

# No stone left unturned

Preliminary/interim rapport of the doctoral thesis of Jesper Vestergaard Jensen, per November 2020

The working title of the thesis is *'Building decor on the Forum of Ostia: For the allocation and reconstruction of the marble furnishing elements of the forum buildings in their original context'*, and is focused on the vast amounts of architectural marble fragment uncovered by the Ostia Forum Project (OFP) in the period between 2010-2019. As the title suggests the main aim of the subject is to try and ascertain the original context of these fragments, and thereby contribute to our overall knowledge of the buildings surrounding the Forum of Ostia. I began my work in February 2020, but due to the corona pandemic and the necessary restrictions it imposed, the conditions for research has been far from ideal. This includes having to wait a long time before being able to see the material firsthand as well as having restricted access to literature. However, I have managed to reach some very preliminary results based on the available literature, the existing photographic material from the previous campaigns of the OFP, and a 3-week research campaign in the late summer of 2020<sup>1</sup>. These results mainly consist of attributing fragments with some of the major forum buildings as well as identifying fragments which could prove to be of major interest going forward.

## **The material**

The marble fragments in question were found in several deposits/piles around the area of the forum and were explored by the OFP between 2014-2019. The majority of these deposits date to the excavations of the forum of the late 19<sup>th</sup> and early 20<sup>th</sup> century, where excavated marble fragments were stored in these deposits for later study, which in most cases never happened. Some of the deposits, however, can be dated back to the industry of systematic re-use of architectural marble in the late 5<sup>th</sup> and 6<sup>th</sup> century<sup>2</sup>. Several of these Late Antique deposits, especially the ones located on the southern end of the forum, have already yielded fragments that can be attributed to important buildings around the forum, such as the Temple of Roma and Augustus<sup>3</sup>.

The marble fragments, that I have been able to examine in person so far, are from a depot in the area dubbed TFR (Taberna Forum Rooms) by the Ostia Forum Project. TFR are a series of rooms located on the eastern part of the forum, just north of the Decumanus. The marble depot in TFR 2, the largest of the marble depots around the forum, consisted of marbles unearthed in the excavations of the 19<sup>th</sup> and 20<sup>th</sup> centuries, and was

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<sup>1</sup> It should be stated that the results and interpretations in this article are very preliminary and can therefore be subject to change upon further studies.

<sup>2</sup> Gering 2016; 2017.

<sup>3</sup> Gering 2020.

comprised of thousands of marble fragments, the greater part of which were small- to medium-sized with no discernable worked features. However, a lot of interesting fragments were also discovered, such as fragments of capitals, cornices, architraves, column bases, etc. Several of which can be dated and, in some cases, attributed to buildings around the forum.

### **The Temple of Roma and Augustus**

Several fragments found in TFR can be attributed to the first known marble temple of Ostia: the Temple of Roma and Augustus (TRA) located on the southern part of the forum and dated to the late Augustan and/or early Tiberian period<sup>4</sup>. Today, only parts of the podium of the temple are preserved *in situ*, however, we do know a lot about the external architectural decoration of the temple, since a substantial amount of the entablature was found around the temple. Most significant of these was the rear pediment of the building, which was later reconstructed on a wall next to the temple in the 1920s.

As mentioned above, research has already been conducted within the framework of the OFP on the TRA – especially on the exterior pediments<sup>5</sup> and the interior of the temple<sup>6</sup>. With regards the pediments, several fragments from the deposits have contributed with vital additions to the existing reconstruction of the sculptural program of the pediments. Chief among which are two fragments of an oak wreath that would have been part of a *clipeus* placed in the centre of the pediment. The *clipeus* would have been held by two winged Victories flanked by a Capricorn (the birth-sign of Augustus) at both corners of the tympanum field<sup>7</sup>.

Fragments which can be attributed to the same period as the TRA and even to the temple itself can be found in the marble deposit of TFR.

**JJ\_061:** A fragment of Luni marble with a lesbian kymation stemming from the soffit of a cornice. The full length of the kymation is preserved, seen by the presence of a corner at both ends of the kymation. The orientation



Figure 1. JJ\_061. Fragment of a soffit from the TRA. Photo by Jesper V. Jensen.

of the corners reveal that it is the rear part of a soffit – both corners turn in the same direction. The size and

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<sup>4</sup> Geremia-Nucci 2013, 244-254.

<sup>5</sup> Gering 2016; 2017.

<sup>6</sup> Gering 2020.

<sup>7</sup> Geremia-Nucci 2013, 162-183; Gering 2020, abb. 3.

style of the kymation reveals that the fragment is from the external entablature of the Temple of Roma and Augustus, thus dating the fragment till the late Augustan or early Tiberian period.

