

THE TEMPLE OF CASTOR AND POLLUX: ARTISTIC TECHNIQUES

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Fig. 1 The Temple of Castor and Pollux. Roma, Foro Romano

A historical outline

The temple was dedicated on 27th December 482 BC on the spot where the two Dioscuri appeared after the battle of Lake Regillus (496 BC), whilst letting their horses drink at the Spring of Juturna. It was rebuilt by L. Metellus Dalmaticus with the spoils of the Dalmatian war and was adorned with statues and paintings amongst which also the portrait of Flora, a courtier. Although officially it is known as the Temple of Castor and Pollux, it was referred to as the Temple of Castor, as several documents prove including the Forma Urbis Severiana, of which a fragment with the name of the temple was found in 1882.

The position and the high podium on which the temple stands made it one of the most visible temples in the Roman Forum and during troubled political times it became a point of reference. The ruins today

are considered a work of art and date from the rebuilding by Tiberius and Drusus in AD 7.

There is not another classic building in Rome, studied, drawn and admired as much as this temple's three surviving columns. The fact that already at the end of the fourteenth century the path to the east of the temple next to S. Maria Liberatrice is called *Via trium columnarum* (road with three columns), suggests that the temple collapsed in ancient times. The first excavation of the ruins, of which there is a record, took place in the fifteenth century.

In 1773, part of the walls of the *cella* (the sacred inner chamber) was destroyed. The marble lining was removed as was part of the foundations in order to obtain blocks of stone. As a result of this pillage the construction was reduced to half its size or rather, only the parts in cement remained. However the enormity of what remains is enough to give us an idea of how big the monument was.

Further excavations took place in 1799, 1811 and 1818. The earth surrounding the temple on three sides was cleared definitively in 1871.¹

The material used for the monument is white Carrara marble with a microcrystalline structure.

The blocks were rough-hewn when put into place. The final decoration of the surfaces of the columns and the trabeation was carried out once the pieces had been set up, as the shape around the joints of the blocks shows.

The parts are bound together by metal pins and cramps and sealed with lead.

Traces of working tools

Despite the remarkable surface of the monument, very few traces remain of the tools used for the working of the marble. This is due to two main reasons: the degradation of the parts directly exposed to chemical agents in the atmosphere and the excellent finish of the work. The latter is the reason why the signs of the work done between the rough-hewing of the shapes and the smoothing of the surfaces is almost absent.

Instead, traces left by tools were found in the following cases: in hidden areas that therefore were not finished. In areas where the complexity of the shape made the working difficult. In visible parts but where the surfaces were worked upon in order to obtain light and shade effects.

- 1) Point. The most evident signs left by this tool are visible on areas that were hidden at the time of the building and left rough-hewn. In these parts the tool was used almost perpendicular to the

¹ Rodolfo Lanciani, *The ruins & excavations of ancient Rome*, London 1897, trad. E. R. ALMEIDA, Roma 1985.

surface probably in the roughing of the shapes which was carried out directly in the quarry.

- 2) Toothed chisel. The traces left by this tool are visible almost exclusively where the Roman craftsmen wanted them to be, i.e. in the areas where the wavy surface had a light and shade effect. Some hidden parts also have traces left by this tool.
- 3) Bushhammer. Traces left by this tool are rare and uncertain.
- 4) Chisel, gouge. For the reasons mentioned above, signs of these tools are almost completely missing.
- 5) Drill. Traces left by this tool are numerous and present on a great number of parts, particularly on those with a curvilinear pattern such as the foliage on the capitals.
- 6) Scraper. Also traces left by this tool are very few and uncertain.
- 7) Rasp. Although the traces left by this tool are quite poor, it has been possible to identify traces in several areas, mainly in areas that were difficult to work on.

The pivoting system of the blocks.

The fragments of the temple that lie on the ground, supplied this research with the greatest amount of information. It was possible to observe the contact surfaces, which are not visible on the parts that are still standing, and to reconstruct with a certain amount of precision the pivoting system of the columns. This was not possible for the trabeation due to the fact that the only blocks that remain are those still in their place and a few fragments on the ground. Moreover, in the trabeation, it was observed that the pivoting system is more complex than on the columns which made the reconstruction of some details less certain.

The technique used for the pivoting system of the blocks seems quite common: the different parts were bound using a series of square-shaped pins fitted in perpendicular to the contact surfaces in specific areas. Once the block had been put into place, the pin was sealed with molten lead by means of a special channel which emerged from the outside with a little opening.

In far-off times these parts were systematically pillaged by chiselling the marble that hid them. By observing the pieces on the ground which do not show signs of pillaging and the missing stonework on the monument at the joint between the two blocks, it is possible to deduce that the removal of the pins is subsequent to the collapse of the monument.

In the contact surfaces between the parts of the columns and of the trabeation an area on another level is visible, which was made using a point and in some cases also the reference line for the assembly of the parts is visible.

All the parts that form the temple from the base to the trabeation are bound together by a single pair of pins at every joint.

The reconstruction of the parts of the trabeation is more problematic. Due to the fact that there is not a direct view of the contact surfaces it was necessary to base ourselves on the shape and the pattern of the

fillings carried out during the 1900 restoration by Giacomo Boni which cover the pins and the channels that were used to pour in the molten lead. From the information collected we obtained the following reconstruction: in the middle of each capital, two blocks of the first order of the trabeation meet. Each of them is fixed to the capital by two pins put at about 20cm from the rim. Hence on each capital there are four pins. Two channels emerge from the internal side and two from the external side.

