

## Colours in Pompeian Cityscape. In search of a lost treasure

**K. Fridell-Anter**

*Explicator AB, Noreens väg 71*

*752 63 Uppsala (SWEDEN)*

Corresponding author: K. Fridell Anter (karinfa@explicator.se)

### ABSTRACT

This paper presents the preliminary results of a work in progress, carried out together with the archaeologist Marina Weilguni. The aim is to understand the role of colour in the cityscape of Roman Pompeii. I here present some of our methods, including the study of excavation reports and artistic reproductions and reports on technical analyses of pigments and other material remains. For each method I tell how it adds to the knowledge and understanding. Finally I take you for a walk through the streets of Pompeii, trying to see them and their colours as they were when the city was alive.

### 1. INTRODUCTION

Pompeian red. Pompeian blue. Pompeian frescoes. The Roman town of Pompeii is often referred to in connection to colour. Often it gives the implication of a richness in colour and an artistic skill that could serve as an inspiration to both artists and architects. Therefore I was full of expectations when I went there for the first time seven years ago, involved in the preliminary stage of a new research project on Pompeian cityscape. In this paper I will tell you a little of what I found, but first I will give a brief introduction about the town itself and its unlucky fate.

Pompeii was destroyed in 79 AD by the eruption of the volcano Vesuvius. At the time of its destruction it was a lively port town with at least 10.000 inhabitants and a diversified economic and cultural life. It belonged to the Roman empire and its present culture was essentially Roman, but it had a long pre-Roman history, the traces of which were still present in its physical form as well as in the life of its inhabitants.

On the disastrous day of the eruption Pompeii was covered by ashes and volcanic gravel up to a level of about 3 meters above ground. Some of its inhabitants had already fled, due to the tremors preceding the eruption. Others took shelter in their houses, and were after some time locked in by the growing layer of gravel or caught under collapsing structures. Some hours later the disaster was completed by a strong, hot volcanic storm that tore down the remains of buildings and instantly killed all life in its way. More ashes and gravel covered the town, gardens and fields were cultivated over it and for one and a half millennium the underground treasures of Pompeii were virtually forgotten. A new interest for antiquity led to excavations in the 18:th century, and in the 19:th century Pompeii once more was a lively place, now as one of the important stops in the *Grand tour* of European architects and artists. The terrible fate of the town has turned it into a treasure, which we can use to understand something about the lives of those who lived and died there almost 2000 years ago.

### 2. STREETS AND HOUSES

Pompeii is a dense town surrounded by a defensive wall. The street net is largely regular with narrow, approximately right-angled blocks. The street width varies between approximately 1.20 and more than seven metres. Along the streets there are high sidewalks, which here and there are connected by stepping stones in the middle of the street. Some times there are sewer pipes under the sidewalks, but often you can assume that the street itself would have served as a channel for running water. The blocks presented close facades to the streets, and there were only few open places. The most important of these was the large Forum, surrounded by colonnades and grandiose official buildings. Parks were few if any, and private gardens were enclosed by high walls that hid most of their vegetation from those who passed on the street.

The houses varied in height and number of floors. Often the lower storey was high – height in the various rooms varied but could reach more than five meters in the central atrium - and most

houses also had one or more upper floors. These upper floors were, however, not built in the same manner as today: High rooms could be filled in with an inner loft, to be reached from the room or from the street. At the same time there could be other upper floors with different heights over different parts of the house, which gave house forms that were far from uniform or easily understood.

Roofs, balconies and protruding upper storeys covered parts of the sidewalk on different levels, offering an ever changing play of sunlight over streets and facades. The houses had few windows to the street, and the few that existed most often were placed over eye-level. Entrances, on the other hand, were high and wide and offered views of shops and workshops, as well as of the splendour of rich private houses.

### 3. WALL PAINTINGS IN POMPEIIAN HOUSES

The early excavations revealed rich buildings with well preserved interior paintings, showing imitated architectural set-ups, gods and goddesses, animals, fruits and flowers. The paintings exhibited a wide range of colours, and they stunned the visitors and became an inspiration for generations of artists and architects. Pompeiian interior painting also became a main source of knowledge about Roman painting up till 79 AD, not because Pompeii was that important during its life time but because its tragic death had left all its paintings for the afterworld to study.

In the late 19th century August Mau categorised Pompeiian wall paintings as belonging to four different styles, chronologically following each other.<sup>1</sup> As is often the case with styles, many of the single paintings tend to resist clear categorisation using the typical style characteristics, and also the dating of the styles must not be read too precisely. Still, Mau's four styles are even today the basis for art historical analysis of wall painting in Pompeii and the rest of the contemporary Roman world.

