Geology and ruin as settlement generators in Provence-Alpes-Côte d'Azur

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When choosing a site for their colonial towns the Greeks favoured places that resembled the geological context of their native country, because they could adapt their familiar water management and town-planning practices to the suit these conditions. This paper proposes that when the Romans annexed these settlements, they often built on the ruins of the earlier Greek settlements and that the same can be observed in Greek and Roman settlements in what is today Provence-Alpes-Côte d'Azur. When Roman authority crumbled (476AD) and the region was invaded by Barbarians, only the more massive Roman monuments withstood ruination and subsequent Provençal architecture was designed to resist attack. This paper further investigates how some towns and structures were built on the ruins of Roman ramparts and how in others the geology was used to determine the position of settlement. It contributes to the existing body of knowledge of Roman ruins in Provence by suggesting geology and ruin as settlement generators.
Key words: Ancient Greek town-planning, Roman colonial settlement, defensive architecture in Provence, geological placemaking, settlement on ruins

Geologie en ruine as genereerders van nedersetting in Provence-Alpes-Côte d'Azur
Toe die Grieke terreine vir hul koloniale dorpe oorweeg het, het hulle voorkeur gegee aan plekke wat met die geologiese konteks van hul moederland ooreengestem het, omdat hulle die bekende beginsels van dorpsbeplanning en waterbestuur by hierdie toestande kon aanpas. Hierdie artikel stel voor dat toe die Romeine hierdie nedersettings beset het, hulle gereeld op die ruïnes van vroeëre Griekse nedersettings gebou het en dat dit ook by die Griekse en Romeinse nedersettings in wat vandag Provence-Alpes-Côte d'Azur is, waargeneem kan word. Toe Romeinse gesag verkrummel het (476 nC) en die area deur Barbare ingeval is, het slegs die meer massiewe Romeinse monumente die vernietiging weerstaan en Provensale argitektuur is ontwerp om aanvalle af te weer. Die artikel ondersoek verder hoe sommige dorpe en strukture op die ruïnes van Romeinse vestings gebou is en hoe ander se posisie deur die geologie bepaal is. Dit dra by tot die bestaande liggaam van kennis oor Romeinse ruïnes in Provence deur geologie en ruïne as nedersettingsgenereerders voor te stel.
Sleutelwoorde: Antieke Griekse dorpsbeplanning, Romeinse koloniale nedersetting, argitektuur van verdediging in Provence, geologiese plekmaking, nedersetting op ruïne

Provence was settled first by the Greeks and then by the Romans. Geology was the determining factor for the Greeks when choosing a site for their colonial towns and when the Romans annexed Greek towns, they built on the ruins of Greek settlement or were attracted by a similar favourable geology. When these Roman structures fell into ruin, later Medieval fortifications were often built on the earlier Roman structures and again a favourable geology was the settlement generator. This article proposes to investigate this process of settlement and ruination by focusing on what is today Provence-Alpes-Côte d'Azur. It proposes to contribute to the existing knowledge of Roman architecture in Provence by investigating the Greek origins of Provence, which includes how Greek town-planning principles from the 5th Century BC were applied to colonial towns. It further hopes to contribute to the theme of ruination by investigating geology and Roman ruin as settlement generator in subsequent Provençal defensive architecture. This is done through interpretation of examples of such structures and towns visited in 2010.

Colōnia

Research on how spaces in the motherland influenced colonial place making, inevitably leads back to the question of how pre-colonial landscapes were changed by the introduction of colonial

powers. As a precedent one has to consider the ancient colonial powers of Greece and Rome to see how they shaped the social and cultural realities of the area.

Although the term *colōnia* is found in Latin for the first time, the act of colonisation can be traced back to ancient Egypt. The area considered in this study is today called Provence-Alpes-Côte d'Azur and is one of the 27 regions of France, the former French province of Provence.

Figure 1
French regions of France today with Provence in the southeast.

