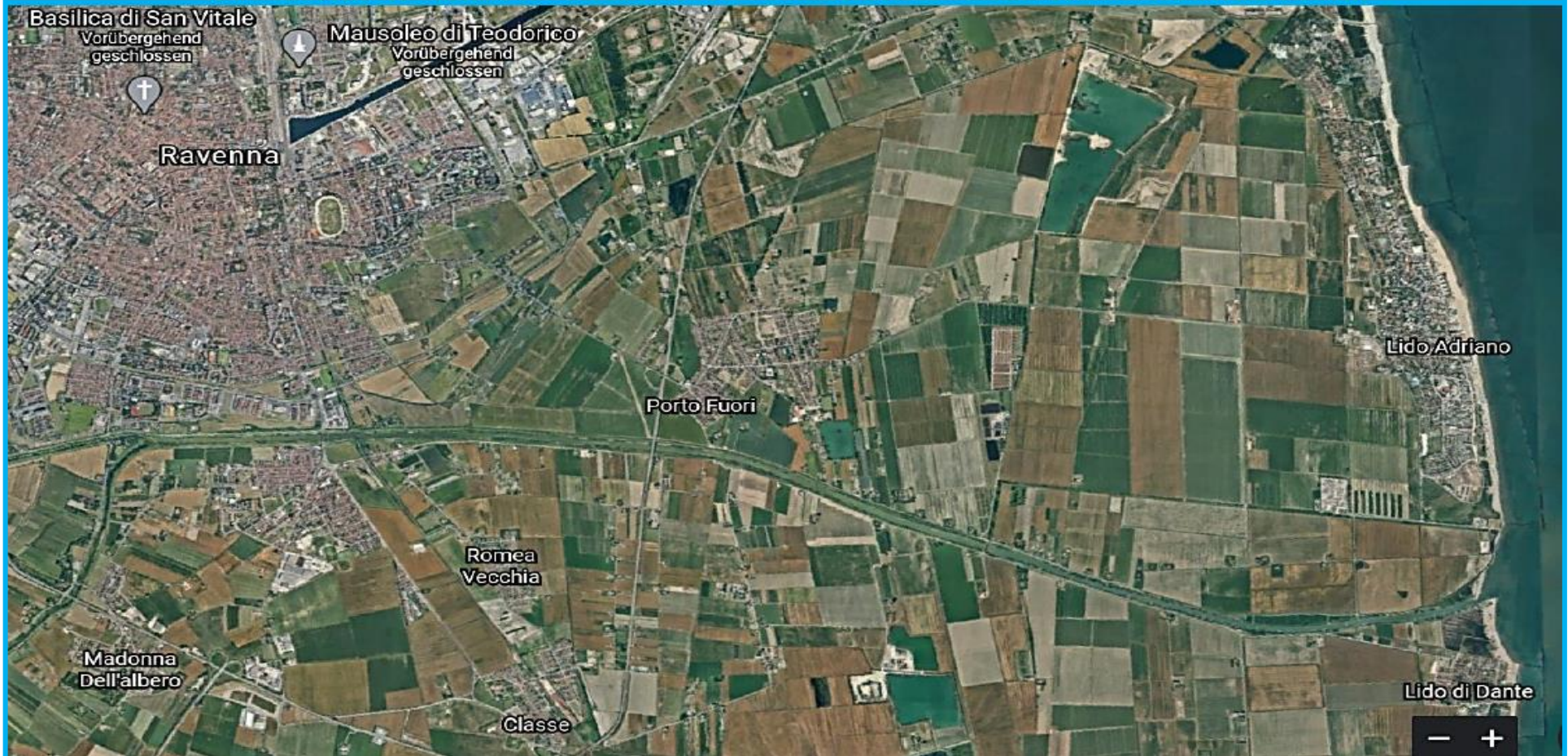


If Ravenna's situation is geologically stable during the 1st millennium, as well as the second half of the 2nd millennium, then an imperceptibly slow silting up can be ruled out. There is not enough time for a centimeter-by-centimeter drying out of 10 km, or one million cm of land. Even rivers that suddenly go mega-wild are hard to imagine if they remain inconspicuous from the 3rd century

BC to 900 AD, and also between 1600 AD and today. Another indication that gradual silting up has not been happening is that Ravenna isn't taking any more land from the sea, but is sinking 16-23 cm per century.