**JJ\_066:** An architrave fragment of Luni marble crowned with a *taenia* followed by a lesbian kymation and a fascia. A small depression is carved out on top of the architrave above the *taenia*. The dimension and style of the fragment identifies it as being from the external architrave of the Temple of Roma and Augustus.

Other fragments which are of Augustan or Early Julio Claudian dating includes:

**JJ\_063 + JJ\_064:** Two fragments of architrave revetment, possibly of Luni marble, crowned by a *taenia* followed by a lesbian kymation and two fasciae divided by a bead-and-reel astragal. The kymation and the astragal are shallowly carved with the astragal having regular oval beads divided by two roughly cone-shaped reels pointing towards each other. The shallow carving of the kymation and the astragal points to a dating in the Augustan period<sup>8</sup>. It was been put forth by Axel Gering, that these fragments could have originated from the interior decoration of the Temple of Roma and Augustus – more specifically from one of the niches lining the sides<sup>9</sup>. Two other fragments which are likely identical to JJ\_063 and 064 have been found in other deposits around the forum.



Figure 2. JJ\_063 and JJ\_064. Architrave revetment. Photo by Jesper V. Jensen.

**JJ\_058 + JJ\_059:** Two fragments in fine grained, white marble (Luni?) of a cornice likely from the same original context. JJ\_058 has a ionic kymation (egg-and-dart), a row of dentals, and a bead-and-reel astragal. One side of the fragment and the back is preserved. JJ\_059 has the remains of a row of dentals, a bead-and-reel astragal and a ionic kymation, followed by a blank area worked with a tooth chisel.



Figure 3. JJ\_058 (right) and JJ\_059 (left). Two fragments of a cornice. Photo by Jesper V. Jensen.

<sup>8</sup> A nearly identical astragal can be seen on a cornice section from the Forum of Augustus in Rome, Leon 1971, 182, taf. 76,1.

<sup>9</sup> Gering 2020, abb. 7, 12, 13.

The back of the fragment is preserved. Due to the dimensional and stylistic factors it is clear that these two fragments originate from the same element: due to the back being preserved on both fragments it is apparent that the dental and astragal of both fragments correspond with each other. Due to the orientation of the egg-and-dart of the fragments, as well as the blank area of JJ\_059, I would think it to be likely that these fragments were either part of the lower part of a cornice – the blank area being the soffit of the cornice. Due to the carving style of the decoration and material of the fragments, I would argue for an Augustan dating<sup>10</sup>.

### **The Basilica on the forum**

Not only fragments of the Temple of Roma and Augustus has been identified. Several fragments from the TFR can be attributed to the large basilica on the west side of the forum. The exact dating for the construction of this building is not entirely clear, but it has been dated between the late Flavian or early Trajanic period<sup>11</sup>. Several cornice, architrave, column and capital fragments have previously been attributed to the basilica as well as a relief frieze, attributed to the external portico, depicting *eroi* holding garlands of fruit. The exact reconstruction of the building is still open to interpretation.

**JJ\_067:** Architrave fragment of Luni marble with a frieze field which transitions into a projecting *taenia* followed by a *cyma reversa* and two fasciae. The profile of the architrave is curving, hinting at its usage as an archivolt. The surface of the frieze field is roughly worked with a tooth chisel, which is also the case for the fasciae, only here it is finer. The marble type, the sequence of the profile and the dimensions is identical to the archivolt of the reconstructed portico arch of the basilica, which would likely date it to the late Flavian or early Trajanic period.



Figure 4. JJ\_067. Architrave fragment. Photo by Jesper V. Jensen.

<sup>10</sup> The bead-and-reel astragal is nearly identical to the one on JJ\_063 and JJ\_064 and the ionic kymation is very similar in style to kymatia seen of the entablature of the Maison Carrée in Nîmes.

<sup>11</sup> Mar 2002, 138; Pensabene 2007, 212.

**JJ\_091:** Architrave fragment, likely of Luni marble, with soffit and two fasciae of one side preserved. The uppermost preserved fascia is crowned by a blank astragal, while the two fasciae are divided by a small *cyma reversa*. The soffit is framed by a *cyma recta*. This fragment has a direct comparison in the architraves, which has been attributed to the internal structure of the basilica both in material, profile sequence and dimensions, so a late Flavian or early Trajanic dating seems likely<sup>12</sup>.



Figure 5. JJ\_091. Architrave fragment with a soffit. Photo by Jesper V. Jensen.



Figure 6. JJ\_092. Fragment of an architrave with a soffit. Photo by Jesper V. Jensen.

**JJ\_092:** Architrave fragment, likely of Luni marble, with the centre part of a soffit preserved. It is likely part of the end of the soffit in which it culminates in a concave semicircle. The centre of the soffit is, like JJ\_091, framed by a *cyma recta* which likewise have the same dimension. This fragment therefore stems with a high probability from the same internal architraves of the basilica as JJ\_091.