The Greeks

The story of Provence takes us back some three thousand years ago when the coastal area was in the hands of Phoenician navigators. Their commercial and naval activity greatly influenced the area until the Greeks colonised the coastal region around 600BC. Marseilles, which is the oldest city in France, was founded by the Greeks and was known as Massilia. The colony grew thanks to the rock-sheltered harbour and close proximity to the mouth of the Rhône. As the wealth of the Massiliotes increased, they acquired extensive lands around the town and numerous colonies were established along the coast. These include Narbonne, Antibes, Nice and Monaco and inland towns were settled at Glanum (Saint-Rémy de Provence) and Mastrabala (Saint-Blaise). MacGibbon (1888: 5-8) tells us that the language, civilisation, art and culture of these Massiliote towns were entirely Greek and gave a Grecian character to the first enlightenment of Southern Gaul.

According to Crouch (2004) the Greeks chose sites for their colonial towns that resembled the geological context of their native country, confident of their ability to adapt their familiar town-planning and water management practices to suit these conditions.

In the world of the Greek frontier, geography affected every step of daily life. The political organisation was one of city-states, a decentralised pattern that developed naturally and was well suited to the geography of the Greek mainland. On the coast of Asia Minor and its nearby islands, this proved an unstable form of organisation because the cities could not cooperate effectively to avoid conquest (Brumbauch 1970: 9-10).

Greek town planning

Greek town planning began in the great age of Greece, the fifth century BC but the two chief

cities of Greece failed to embrace the new movement. Both Athens and Sparta, the rival of Athens, remained completely untouched by it. Passages in Greek literature often speak of the streets of Athens as narrow and tortuous, unpaved, unlighted, and more like a chaos of mud and sewage than the usual Greek road. In Sparta conditions were worse.

Neither public nor private buildings were admirable and the historian Thucydides referred to the meanness of the town (Haverfield 1913: 9-10). Nevertheless, the art of town planning in Greece probably did begin in Athens. The architect to whom ancient writers ascribe the first step, Hippodamus of Miletus (c. 407 BC) who has been dubbed the "Father of City Planning" (Haverfield 1913: 10), seems to have worked in Athens and in connection with Athenian cities, under the auspices of Pericles.

Figure 2
Map of Piraeus by Kaupert (1881) with the recording of ancient remnants
(source: http://www2.rgzm.de/Navis2/Harbours/Athen/Piraeus/PiraeusAbb3.htm).

Aristotle tells us that Hippodamus planned Piraeus, the port of Athens. The Hippodamian, or grid plan, was introduced for the first time in Piraeus and became the basis for subsequent Greek and Roman cities (Haverfield 1913: 10). A characteristic of Greek town planning was that the grid was often rigidly imposed over the topography, creating steep streets and steps. The site of the amphitheatre was typically chosen for its position on the slope of a hill so that only the seats had to be carved out (Figure 6).

Glanum and Priene

Although only traces of Greek town planning remain in Marseilles (*Jardin des Vestiges*) and Antibes, Glanum contains the ruins of several villas in Hellenistic style organised along a grid imposed on the geology. Glanum was first settled by a Ligurian tribe around a spring in a narrow gap in the Alpilles mountains. It sits in a narrow valley sloping up from the north to the higher

southern end.

When choosing a site for a settlement the ancient Greeks considered hillside, river, defence, natural hazards and human enemies. The city wall, streets and houses all followed the grid. Aristotle and Hippocrates recommended that houses be built on south-facing slopes. The grid stepped to follow the slope. Public spaces and public buildings were created on levelled slopes. At Glanum the villas are all that remain of the Greek influence and Roman settlement on the ruin of earlier Greek settlement often disturbed the original town plan, especially in the south of France, because the Romans did not leave one Greek settlement untouched.
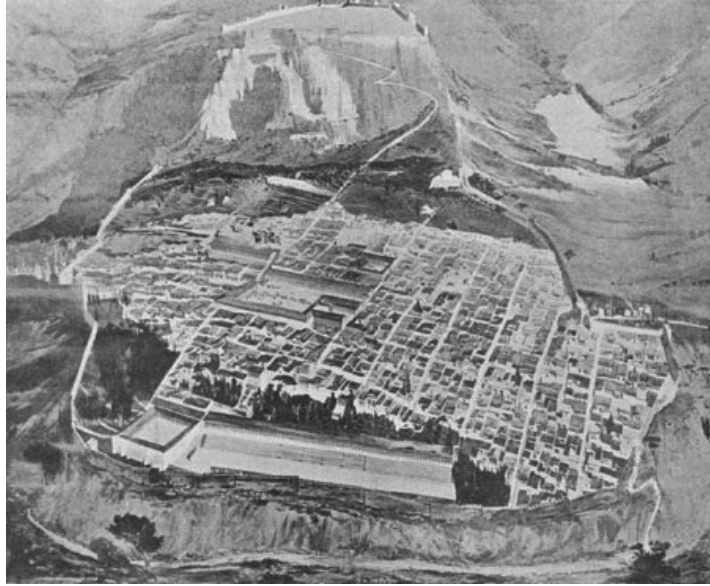