Coastline of RAVENNA and CLASSE in May, 2020. Somewhen after 900 AD, the coastline has moved c. 10 km to the east. Since measurements are available, however, Ravenna's land surface has not been rising but sinking, by about 16-23 cm (6-9 in) per century. It therefore looks as if a still puzzling rapid and dramatic upturn of the land is slowly being reversed.

[<https://earth.google.com/web/@44.40055686,12.24929511,-2.99276998a,11419.17228663d,35y,-5.87428641h,0.37544713t,0r.>]



If Roman Ravenna perishes after the 9th century AD, it is necessary to ask for the exact date and cause. The best documented time is around 930 AD. Around this time at the latest, Aachen also meets its end, because the primitive huts that followed this collapse are immersed in the dark earth (“dunkler Moder”) that buries the Roman city (Erkens 2013, 580).

If we look far to the north, we see that the Viking towns of SCANDINAVIA were doomed at the same time: “There is another type of discontinuity in the late Viking Age: the old rural places of power, commonly called central places, all met their end. In some cases, most pronounced in Lejre-Roskilde and Uppåkra-Lund, a town with central royal and ecclesiastical functions was established in the vicinity around the time when the central place was abandoned. It is the new and strong connection between king and Church which might hold a key to understanding the discontinuity both in towns and in central places around the turn of the millennium. A general conversion to Christianity took place at this time” (Skre 2012, 86)

If we focus on CONTINENTAL EUROPE, we witness the same disaster. In Poland’s early 10th century “there was a rapid, sometimes catastrophic, collapse of many of the pre-existing tribal centers. These events were accompanied by the permanent or temporary depopulation of former areas of settlement” (Buko 2011, 464.) At the same time, in the Czech Republic, “castles of regional chieftains were destroyed. / That phenomenon is not at all mentioned in the written sources” (Sommer 2012, 266/273.)

If, finally, we look far to the south, it is the time when the Abbasid metropolis, Samarra on the Euphrates (modern Iraq), disappears under sand. Nevertheless, the dating of the end of the mighty city is controversial. A date around 900 AD is often mentioned. However, Samarra's characteristic, and chronologically relevant, “white glazed ware” is also dated to “the first half of the 10th century” (Bloom/Blair 2009, 448). A safe date for the abandonment of the huge site in Mesopotamia is the start of the Buyid dynasty, lower-class strongmen from Iran, that disempowers the suddenly moribund Abbasids around 930 AD (Busse 1975).

Excavators often complain that written sources about the cataclysmic events are missing. Thus unprepared, they stumble into archaeological devastation. This lack of written sources is due to the extent of the havoc and the consequent death of the educated. Scientific thinking disappears for decades. “The tenth century was the ‘age of Iron’ (*saeculum ferreum*), the Dark Age (*saeculum obscurum*). / A symptom of this regression may be the situation that in the period from about 920-960 as far as we know, nothing of any great interest in the fields of intellectual development or literature appeared” (Strzelczyk 2001, 42 / 43).