The first style can be traced back to the second century BC and prevailed for about 100 years. It was inspired by the Hellenistic wall paintings in Greece. On the wall was painted imitated architectural elements like ashlar work, friezes etc., mainly in a flat manner without perspectives. Thus the wall was perceived as a definite limit of the enclosed space. In the second style the wall was broken up with perspectives, such as a painted colonnade in front of a painted view over a landscape or a city. The third style was introduced some decades BC. Here again the wall is treated like a closed surface. Large fields of colour are divided by painted architectural elements, candelabras or other vertical features. In the large coloured fields there are small painted pictures and medallions, sometimes with frames equally painted directly on the wall. The fourth style is characteristic for Pompeii's last decades. Here the wall panels are narrower, and in between them there are perspective views into a slender, often totally unrealistic fantasy architecture, similar to theatre coulisses.

Some of the interior paintings can still be seen on site in Pompeii, though considerably withered since their excavation. Others were saved from destruction as they were at once removed from Pompeii and stored – and to some extent exhibited – in the Archaeological Museum of Naples.

### 4. SEARCHING FOR COLOUR IN THE STREETS OF POMPEII

Whereas interior painting has been subjected to much research, there is very little collected knowledge about the colour of the facades and outdoor spaces. The guidebooks are full of coloured illustrations, but it is not made clear if they are based on archaeological evidence or just fantasy. Even a recent book with scientifically solid articles, edited by a well reputed Pompeii archaeologist, shows a perspective town plan coloured in a stereotyped manner. This reveals that the colour of the townscape simply has not been adequately researched.<sup>2</sup>

Still these picture books and all the rumours about colour in Pompeii gave me grand expectations before my first visit there in 1998. My aim was to survey the use of colour in the townscape and analyse how it was used to indicate status, inform about function or else make the town graspable for its inhabitants and visitors. But I must confess I was disappointed. Instead of beautifully painted facades I found raw brick and stone, some of them with obvious evidence that they had once been plastered. I found an alley called *Vicolo dei pareti rossi*, the alley of the red walls, and could at least vaguely understand the splendour it had once possessed. At my last visit there I went back to the *Vicolo* just after a hard rainstorm, and found parts of the red and yellow plaster in heaps on the ground. And it proved to be the same everywhere. The ruins are terribly worn by wind and sun,

rain and vegetation, and also by the thousands of tourists who visit the site every day. Only the parts that are considered extra valuable are protected by roofs or glass plates, and sometimes these precautions are wrongly constructed and might even have damaged the paintings instead of rescuing them. I was forced to realise, that to be able to trace the colour of Pompeii's cityscape I would have to turn to other methods than simply exploring the site. And so I ended up in a fascinating detective work, a puzzle with many pieces that can gradually be put together to form a colour picture.

## 5. THE FIRST PIECE OF THE PUZZLE – EXCAVATION REPORTS

A first step would be to turn to the excavation reports, written by archaeologists to document their work and its results. What do they say about the colour of the houses? Often there is not much information to find. The earliest excavations had the aim of finding beautiful art treasures, magnificent temples and other special objects. Later on there was a great interest in the daily life of rich houses, but comparatively very little interest was given to more commonplace activities and artefacts. This means, that the rich interior paintings were well documented, and that a decorated facade could at the best be mentioned – but facades with simple painting in non-spectacular colours could well pass without even a note in the report.

In the 1920:s the facades of the east-west thoroughfare Via dell'Abbondanza were excavated by Vittore Spinazzola, and he put much more effort into documentation of both facade material and facade colour.<sup>3</sup> In his reports we can find descriptions and minute drawings of the facade remains, and also painted reconstruction drawings based on what has been found. Here we can see that most of the facades have high bases up to about 2 m over ground level. We can also see that windows could have terracotta grills and wooden shutters, and that the high doors to the private houses could be embellished with ornaments in forged metal.

Spinazzola found a lot of pictures painted on the facades. Some of them could be seen as advertisement signs, showing activities, tools or gods and goddesses with some connection to the trade of a neighbouring shop or workshop. Other paintings are more directly meant for cult. They are connected to *lararia*, small niches for worship of the spirits of the site, and they often include pictures of sacred serpents. There is also a lot of *graffiti*, electoral slogans or other messages written on the walls, often with red letters on a white splash for background.

So, Spinazzola's excavation reports give quite a lot of information about the colours of the street he excavated. The problem is, this is only one street, a thoroughfare with many shops and few official buildings. We can not take for granted that the findings from Via dell'Abbondanza would be true also for the rest of Pompeii. So we have to find more pieces of the puzzle.