Figure 3
The House of Antes, a Hellenistic-style residence with a peristyle of Tuscan columns and a basin to capture rainwater, Glanum (source: http://en.wikipedia.org/wiki/Glanum).

The town plan of Priene, a little town off the east coast of the Aegean, has also been ascribed to Hippodamus. It is worth mentioning here, because excavations have revealed the town plan without changes by later Roman interventions and it demonstrates how the Hippodamian grid was applied over the geology in the layout of a Greek colonial town (Figures 4 and 5) (Haverfield 1913: 10). The grid is a rational (or cultural) construct and the Greeks copied the grid as design system, probably because it was what separated civilisation from barbarism. Haverfield (1913: 6) argues that ancient remains that show long straight lines or several correctly drawn right angles date from a more civilised age.
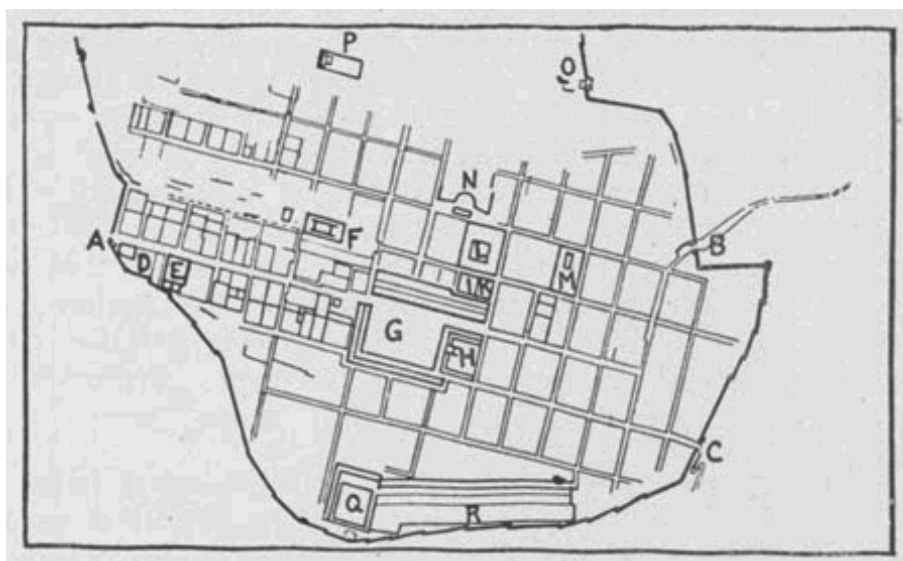
Figure 4
Priene, Asia Minor – a planned city from the 4th century BC. The grid street plan was laid out across a hill, and all buildings were aligned accordingly (source: Sulman 1921: 3).

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Figure 5
An artist's view of how the small ancient city of Priene in Asia Minor occupied its hilltop site
(source: Sulman 1921: 3).

Figure 6
Priene: The outdoor theatre stepped on the slope with curving seats. The stadium is on level ground below the town. The geology determined the settlement. Layered rock and natural springs lead to fountains and the aquaduct.

The Romans

The Massiliotes were rivals of the Carthaginians and joined the Romans in their Punic wars against Carthage. They provided the Romans with ships and became their allies. In 154 BC the Ligurian tribes of South Gaul rose against the Massiliote colonies and the latter turned to their Roman allies for assistance. It was the first introduction of the Roman Legions into Gaul. The Romans therefore came to Provence in the 2nd century BC to protect the people of Marseille against tribal threats (MacGibbon 1888: 8). During the civil war however, Massilia supported the cause of Pompeii, literally positioning them against Rome. Pompeii was defeated and Caesar besieged and conquered the town. Massilia was then Romanised and lost her colonies, but she still retained her letters and arts, and her schools continued to flourish under the Roman Empire (MacGibbon 1888: 9).