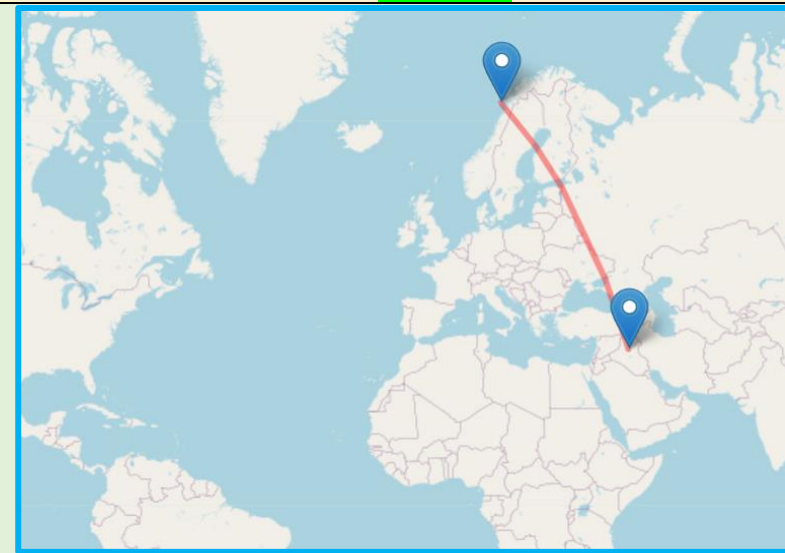
Written sources are rare indeed, but they are not completely missing for the three territories we are looking at. The following overview will illustrate this. The distance between destroyed Samarra in Iraq and the equally devastated Viking town near Vestvågøya (Lofoten)

Written sources dealing with the TENTH CENTURY COLLAPSE .		
<p style="text-align: center;">SCANDINAVIA</p> <p>VOELUSPÁ, the first poem of the <i>EDDA</i>, was probably created by an Icelandic seer of the later 10th century AD. Its earliest audience may have personally survived the cataclysm. [http://www.sacred-texts.com/neu/poe/poe03.htm].</p>	<p style="text-align: center;">CONTINENTAL EUROPE</p> <p>Rodulfus GLABER (985–1047 AD) <i>Historiarum Libri Quinque</i> (<i>The Five Books of the Histories</i>) [https://sourcebooks.fordham.edu/source/glaber-1000.asp].</p>	<p style="text-align: center;">MESOPOTAMIA</p> <p style="text-align: center;">SHAYKH MUFID (948-1022 AD) <i>Kitab al-Irshad</i> (Book of Guidance) [https://www.shia-maktab.info/index.php/en/library/books/english?format=raw&task=download&fid=93]</p>
<p>36: From the east there pours through poisoned vales /With swords and daggers the river Slith./</p> <p>39: Nithhogg sucked the blood of the slain, and the wolf tore men; would you know yet more?</p> <p>40: The giantess old in Ironwood sat, in the east, and bore the brood of Fenrir; among these one in monster's guise / was soon to steal the sun from the sky.</p> <p>41: There feeds he full on the flesh of the dead, / and the home of the gods he reddens with gore; dark grows the sun, and in summer soon / come mighty storms: would you know yet more?</p> <p>47: Yggdrasil shakes, and shiver on high./ The ancient limbs, and the giant is loose.</p> <p>52: Surt fares from the south with the scourge of branches. The sun of the battle-gods shone from his sword. The crags are Sundered, the giant-women sink. The dead throng Hel-way, and heaven is cloven.</p> <p>57: The sun turns black, earth sinks in the sea, / the hot stars down from heaven are whirled; fierce grows the steam till fire leaps high about heaven itself.</p> <p>59: Now do I see the earth anew / Rise all green from the waves again; the cataracts fall, and the eagle flies / and fish he catches beneath the cliffs.</p> <p>62: Then fields unsowed bear ripened fruit, / All ills grow better, and Baldr comes back.</p>	<p>"Therefore these things aforesaid befell more frequently than usual in all parts of the world about the thousandth year after the birth of our Lord and Savior. /</p> <p>In the seventh year before that date, Mount Vesuvius (which is also called Vulcan's Caldron) gaped far more often than his wont and belched forth a multitude of vast stones mingled with sulphurous flames / and thus by the stench of his breath he began to make all the surrounding province uninhabitable. / It befell meanwhile that almost all the cities of Italy and Gaul were ravaged by flames of fire, and that the greater part even of the city of Rome was devoured by a conflagration. / Moreover, about the same time, a most mighty famine raged for five years throughout the Roman world, so that no region could be heard of which was not hunger stricken for lack of bread, and many of the people were starved to death. In those days also, in many regions, the terrible famine compelled men to make their food not only of unclean beasts and creeping things, but even of men's, women's, and children's flesh, without regard even of kindred; for so fierce waxed this hunger that grown-up sons devoured their mothers, and mothers, forgetting their maternal love ate their babes."</p>	<p>"Traditions have been reported mentioning the signs for the time of the appearance of the Imam. / There will be an eclipse of the sun in the middle of the month of Ramaḍān; there will be an eclipse of the moon at the end of that month in contrast to ordinary happenings; the land will be swallowed up at al-Bayḍā'; it will be swallowed in the east - it will be swallowed up in the west; the sun will stay still from the time of its decline to the middle of the time for the afternoon prayer; it will rise from the west. / The star will appear in the east giving light just like the moon gives light; then (the new moon) will bend until its two tips almost meet; a color will appear in the sky and spread to its horizons; a fire will appear for a long time in the east remaining in the air for three or seven days. / A black wind will raise it at the beginning of the day and then an earthquake will occur so that much of it will be swallowed up. / Swift death (will occur) there and there will be a loss of property, lives and harvests; locusts will appear at / times not usual / and there will be little harvest for what the people planted. [...] Slaves will rebel / and kill their masters. / A face and a chest will appear in the sky before the people in the centre of the sun. / That will come to an end / with twenty-four continuous rainstorms and the land will be revived by them after being dead. / We have only mentioned. [...] what is recounted in basic sources of tradition."</p>