Figure 7. JJ\_009. Fragment of a pilaster capital. Photo by Jesper V. Jensen.

**JJ\_009:** Lower right part of a pilaster capital with a *torus* and a *foliole* of an acanthus leaf preserved. A fillet followed by the *apophyge* is rendered below the *torus*. The *torus* makes two 90° turns on the right side of the fragment, indicating that the capital is projecting from a background. The *foliole* has four lobes of which the midribs are rendered by a groove. The space between the lobes are demarcated with drill holes. The space between the preserved *foliole* and the now broken off *foliole*, is rendered by a long deep drilled-out hole with a pointed top and a curved bottom. A curved groove is rendered below this hole creating a ring around it. A deep drilled-out groove is rendered to the left of the *foliole*. Due to the level of drilling, the rendering and shape of the leaf it is

likely of Trajanic date. A close comparison can be found in the reconstructed arch of the basilica, with a very similar astragal arrangement and rendering of the leaf. However, the pilaster of the basilica is of smaller

<sup>12</sup> Inv. no. 29287 A-E; Pensabene 2007, tav. 56, 4-5.

dimensions and without the ring around the spacing between the *foliole*. This spacing is also slightly deviating in shape between JJ\_009 and the basilica capital.

### **The Tempio Rotondo**

The circular Tempio Rotondo and its large, monumental forecourt located to the west of the Forum Basilica was, with a dating to the Severan period, the last largescale temple construction near the forum. This complex has several elements of marble architecture attributed to it, such as capitals, cornices, architraves, and columns. Several fragments from TFR, as well as fragments from the other deposits, can be attributed to the forecourt of the Tempio Rotondo.

**JJ\_054:** Well preserved section of a horizontal, decorated, corner cornice. The front has a sequence consisting of a *taenia*, a lesbian kymation, a ionic kymation, a bead-and-reel astragal and finally a row of acanthus leaves. The decoration is deeply cut with a lot of smaller drillholes. The darts of the lesbian kymation are replaced by a series of rosettes and small acanthus leaves. The egg marking the corner of the cornice is likewise decorated with an acanthus leaf. On the back of the cornice, an area has been



Figure 8. JJ\_054. Section of a decorated cornice. Photo by Jesper V. Jensen.

cut away likely with the purpose of being able to join with the following cornice section at a 90° angle. Due to the stylistic characteristics of the section as well as the fact that it is identical in decoration and dimension to the known fragment with the inv. no. 30753, it can be dated to the late Severan period (first quarter of the 3<sup>rd</sup> century CE)<sup>13</sup>. It would have been part of the entablature of the niches of the forecourt of the Tempio Rotondo.

**JJ\_060:** Fragment of architrave revetment crowned by a frieze field which transitions into a projecting *taenia* and a row of acanthus leaves divided by acorns. The profile is deeply carved with a large amount of drillholes used in the decoration. JJ\_060 is nearly identical in sequence and style to the known fragments with the inv. no. 30777a and 30777c<sup>14</sup>. According to Patrizio Pensabene, these architrave fragments were likely from the

<sup>13</sup> Rieger 2004, 183, 305, TR 17; Pensabene 2007, 308, tav. 91,4.

<sup>14</sup> Rieger 2004, 183, 304, TR 15; Pensabene 2007, 309, tav. 93,2-3.

forecourt of the Tempio Rotondo and also likely a part of a so-called 'Syrian arch'<sup>15</sup>, which can be seen prominently in Hadrian's Villa in Tivoli and the so-called Temple of Hadrian in Ephesus<sup>16</sup>.

Additionally, we have a few marble revetment fragments identical to ones used on the bases of the niches of the forecourt of the Tempio Rotondo.

### **A possible previously unknown temple on the forum?**

Due to the discovery of the remains of a small, presumed podium in the southern part of the northeast portico of the forum, Axel Gering has proposed the existence of a small temple in this area. This temple would have had several chronological phases, the last of which with a likely dating to the Trajanic or Hadrianic period, before being finally demolished in favor of the Hadrianic porticos seen (in their late antique version) on the forum today. The small dimensions of such a temple would naturally be evident in the architectural decoration of the building which would also have equally small dimensions. Several fragments from TFR could, on the basis of dimensions and likely dating, possibly be set in connection to this temple.

**JJ\_001:** A fragment of a ranking cornice of white marble (Luni?) with a modillion, a soffit, the corona, and possibly part of the sima preserved. A lesbian kymation is framing the upper part of the modillion and the back part of the soffit. A six-petal rosette is projecting from the centre of the soffit and the lower side of the modillion is decorated with an acanthus leaf and a scroll at the end. The spacing between the lobes of acanthus leaf are marked by oval drillholes with a pointed top. The lesbian kymation is rendered by a chisel. This fragment is nearly identical in dimension and overall decoration motif to already known cornice fragments on the forum – namely inv. no. 29248 + a



Figure 9. JJ\_001. Section of a ranking cornice. Photo by Jesper V. Jensen.