Figure 7
The Roman Province of Gallia Narbonensis around 58 BC
(Source: http://en.wikipedia.org/wiki/Gallia_Narbonensis).

It should be noted that the Latin word '*provincia*' is a military expression, indicating that a certain region was a general's responsibility. The first provinces were ill defined and it was only during the late republic that provinces started to have clearly defined borders.

In about 120 BC the Romans had settled in their new favourite 'Provincia', building roads (*Via Domitia*, built to connect Rome with the Pyrenees) and towns, each with its forum, temples, triumphal arches, amphitheatres, theaters, baths and aqueducts. Roman towns were built at Cavaillon, Orange, Arles, Fréjus, Glanum (outside Saint-Rémy-de-Provence), Carpentras, Vaison-la-Romaine, Nîmes, Vernègues, Saint-Chamas and Cimiez (above Nice). The geology influenced the choice of site in each case. The Roman province, which was called Gallia Narbonensis, for its capital, Narbo (modern Narbonne), extended from the Alps to the Pyrenees (figure 7).

The architectural style used for these structures was imported from Rome, but in many buildings and sculptures of the early centuries, a strong Greek feeling may be detected (MacGibbon 1888: 9). Roman veterans populated the towns Arles and Fréjus at the sites of older ruined Greek settlements. What attracted them was the same favourable geology, but they established a new Roman order within the older ruined reality.

It is a peculiarity of all the Greek and Roman colonies, as compared with those of modern times that they were established in cities. All life and movement of the ancient world were centred in the cities. The land was cultivated by bands of slaves led out from the towns. The Empire, with its stronger grasp and centralised control, with its multitude of functionaries, all appointed by and in constant relation with a central will, alone enabled the existence of Rome to be continued for some centuries (MacGibbon 1888: 9-11).

The Roman roads that linked these cities necessitated hilltop fortifications. These outlook posts that guarded the road grew into little towns and sprouted from the rocks in the interior of Provence. Again settlement was generated by geology. During the second and third centuries, South Gaul gradually became Romanised and by 8 BC Emperor Augustus' influence rendered Provence entirely Roman, politically and also culturally.

Figure 8
By the year 50 BC the whole of Gaul had been subdued by Julius Caesar (source: Goscinny & Uderzo 1974: 3).

The decline of the Roman Empire – Medieval architecture

After the fall of Rome (476AD) and as Roman authority crumbled in Provence, the region was flooded with invaders: Visigoths in the 5th century, Franks in the 6th century, Arabs in the 8th century and raids by Berber pirates and slavers. MacGibbon (1888: 11) tells us that:

> when the Empire finally decayed and fell, the old municipal principle again came to the front. As the colonies had been founded in cities, so when the Imperial system gave way, the city again asserted itself and in Southern Gaul, where the barbarians had been civilised, municipal authority prevailed and each town became an independent little State. The natural tendency of these municipalities was to detach themselves and to watch jealously the proceedings of their neighbours. This municipal principle is a leading characteristic of the Middle Ages in Italy and Southern Gaul, and distinguishes these countries from the Northern provinces. Traces of it are still very apparent in Italy and Provence and contribute greatly to the picturesque character of these provinces.

Because of the repeated invasions, Provençal architecture including monasteries, towns and castles, were surrounded by walls and towers designed to resist attack and even the bishop's residence in Fréjus resembled a fortress. Only the more massive Roman monuments withstood ruination. The Roman ramparts fell into ruin and defensive settlements were built on top of what remained of Roman stone structures (Figure 9).

Figure 9
Antibes, gateway and two round towers showing a Roman base and Medieval walls
(photograph: the author).

Hilltop fortifications

Already in Roman times, hilltop fortifications were built to guard the Roman roads. As mentioned above, little walled villages developed, some with a castle, cathedral and fountain, while the fertile valleys were cultivated with vineyards and olives. This organisation continued through the Middle Ages and the geography of the Provençal hinterland determined the settlement. To illustrate this, the hilltop castle of Lacoste is chosen, because the geology that determined the settlement is very visible, it fell into ruin and the ruins are generating a contemporary program of re-use. The castle resembles a fortress and is surrounded by a moat. It sprouts from the rock and the stone town lies below it, leading down to the rich farmlands in the valley.