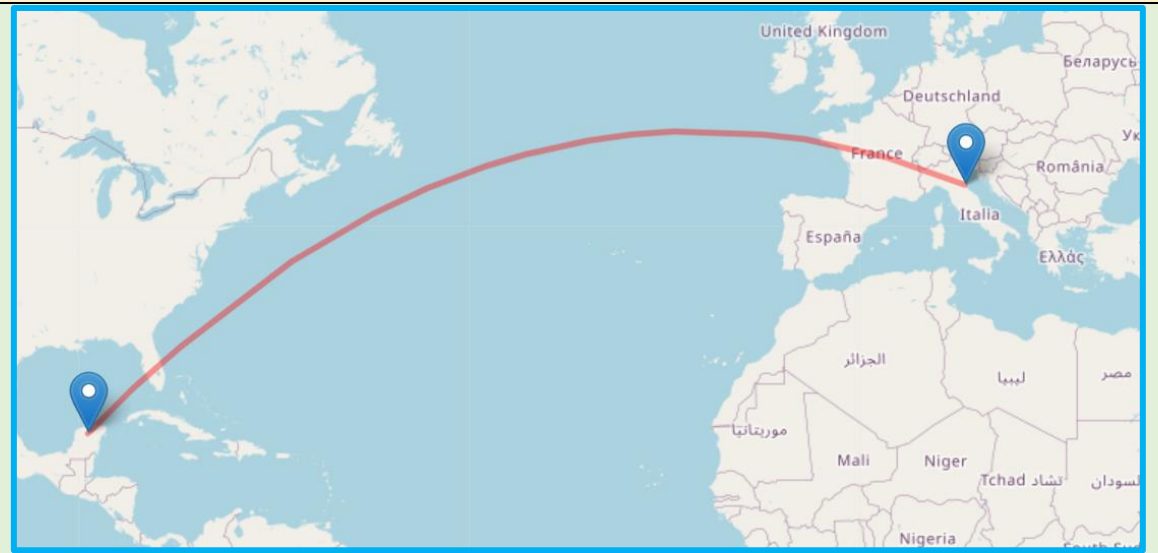
in Norway is over 4,200 km as the crow flies. Terrible disasters must have caused the massive destruction that archaeologists find throughout that vast region, and that scholars find in the disturbing texts from that time that tell us what happened.