The second order is composed of trapezoid-shaped blocks placed alternately, with the largest side facing upwards or downwards. The blocks with the largest side facing downwards are shorter in length and are placed on top of the joint of the blocks of the order below, corresponding with the capital. Logic suggests the order in which these parts were assembled: First of all two blocks were placed with the largest side facing downwards. The plumbing was carried out, then a block with the largest side facing upwards was fitted inbetween the other two. The blocks were fixed to the order below with two sets of pins. The channel emerged not towards the external rim but between the contact surfaces of the block below which was not yet occupied by the part that went next to it. It was not possible to collect any information regarding the presence of pins in the blocks with the largest side facing upwards although we exclude this because besides the fact that this interlocking system is rather stable, there are no signs of stealing of the pins which are present everywhere. We also hypothesized the presence on the upper side of two cramps at each joint, which tied the blocks together horizontally.

The layout of the blocks of the third and fourth order is asymmetrical in relation to the columns. In this case the almost complete absence of visible elements allowed a hypothetical reconstruction. It was not possible for us to determine the direction of the channels used to pour in the molten lead.

The blocks of the third order are fastened together by two cramps at each joint and each block of the third order is fastened to those of the fourth order by two sets of pins. The good state this part is in, allows to determine clearly the direction of the channels even though they are covered by cement after Boni's restoration. We observed that at each joint of the blocks of the fourth order, the channels of the set of pins placed towards the back of the temple emerge internally facing the front; the channels of the subsequent set of pins emerge instead toward the exterior rim. This is useful to clarify how the blocks were set up. In fact the direction of the first set of channels indicates that when the block towards the back of the temple was being put into place, the part toward the front of the temple was still clear and could be worked on, hence once the block towards the front of the temple had been set up, the pouring of the molten lead into the other set of channels had to be done from the outside. Therefore on this side of the building, the blocks of the fourth level of the trabeation were set starting from the back and moving towards the front.

On the top of the last level of blocks are a great number of cavities of various sizes and dimensions which have been to a great extent covered by cement put by Boni. It is difficult to distinguish those carried out in the Roman period from those which were carried out during more recent restorations during the placing of cramps and chains.

A series of cavities at about 15cm from the external rim and with a distance between them of about 60cm are considered original. In these cavities were fixed the trusses or the bases of decorations. Even more internally, at about 65cm from the rim is another series of cavities which are slightly bigger with a distance between them of about 90cm.

The cramps fastened the blocks and were placed at the joints between the blocks.

Restorations dating from the Roman period.

On the monument are signs of the restoration of missing decorative parts that not only do not belong to any of the restorations recorded, but that for a series of reasons which we shall analyse, can be traced back to a period contemporary or very close to that in which the temple was built.

Due to their location and the way they were carried out, these restorations seem attributable to two different restorations: the first concerns mainly the upper part of the temple, the trabeation and the capitals, the second concerns the lower part of two of the three columns on the eastern and north-eastern sides.

The first restoration is composed of a series of traces that indicate the fitting in of small inserts of a few centimetres, using metal pins or cavities, that corrected slight faults. Some of these inserts are still visible. The attention given to each detail reveals how, for there to be the need to make such minute corrections of parts that were faulty, the monument must have been in excellent condition at the time of this restoration. Most likely, these were finishing touches and the correction of parts that were faulty and took place during the completion of the temple by the same workers that were decorating it. The precision and the care with which some of the parts are treated, in particular the areas for the inserts, tell us of how clean the decoration was.

Let us also mention two cases which are part of this correction phase of the faults:

The first is present on one of the capitals: it is a mistake in the creation of the abacus. One part is deeper than the other. This difference has deflected also the other decorative elements of the capital. The chiselling that is visible in that area appears as an attempt to make up for the imbalance that was created.

The other case concerns the trabeation at the joint between the second and the third order of blocks. This part, maybe due to a fault in the shape of the blocks or to a slight settlement of the framework, was slanting downwards. Evidently during the decoration, the craftsmen realised that if the horizontal parts of the moulding had continued parallel to the edge of the lower block, they would have tended to slant. Hence

they created a band which corrected the inclination gradually.

The other restoration work that was identified, concerns the base and the lower parts of two columns although we cannot exclude that work was done also on the third column. Unfortunately it was not possible to check whether this was so due to the terrible state the column is in.

The restoration works on the central column concern the base and the three flutes on the external sides (vicus Vestae). On the columns towards the front of the temple traces of restoration works can be found more internally, on the base and on three flutes.

The restoration consists of a considerable amount of cavities and inserts of different sizes. The surface onto which the insert adhered to is riddled with small holes in order to help the insert to stick to the part. In one case there is also a hole where a pin that supported the insert was.

By observing these parts it is clear that at some point in the life of this monument, the lower part of the colonnade suffered damages of a certain extent (one flute has been restored for almost five metres of its height and another two show evidence of inserts up to about 9 metres). These damages had to be repaired. The cause can be found in the pressing on this side of the overhang of the trabeation, after an earthquake or the natural settlement of the structure.

The fact that the restoration dates from the Roman period is suggested not only by the techniques found also on other Roman monuments, but also by the fact that when the pins were removed, the whitewashing was done and the lower parts of the columns were covered with earth, not only had the restoration already taken place but the inserts were already lost.

It appears improbable however that after the collapse of the temple, someone took the trouble to restore cavities on what was by that time only a ruin.

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