Figure 10
Lacoste castle overlooking the Luberon valley
(photograph: the author).

Figure 11
Lacoste castle moat carved from layered rock
(photograph: the author).

Figure 12
Lacoste castle
(photograph: the author).

The Marquis de Sade inherited this castle from his grandfather in 1716, but only stayed in it for seven years. The building originally had 42 rooms, a theatre and a chapel. The castle was pillaged during the French Revolution and finally demolished in 1816, with its hewn-stones being sold piece by piece. Pierre Cardin bought the ruined castle in 2001 and it is being restored to house a museum and gallery.

Figure 13
Bust of the Marquis de Sade
(photograph: the author).

The heritage

From the Cote d'Azur to the hills of Provence and beyond, the Romans left a rich heritage. It is worth mentioning the following structures, chosen specifically for this argument because geology and/or ruin played a role in the choice of site, because in their ruined state they were used for a different purpose in Medieval times and because contemporary adaptations have given them new meaning.

**The Roman aqueduct of Pont du Gard (1st century AD)**

The aquaduct was built during the time of the Emperor Claudius and is one of the most impressive examples of Roman civil engineering. Geological restrictions were overcome by the structure and geology was the design generator of the Pont du Gard. Constructed fifty meters above the river Gard, it is the highest existing Roman aqueduct. The aqueduct carried water a distance of fifty kilometers.

Figure 14
Pont du Gard, 1st century BC. (Augustus era)
(source: http://en.wikipedia.org/wiki/Pont_du_Gard).

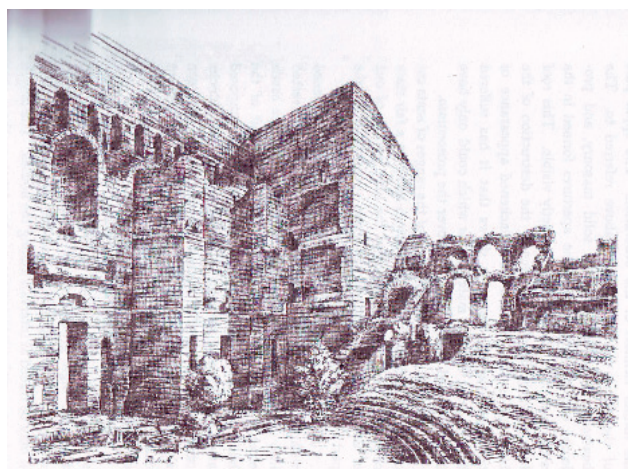**The Triumphal Arch of Orange, Vaucluse, (20 BC)**

The arch was probably built to honour veterans in about twenty BC, during the time of Emperor Augustus, and was later dedicated to the Emperor Tiberius. It was designed to show travellers to the new Roman province the superiority and power of Rome. Such a massive building was too tempting as a fortress to be passed over in the Middle Ages and we accordingly find the ruined arch re-used as a fortress by Raymond des Baux, who played an important part in this country in the thirteenth century.
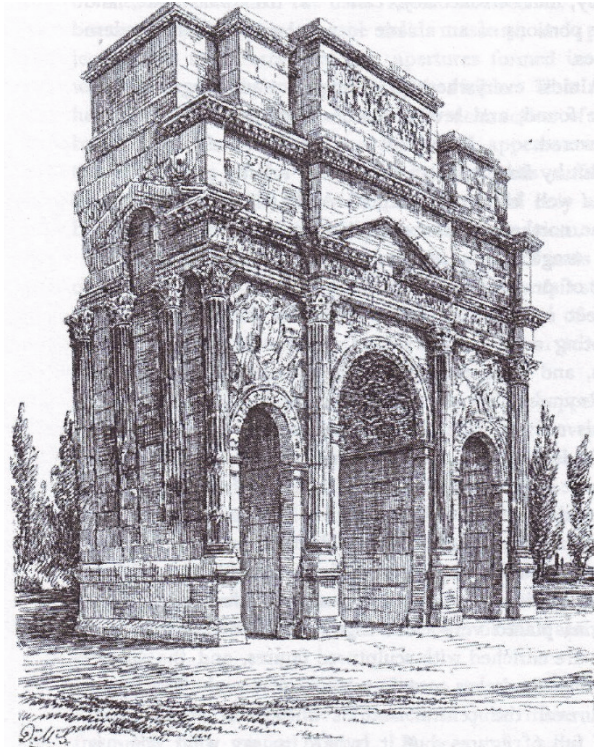
Figure 15
The Triumphal Arch at Orange, Vaucluse (20 BC)
(source: MacGibbon 1888: 46).