Before being content with a little oversized earthquake or volcanic eruptions for the extensive destructions, one must remember that the *Classic Maya Collapse* on the Yucatan Peninsula is also dated between 900 and 950 AD. From there to Samarra it is over 12,000 km as the crow flies. It is still more than 9,200 to Ravenna. The co-called Classic Period of Mesoamerica ends at the dawn of the 10th century AD. “The abandonment of many settlements at the end of the Classic period” provides the greatest enigma of Mesoamerican archaeology: “Scholars have presented various theories of its causes, including internal social problems, warfare, environmental degradation, and foreign invasions, although recent debates have focused on the effects of droughts” (Inomata et al. 2016, 1).

Distance of more than **4,200 km** as the crow flies between Samarra in Iraq and the Viking village near Vestvågøya (Lofoten) in Norway. Both sites were devastated in the **930s AD**.



Distance of more than **9,200 km** as the crow flies between Ravenna and the Yucatan (Mexico) where the *Classic Maya Collapse* occurred **between 900 and 950 AD**. [[https://www.distancecalculator.net/.](https://www.distancecalculator.net/)]



The situation in the Maya territories resembles the dramatic circumstances in Europe. The continent's "abrupt, episodic *Alnus* [Alder] population decline at the end of the first millennium CE was a much more widespread event than has been previously reported, spanning large areas of the temperate and boreal zones in Europe. The data from Poland suggest that the decline was roughly synchronous and most likely occurred between the 9th and 10th centuries, with strong indications for the 10th century. The pollen data indicate that human impacts were not a major factor in the event. Instead, we hypothesize that one or a series of abrupt climatic shifts that caused floods and droughts at the end of the first millennium CE could have initiated this ecological disturbance" (Latałowa et al. 2019, 1335).

During the late 930s AD, the Icelandic Eldgjá volcano also explodes, causing nearby Katla and Vatnajökull to erupt as well (Thordarsson/Hoskuldsson 2002, 110). The explosions (20 km³ of lava) far exceed the consequences of the Tambora eruption of 1815 ("year without summer" [Behringer 2015]), which, with the force of 170,000 Hiroshima bombs, was considered the greatest volcanic catastrophe of historical times. After Eldgjá, around 220 million tons of sulphur dioxide rise into the atmosphere and, through reaction with water and oxygen, become 450 million tons of sulphuric acid, whose lethal aerosols cover the northern hemisphere: "Human suffering in the wake of Eldgjá was widespread. From northern Europe to northern China, people experienced long, hard winters and severe spring-summer drought. Locust infestations and livestock mortalities occurred. Famine did not set in everywhere, but in the early 940s we read of starvation and vast mortality in parts of Germany, Iraq and China" (Oppenheimer et al. 2018).

Ravenna's only Western European competitor for the metropolitan function during Late Antiquity is Trier. Its stratigraphy matches our textbook chronology as poorly as in Ravenna. However, from the 8th to the early 10th century there are no new buildings at all, while Ravenna at least presents *San Salvatore ad Calchi* for the 9th century, although stylistically and stratigraphically it would also fit very well in the 5th/6th or 2nd/3rd century. Interesting for dating the end of Ravenna is Trier's Roman road system. It was still being carefully maintained in the 9th century. Nobody knows where the workers could have lived. They could only have known the urban substance that is attributed to the Imperial and/or Late Antiquity. It is known, however, that it was not until the 10th century that this road network was so massively hit that it disappeared under mud and was largely forgotten, until modern-day archaeologists rediscovered it: "In the course of the 10th century, Trier fundamentally changed its topographic structure. The antique road network, which had been used until the Carolingian provincial period and had even been partially repaired, was abandoned in the northern part of the city in favor of new routes, which – comparable to the situation in many bombed-out German cities of the post-war period –

had been created from 'beaten tracks' between the ruins” (Clemens 2014, 335).¹⁶ Contemporaries “who had the feeling of living through a revolution attributed it to the advent of the Anti-Christ, and presumed that they were witnessing, not the end of the ‘Dark Ages’, as the modern historian assumes, but the first signs of the end of the world” (Brooke 1964, 1).