## 6. THE SECOND PIECE OF THE PUZZLE – AVAILABLE PIGMENTS AND MATERIALS

What were the material preconditions for using colour? What materials were used, and what pigments were available? One source of knowledge is the remaining documents from the Roman world. Pigments and painting have been discussed by Vitruvius (about 80-20 BC), Pliny the older (23-79 AD) and Dioscurides (40-90 AD), and also be the several centuries older Greek philosopher Theophrastus. These writers are often quoted in more recent literature on pigments.<sup>4</sup>

Another source of knowledge are the remains of surface materials and paint layers found in Pompeii. There have also been found unused pigments in painters' workshops<sup>5</sup> and painting work in progress, obviously interrupted by the eruption<sup>6</sup>. Even very tiny fragments, that do not look much, can reveal much information when studied in microscope or analysed with chemical, spectrophotometrical and other technically advanced methods.<sup>7, 8, 9</sup>

The walls, pillars and columns of the buildings consisted of various types of stone and of brick, combined in different types of masonry or *caementum*, the Roman concrete. In the interiors all walls were stuccoed, and also the exterior walls were normally covered with plaster. There were also facades in visible stone, and different types of stone were also used for paving of streets and sidewalks, for water fountains, statue bases and statues and for various smaller facade elements.

The visible stones in Pompeii were mostly within three colour areas:

- subdued yellowish: Nocera tufa used for facades, Sarno limestone used for sidewalk kerbstones and sometimes for facades

- dark grey: Lapis Pompeianus, also called lava, mainly used for street paving
- white: Caserta travertine used for paving in exclusive places, marble used for extravagant facades, statues and other additional elements.

For specific purposes there was also coloured marble, both relatively unicoloured and vividly veined, in a colour scale including white, black, grey, dark purple, yellow, pink and pale green. There were also visible details of brick and terracotta, with their characteristic brown-red colours. In addition, crushed brick in mortar (*cocciopesto*) was used for pavements and as wall rendering, giving the surfaces a pink colour.<sup>10</sup>

Both interior decoration and exterior painting was made mainly with earth pigments, that is inorganic pigments that can be found in nature and used without other preparation than cleaning and grinding. They are cheap and extremely durable, and they are not destroyed by the alkaline lime used for binder in paint and wash. The most common of those pigments today have names like ochre, terra di Sienna or umber and have a colour range of yellow – brown – red. There was also a greenish earth pigment, simply called *green earth*, that has now gone out of use. Black was made from soot or, more exclusively, from burnt ivory, and white was inherent in the lime wash used for exterior painting.

The Pompeian painters also had access to crushed minerals, such as the green malachite – in Latin called *chrysocolla* – and the red cinnabar or vermilion. Pigments were also manufactured through controlled chemical processes. One example of this is the copper-based Pompeian blue or Egyptian blue, a pigment that was rather common in antiquity but for some reason has today gone out of use. There were even a few organic pigments like the exclusive red-purple *purpurissimum*, but due to their expensiveness and lack of durability they could not have played any role in exterior painting.

In fact, the earth pigments were so much cheaper than all other alternatives, that you must draw the conclusion that they were the absolutely most common for outdoor painting of large surfaces. This gives a basic colour scale of white, grey and black together with yellowish, reddish and greenish colours. The pure earth pigments give colours with somewhat limited chromaticness (not higher than NCS c= 50), but they could be made more chromatic through mixture with small quantities of other, more expensive mineral pigments.

## 7. THE THIRD PIECE OF THE PUZZLE – ARTIST’S REPRODUCTIONS OF POMPEII

As I have already mentioned, lots of architects and artists have visited Pompeii as part of their educational tour through Europe. Maybe their paintings, sketches or notes could add to our knowledge about the town’s colours, as seen before the facades withered away? This shows, however, to be a futile hope. In the 18th century the excavation sites were only open to those with a special permission, and to be allowed to draw or paint something on site was even more difficult. Still there exist beautiful reproductions from this time, but those showing colour are strictly confined to interior decorations, which were valued so much higher than the exteriors and the town as a whole.