The Roman theatre in Orange, Vaucluse (1st century BC)

The theatre was constructed by the Emperor Augustus in the early 1st century BC and is the best-preserved Roman theatre in Europe. It was closed by the authorities of the Christian church in 391 because of its "barbaric spectacles," and not re-opened until the 19th century. In the Middle Ages the ruins of this theatre, as often happened with the massive buildings of the Romans, was converted into a fortification, and formed an outwork of the castle erected by the Duke of Orange on the summit of the hill above. Today it is the home of music and theatre festivals.

Figure 16
The Roman Theatre in Orange, Vaucluse (1st century BC)
(source: MacGibbon 1888: 46).

The triumphal arch at Glanum, (10-25 BC)

This arch near the Greco-Roman town of Glanum, just outside Saint-Rémy-de-Provence, shows Roman soldiers leading away defeated prisoners. It was constructed between 10 and 25 BC, some time after the Romans had conquered the town. Glanum was destroyed in 260 AD by the Alamanni, a Germanic tribe, as the Roman Empire began to crumble.

Figure 17
The triumphal arch at Glanum (10-25 BC)
(http://en.wikipedia.org/wiki/Glanum).

The amphitheatre in Arles, (2nd century AD)

This structure was built in the 1st and 2nd centuries AD, when Arles was the capital of Roman Provence. It was used to show combating gladiators and other spectacles. It has a diameter of 102 meters, and could hold twelve thousand spectators. The "Château des Arénes," as the amphitheatre in Arles was called, was in its ruined state, almost entirely invaded and choked up with the houses of the poorer inhabitants until 1825, when it was resolved to clear out the building, — a work which required six years for its accomplishment. The structure is now in course of restoration.

Figure 18
The Roman amphitheatre at Arles (2nd century AD)
**(http://en.wikipedia.org/wiki/Arles_Amphitheatre).**

Maison Carrée, Nîmes (16-19 BC)

In 121 BC the Romans founded Nemausa (today Nîmes.) The Maison Carrée in Nîmes, was built in 16-19 BC (the Augustus era) and is one of the best-preserved Roman temples in the former Roman Empire. Etruscan and Greek elements were combined by the Romans. The temple is raised on a podium with a flight of steps, which is Etruscan. The deep portico and the *cella* (a room at the centre of the building) stretch the full width of the temple. The portico is hexastyle (six columns in front), prostyle (there is a porch on one side) and pseudoperipteral (has freestanding columns on both ends but engaged on the sides) (Christensen 1964: 98).

The Romans used trusses so it was possible to span wider distances than the Greeks. This improved structural technique resulted in improved interior spaciousness. Their temples were like museums for exhibiting marble statues taken from Greece. The Romans preferred the Corinthian order, marble columns and entablatures. Refinement may be due to contribution from early Greek settlers (Christensen 1964: 97).

Maison Carrée escaped certain ruination and survived intact because it was converted into a Christian church in the 4th century AD. It was built according to the principles of Vitruvius, the chief theorist of Roman architecture. In the early 19th century, it was chosen as the model for the church of the Madeleine in Paris.