During the Second World War, 1,415,745 tons of bombs were dropped on the cities of Hitler-Germany (Humble 1975). Trier is carpet bombed since August 1944. The ancient downtown is, from 19 to 23 December 1944, flattened by 1.3 million kg of incendiary, high-explosive, and Napalm bombs (Trier 2020). Nevertheless, the knowledge of the road network from the time before August 1944 is never lost. What destroyed Trier around 930 AD was much stronger than the allied bomber squadrons.

All this sounds threatening enough. It may also prove that Ravenna, Trier and the whole of ancient civilization only ended around 930 AD and that Emperor August only began his reign in 260 before that. But what happened? Is a mega-volcano from Iceland enough to cover Ravenna with soil? In Italy alone, the results are so disparate that the monstrosity of the Cataclysm is evident, but one stands perplexed by its course. North of Ravenna, Altinum, 115 km northeast of Ravenna, disappears under water. On the west coast of Italy, Ostia, 280 km south of Ravenna, disappears under soil. Misenum on the Gulf of Naples, however, Rome’s main war harbor with supremacy even over Ravenna (480 km northwest), disappears under water. In 1956, the port was by chance rediscovered by aerial reconnaissance. At a depth from 2.50 to about 5 meters, an area of 10 hectares revealed remains of the port and of an ancient Roman road, the *Via Herculanea*. It passes between two parallel rows of port warehouses. Even the commanding Admiral’s *domus* and its mosaic floor was found. Misenum’s *Piscina Mirabilis* for 12,600 m³ of water was the largest Roman reservoir used for the military. It went down, too (Schoder 1976).

Can Italy have been bent downwards at its northern and southern ends and at the same time pushed upwards in the middle? Such movements are hard to imagine without cosmic influences. Also, the few written sources see terrible things in the sky and not only on earth. What role do meteors or comets play? It became popular to blame the decline of the Roman civilization on Justinian's plague and/or Comet (Harper 2017). It is undisputed that the comet reports from the early days of the Severans and Justinian correlate with

¹⁶ “Im Verlauf des 10. Jahrhunderts änderte Trier grundlegend sein topographisches Gefüge. Das noch bis in die karolingische Provinzzeit genutzte, teilweise sogar ausgebesserte antike Straßennetz wurde im nördlichen Stadtbereich zugunsten neuer Wegführungen aufgegeben, die – durchaus vergleichbar der Situation in vielen zerbombten deutschen Städten der Nachkriegszeit – aus ‚Trampelpfaden‘ zwischen den Ruinen entstanden waren.“

material destruction, considerable mortality and great anxiety. But these occurrences are at the beginning and not at the end of the Severan-Justinian period. There are new upswings in architecture after that celestial body. In Rome, the *Domus Severiana* and the Septizodium are being built at the Palatine. In Jerusalem, Justinian orders the enormous NEA basilica to be built on a massive sub-

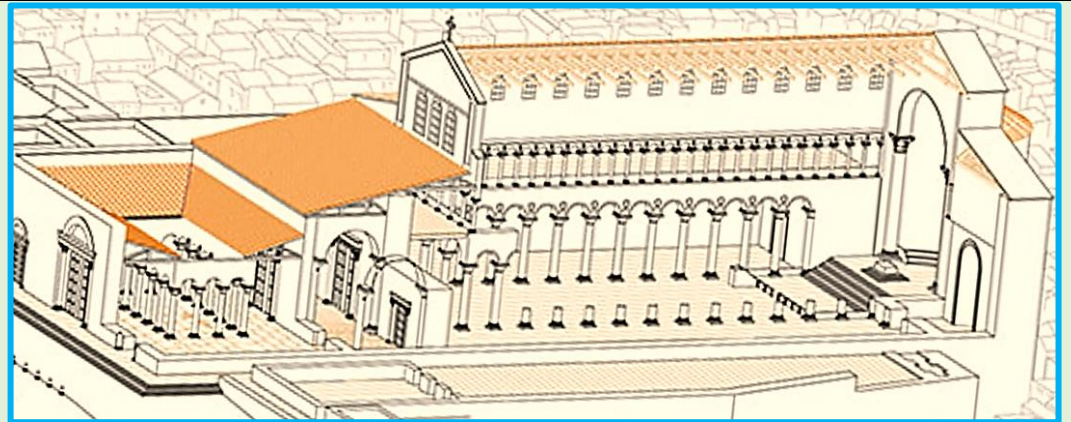
Reconstruction of Rome's Septizodium (100 m long) that was completed under Septimius Severus in 203 AD, i.e. after the comet dated to the early 190s AD.