Also after restrictions were lifted, the travellers’ sketches from Pompeii tell virtually nothing about exterior colours. There are street views, but they are made with ink wash or other methods that do not reveal anything about colour. There are a few exceptions, however, that help a lot in our understanding. *Casa dei Dioscuri* a few blocks north of Forum (unit VI 9,6-9 in the agreed modern numbering of all Pompeian houses) is the large house of a wealthy family, situated at a broad street together with equally wealthy neighbours. Its facade was depicted by the artist Pasquale Venero in 1843, shortly after its excavation, and the reproductions are still there to be seen.<sup>11</sup> Actually, this house also happens to be one of the few that still have a rather intact exterior rendering, so even if most of the painting has disappeared I have been able to check the artists version with the present reality, and found it reliable.

The facade of *Casa dei Dioscuri* is divided into a base zone, about 2 meters high, and an upper zone up to a cornice just under the roof. The base zone was divided into red fields – standing rectangles - with blue borders, and the upper zone consisted of an imitated masonry wall with large rectangular “stones”. The “stones” were white, as if cut from travertine or marble, and the joints between them were marked in low relief and painted blue. The cornice has a leaf relief, as if baked with pastry tins, and was painted with blue and red on a white background. When reading more about this very house I find, that this facade was made during the last decades before the eruption, but that its style is labelled as imitated first style, in correspondence with the styles of interior decoration.

## 8. THE FOURTH PIECE OF THE PUZZLE – THE CORK MODEL IN NAPLES

The Archaeological museum in Naples exhibits a cork model of Pompeii, in scale 1:100. It was made in 1879 and shows in detail the houses and streets that had so far been excavated, which means approximately the western half of the town. The model is not a reconstruction but shows the excavation site and its findings in the state that they were when the model was made. Therefore it could be an important source of knowledge about colour in public space. But is it reliable in this respect, or are the paintings shown on the facades a result of somebody's creative fantasy? To try this, I have chosen nine facades that have distinct coloration on the model, and compared this coloration with what is discussed in literature and what can still be found on the site.

For four of the chosen facades I have found no literature mentioning the facade's surface or coloration, and the remaining facade surfaces are too scarce to show any evidence about colour. Thus, for these facades, the testimony of the cork model is neither supported nor contradicted. Five of the chosen facades I have found presented in literature.<sup>12</sup> For all of these, there is a close correspondence between literature and the cork model, although the model shows the facade in more detail than literature based on today's remains. One of these facades is the already mentioned *Casa dei Dioscuri*. Here there is a close correlation between the old picture, the model and the present remains.

Thus I have found strong evidence for the reliability of the model, and none that contradicts it. I draw the conclusion that the cork model is a reliable source for knowledge about facade decoration and coloration. This gives good additional information to what I already had: Houses with high base zones and seem to have been prevalent in all parts of the town, and the rule seems to be that base zones were darker and more decorated than the rest of the building.

Several of the houses shown in the model, and in Spinazzola's excavation reports, have facades similar to *Casa dei Dioscuri*: The base zone is divided into rectangular panels, *orthostats*, divided by simple or more elaborated borders in another colour. In some cases the orthostats are painted with diagonal or vertical stripes, in what is labelled as a simple marble imitation. I recall the withering walls of the *Vicolo dei parete rossi* and realise that this is what I saw there.<sup>13</sup> In the simplest cases the base zone is unicoloured red.

The upper part of the wall is sometimes divided into fake masonry, sometimes simply uniformly whitish. There are also examples of checkerboard painting in white, green, red and yellow, a motive that I could also find on the recently excavated *suburban baths* outside one of the city gates.

Not surprisingly, most of the large facade surfaces seem to have been painted with the cheap earth pigments in red and yellow, in combination with black and white, whereas more expensive pigments like blue were used only for details.

## 9. COLOUR IN POMPEIIAN CITYSCAPE

So I continue to find pieces of the puzzle and add to the understanding of colour in Pompeian cityscape. Other researchers have published more pieces that I have not discussed here: Thematic presentations of the pictures of street altars and workshop signs<sup>14</sup>, analyses of the grand city-like views around the Forum<sup>15</sup>, discussions about the visual relationship between the street and the representative interiors of the houses<sup>16</sup> etc. My work on Pompeii's colours is still in progress, and I plan to present a final report later in 2005. But already I can invite you to a walk through the once so lively town and try to make you see its streets and houses behind the ruins.

Let us start at the busy thoroughfare. The street is paved with dark grey stone, and every few blocks it is narrowed by a large water fountain, lava black and glittering wet in the strong sunlight. We walk on the raised sidewalk and stay close to the wall, to enjoy the shadow of the roofs, balconies and protruding upper stories that stretch out on varying heights over our heads. Up to about 2 meters over ground – well above our eye level – the houses on both sides of the street have a rather dark base. This helps forming a perception of a defined street space, enclosed on both sides and stretching towards infinity both backwards and forwards. Each house has got its own appearance, and still there is a strong unity, due to the roughly constant height of the bases and their limited colour scale of mainly earth colours.