The original intention for the building was ruined, however, because in the eleventh century it formed the council chamber of the municipal body; and at a later time it was degraded into a stable, when the flutings of the columns were grated off to allow carts to pass between them. It then became attached to an Augustinian Convent, and was used as a mausoleum and place of burial. More recently it was occupied as the Hall of meeting of the revolutionary tribunal, and still later as a corn market. Now it has been put in good order and contains the local museum of antiquities.
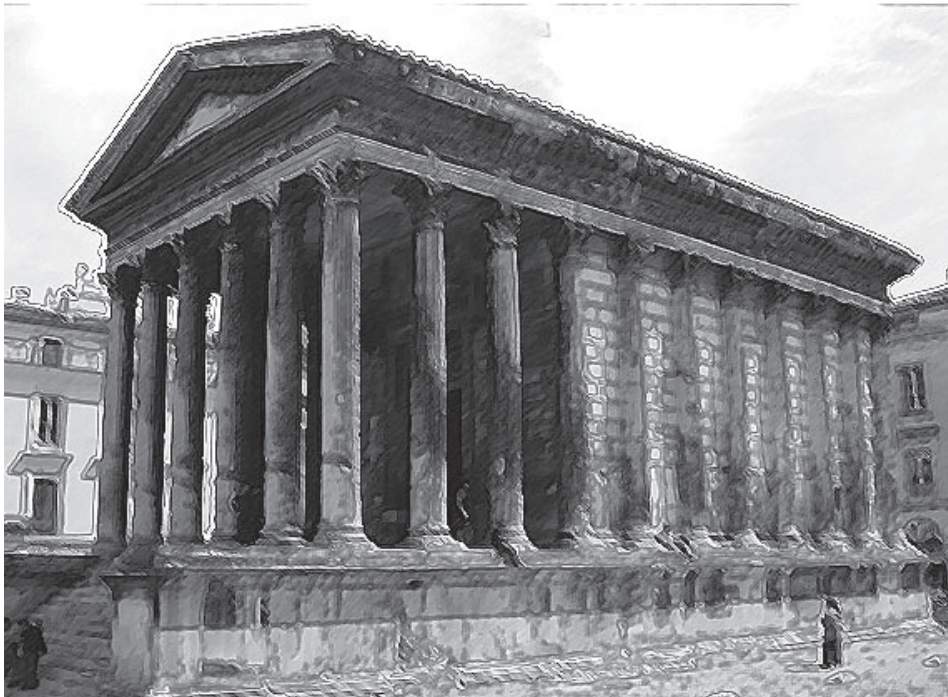
Figure 19
Maison Carrée, Nîmes (16-19 BC)
(http://en.wikipedia.org/wiki/Maison_Carrée).

Two epochs

The architecture of this region belongs to two entirely distinct epochs: the Roman period and the Medieval period. In the North of France there are less Roman remains, probably because before the fifth century Roman civilisation was not so advanced in Northern as in Southern Gaul and consequently the towns were not as richly adorned. Also the destruction from the invasions of the Barbarians in the North was far worse than in the South (MacGibbon, 1888: 33).

The *Porte l'Ourme* in the old village of Goult is an example of how Roman and Medieval architecture have intertwined. The buildings sprout from the rock, showing that geology influenced the choice of settlement (Figure 20). Once the principle entrance to the fortified village, *La Porte l'Ourme* is curious in that the internal façade is Roman (Figure 21) and the external is Gothic (Figure 22).

Figure 20
Goult: layered rock ramparts signal the old fortified village,
with buildings that literally seem to sprout from the rock (photograph: the author).

Figure 21
Internal Roman façade
(photograph: the author).

Figure 22
External Gothic façade
(photograph: the author).

Conclusion

Geology determined settlement by the Greeks in the coastal areas. The Romans settled on the ruin of the Greek colonies and expanded into the interior using similar geological settlement criteria. The ruins of the Roman Empire became the foundations of Medieval settlement. Building programs changed during the Middle Ages and are still being adapted to contemporary situations. Examples of layered rock covered with a Roman stone base, topped with a Medieval structure that houses contemporary programs demonstrate that these artefacts communicate realities in which our role as agents are always in question.

This article contributes to the existing body of knowledge of Roman structures in Provence-Alpes-Côte d'Azur by providing a historical and geological context for Roman colonial settlements in the area through an investigation of earlier Greek colonial settlements and town-planning principles. It further adds geology and ruin as considerations for settlement generation and comments on re-use of ruined structures through the ages. The article identifies the need for further study on Roman colonial town-planning principles, in Provence as well as other colonies of the Empire.

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