[https://en.wikipedia.org/wiki/Septizodium#/media/File:SEPTIZODIUM_Rome.jpg.]



Reconstruction drawing of Justinian's NEA Church (100 x 50 m) in Jerusalem that was completed in 543 AD, i.e. after Justinian's comet (536 AD) and plague (541 AD).

[Anna Yamim; <https://www.biblicalarchaeology.org/wp-content/uploads/BSBA390604003L.jpg>.]



structure. All this takes place after comet and plague. Moreover, Ravenna's mosaics, which can be interpreted as symbolizing Justinian's Comet (Dwyer 2013), are placed in an undamaged San Vitale. Yet, many of these magnificent structures will later be damaged or irretrievably crushed. However, it can be asked whether that celestial body followed a stable orbit, and whether its various appearances sometimes brought less and sometimes more danger to the earth. That possibility definitely cannot be excluded. That much about the cosmic dimension of the disaster may be sufficient at this point.

Astute researchers who study the history of Ravenna have at their disposal all the facts they need to understand that Roman civilization in this city did not perish three times – in the 3rd, 6th/7th and after the 9th century. These researchers know that the urbanism dated in the 5th/6th century is built with stones of the 2nd/3rd century, for which buildings are mysteriously missing. They know that the new buildings dated in the 5th/6th century continue structures from the Late Republic until the 2nd century AD. They know that the port could not have silted up in the 3rd century only to be miraculously and fully available again in the 5th/6th century, and then again use the wonderfully intact structures of the 1st/2nd century.

Thus, these scholars know that Imperial Antiquity and Late Antiquity do not represent eras separated by centuries. They know that all Late Antiquity could be easily accommodated in Imperial Antiquity if they did not obey an ill-defined and incomprehensible chronology. For the Early Middle Ages of the 8th-10th century, besides the tiny *capella arcivescovile* with a 2nd/3rd c. opus sectile floor, they only have one building still standing, *San Salvatore ad Calchi*. And they have not forgotten that until recently they dated it to the 5th/6th century, when the city built with bricks of the 2nd/3rd century. They also know that, beyond San Salvatore, the Early Middle Ages should actually have a maximum of buildings, because they are closest to us in time and because Andrea Agnellus proudly describes many magnificent monuments that existed in the 9th century. The structural remains of the *vivarium*, however, resemble a nymphaeum from the 2nd/3rd century although it is Charlemagne dated to the 8th/9th century.

These learned people know that from an art historical perspective the famous Ravenna mosaics, which they date to the 5th/6th century, would also fit into the 2nd or 9th century. They have also noticed that 2nd century and 9th century Latin are indistinguishable. Last but not least, they resist the temptation to simply let 2nd century dwellings last into the 9th century without repairs, in order to furnish the first millennium AD with residential buildings for 1,000 years. This honesty distinguishes them advantageously from colleagues from Zurich or Spoleto etc. who want to fill the empty 700 years with such claims.