Above this defined space we can see a stretch of wall, reaching up to a variety of protruding structures hiding the upper part of the houses. The walls above the coloured base are often white or in light

colours and have small, unevenly placed windows. When we can see the houses' full height they most of all resemble a number of boxes put on top of each other. Some houses distinguish themselves with colourful paintings over the base zone, or with a regular second storey with open colonnades.

But most of the lively colours are confined to the base zone, which is largely red but also has other colours, mainly black and yellow. There are lots of large openings into workshops and shops, whose interior colouring becomes part of our view. Beside them there are painted advertisements, sometimes with drastic or even obscene pictures. Foodshop desks glitter with pieces of coloured marble. In the street corners white fields draw our attention to small altars, and when we come closer we find that the white background carries painted serpents, plants and deities in contrasting colours. Other white fields seem to be more temporary, painted with messages telling us whom to vote for in the next election. As we are not free male Roman citizens we need not bother much about those....

Close to the civic centre of the Forum the scene changes. Here the facades are uniformly built from tufa stone in a brownish yellow colour, or stuccoed in an equally uniform way with recurring regular elements. The materials of the street reveal that we are coming close to the centre of power: White travertine on the pavement marks the entrance of an important building, and a white marble fountain is seen from far. Even the pavement is splendid, with a colourful mixture of different stones.

And so we reach the Forum itself, and are stunned by all the whiteness. The square is covered with white stone, and around it there are temples and other official buildings covered with marble plates in different light colours. Luckily there are also colonnades, offering shadow and protecting our eyes from the overwhelming brightness. Walking along them we can adore the host of white marble statues of important people, sometimes with painted hair and face features. This part of Pompeii wants to mirror the splendour of Rome itself!

We pass under two grand arches, covered with white and multi-coloured marble and carrying statues of emperors on horseback. And so, we find ourselves in the living area of the wealthy and powerful. The sidewalk is pink from *cocciopesto*, or covered with small black stones dotted with white ones. The street is wide, and we can clearly comprehend the grandeur of the houses. Some of them have ancient tufa facades, others are plastered in imitation of whitish masonry walls with elaborately painted base zones in red, black and yellow. There are few shops, and few advertisements. Instead we are offered views through the high open doors of the houses, catching glimpses of their interior paintings and gardens. Some treetops can be seen over the high garden walls, and in the forefront is the tower in the city wall. Far away we see the green slopes of Vesuvius, happily not knowing what disaster it will bring to us and our town.

## References

1. A. Mau, *Geschichte der dekorativen Wandmalerei in Pompeji* (Berlin, 1882)
2. F. Coarelli (ed.), *Pompeii* (Riverside, New York, 2002)
3. V. Spinazzola, *Pompei alla luce degli scavi nuovi di Via Dell'Abbondanza* (Roma, 1953)
4. F. Hansen and O. Ingolf Jensen, *Farvekemi* (Copenhagen 1991).
5. S. Augusti, *I colori Pompeiani*. (De Luca, Roma, 1967)
6. A. Varone, "Insula of the Chaste Lovers" in Pompeii, ed. Coarelli (see ref. 2) pp 334-345
7. *Pigments et Colorants de l'Antiquité et du Moyen Age*. (Éditions du Centre National de la Recherche Scientifique, Paris 1990)
8. *Roman Wall Painting. Materials, Techniques, Analysis and Conservation. Proceedings of the International Workshop Fribourg 7-9 March 1996*. Ed. H. Bearat et. al (Fribourg, 1997)
9. Surveys in progress at EVTEK Institute of Art and Design, Finland (oral presentation 2005)
10. L. Richardson Jr, *Pompeii. An Architectural History* (J. Hopkins Baltimore 1988) pp 369ff
11. *Pompei : pitture e mosaici*. (Roma : Ist. della Enciclopedia italiana, 1990-1999) Supp. pp 780f.
12. *Pompei : pitture e mosaici*. (see ref. 11) various pages.
13. *Pompei : pitture e mosaici*. (see ref. 11) VIII pp 684 ff.
14. T. Fröhlich, *Lararien- und Fassadenbilder in den Vesuvstädten* (Mainz am Rhein 1991)
15. P. Zanker, *Pompeii Public and Private Life* (Harvard Univ. Press, Cambridge Mass. 2001)
16. A. Wallace-Hadrill, *Houses and Society in Pompeii and Herculaneum* (Princeton 1994)