But, is there also something that the Ravenna researchers do *not* know? Absolutely! They view coin dating as a scientific method without knowing how the coins are dated. They are not sure if classical Roman house forms disappear already in the 3rd century or, 700 years later, in the 10th century. They don't know of a single one of the 5000 or so cities of Roman civilization that have three super-imposed sequences of settlement layers for Imperial Antiquity, Late Antiquity and the Early Middle Ages, separated by layers of destruction from the crises of the 3rd and 6th/7th centuries. They do not understand the downfall of their city. They suspect, however, that the end of Roman civilization can only have come after the 9th century, because Agnellus' Ravenna still lies directly by the sea, whereas today it is about 10 km away. They also know that monuments mentioned by Agnellus in the 9th century are built with stones from the 2nd century, so that the 700 years in between should not

simply be surprising, but put into doubt. If the Apostle Peter and Emperor Vespasian, whom 9th century Agnellus knows to be historically close in time, had lived not in the 1st but in the 8th century, Ravenna's city scribe would appear less crazy and we would appear less arrogant. Ravenna's supposed three downfalls are really only one, a single catastrophe which happens around 930 AD, when Roman civilization everywhere is destroyed by the devastating Tenth Century Collapse. However, during the last half century of Imperial Antiquity (190s-230s of the Severan Emperors), Ravenna is in a better position than many other cities. After the Mark Aurelius Crisis with plague and Antonine/Commodan Fires of the 160s to 190s (stratigraphically ca. 860s -890s), Ravenna does not have to reduce its population and area, but can increase it. The additional Gothic population more than makes up for the loss of people and buildings in the Aurelian crisis. Although Ravenna does not become the capital of a "Late Antiquity", thanks to this post-Aurelian growth it nevertheless becomes a metropolis at the close of Imperial Antiquity with enough power and wealth to support the enormous size and cost of city repairs in the Severan Period, a rebuilding program that takes place even in Byzantium and Rome. Ravenna's Germanic "barbarians" do invade Italy – the so-called Migration Period – but they do not destroy the empire. They keep it afloat for almost another half century.

In addition, Ravenna becomes a center of conversions to various Judaeo-Christian movements. The apocalyptic books of the Hebrew Bible are seen as a reasonable prediction of the Marcus Aurelius plague crisis and lead to an abandonment of the old pagan gods. The resulting persecutions of Christians under Marcus Aurelius and Commodus create new martyrs, many of whom become patrons of new churches.

By re-combining sources that were previously scattered over three periods, rational historical narratives about Ravenna can finally be formulated into a coherent whole. Immensely wealthy Gothic sovereigns such as Theodoric and Amalasuintha, who, despite having their own mint and a gold treasure of 20 tons, are supposedly left without coins in their own names, receive the coinage of their alto egos, i.e. the Theodosiuses and Galla Placidia, who have almost identical life stories. Lombards and Franks do not rule a city of Ravenna that has been empty for 300 years after the mysterious obliteration of the Goths, but are alternately enemies or allies of their Gothic contemporaries. Ravenna's Byzantine Exarchate arises from the transformation of simultaneous clerical leaders into a subsequent epoch. To animate fictional time spans, tree ring sequences can be used multiple times, or narratives can be repeated with slight variations. A corresponding multiplication of archaeological layers, however, is impossible. In the final table, therefore, Ravenna's 1st millennium chronology must follow its stratigraphic substance:

STRATIGRAPHY-BASED HISTORY OF FIRST MILLENNIUM RAVENNA			
700 – 880s/890s	880s/890s – 930s	930s Cataclysm	930s – 1000
Octavian to Antonine and Commodan Fires. ["1-192".]	Repairs by Severans, Justinian, Goths, Lombards, Franks etc. Rise of Iazyges/Huns/Hungarians, Moors. Boom of Christianity and Islam. So-called MIGRATION PERIOD. ["180s-230s".]	End of Roman Civilization, Ravenna cut off from the Sea. ["3rd" c. Crisis, "6th" c. Crisis.].	Huts on palace ruins, small churches (70-80 instead of 100s to 1000s m²). [930s-1000.].

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