Figure 10. JJ\_001. Detail of measuring lines in the lesbian kymation. Photo by Jesper V. Jensen.

<sup>15</sup> Pensabene 2007, 309.

<sup>16</sup> Hrnčiarik 2014.

unnumbered fragment, currently in the eastern portico, and inv. no. 29279<sup>17</sup>, located to the east of the so-called curia. The only difference between JJ\_001 and the other fragments is the level of detail such as drilling in the kymation. It is therefore likely that these four fragments originated from the same context. The apparent difference in the level of drilling between the fragments, however, could be explained by JJ\_001 never having been finished. An assumption further emphasized by the fact that the sequence of the lesbian kymation behind the soffit is not completed – the measuring lines made by the carver indicating the position of centre and spacing between the darts is still clearly visible (fig. 10). Based on the style these fragments, including JJ\_001, a dating to the late 1<sup>st</sup> or 2<sup>nd</sup> century, possibly Hadrianic, is likely.

Other fragments of potential interest for a small temple could be a fragment of a lesene capital (JJ\_002), and several fragments with relation to the roof construction (JJ\_003 + JJ\_006 – JJ\_008). Also found in TFR, were several small fragments originating from the lower corner of an architrave with three fasciae and a soffit (JJ\_081 - JJ\_088). These architrave fragments all appear to be of Prokonnesian marble and roughly have the same dimensions – all of which indicate an architrave of a small size. A larger fragment with near identical measurements is located inside the cella of the Capitolium (JT\_008) with the sides and the soffit preserved. Due to the small size of these architraves, it is possible that they could originate from a small temple or from the interior order of a larger one, however, this will need to be studied further.



Figure 11. JJ\_081. Architrave fragment with three fasciae and parts of a soffit. Photo by Jesper V. Jensen.

### The Theater

The examination of the material reveals that the contents of the depots does not necessarily originate from buildings around the forum. A comparative analysis of a cornice section from TFR, shows that has a near perfect match in the Theater.

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<sup>17</sup> Pensabene 2007, 264, tav. 77,1.

**JJ\_055:** Cornice small cornice fragment with a ionic kymation and an astragal with a fish-scale<sup>18</sup> or oak wreath decoration. The cornice is nearly fully preserved with the exception of the upper half of the front and the right side being broken off. The worn surface of the fragment seem to indicate it having been attempted burned in a limekiln. The decoration of the cornice is deeply carved with a drill being heavily used. A nearly perfect comparison to this fragment can be seen in the pediment attributed to the *porta regia* of the theater both in terms of dimensions and decoration<sup>19</sup>. Therefore, a dating in the late Antonine to early Severan period is very likely.



Figure 12. JJ\_055. Small cornice section. Photo by Jesper V. Jensen.

### Other fragments of interest

A large number of fragments in TFR has, as of yet, not been securely attributed to a specific building. However, several does show a lot of promise in terms of either dating, similarities to other known fragments, the decoration motifs and so on. Here are of some of the most interesting pieces as of yet:



Figure 13. JJ\_029. Fragment of a ionic capital. Orthographic photo made on the basis of a 3D point cloud seen from the front (right) and from the left (left). Model by Jesper V. Jensen.

**JJ\_029:** Part of a ionic capital with parts of the top, the front, and the side preserved. The front is decorated with a ionic kymation (only the dart and sides of the casings for the eggs are preserved), a bead-and-reel

<sup>18</sup> Pensabene 2007, 288.

<sup>19</sup> Pensabene 2007, 287-288, tav. 86,6.

astragal and what is likely leaf kymation at the bottom. On the side, the upper part of the *balteus* and a large part of the *pulvinus* are preserved with horizontal grooves rendered on the *pulvinus*. The leaf kymation continues around the capital. The dimensions, the sequence of decoration as well as the carving style matches almost exactly with a capital used the palaestra of the Terme della Foro<sup>20</sup>.

Several fragments with an *anthemion* decoration were likewise found in TFR, however the monuments from which they originate is still to be determined.

**JJ\_048 – JJ\_051 + JJ\_056:** Five fragments with an *anthemion* all of which appear to be of Prokonnesian marble. JJ\_048 has a roughly smoothed frieze field, which transitions into a *taenia*, under which the *anthemion* appears. Under the *anthemion* a bead-and-reel astragal or possibly a lesbian kymation is rendered. The *anthemion* is deeply carved, and a drill has been frequently used between the leaves and for the details in general. JJ\_049 also has a frieze field, although the transition to the *taenia* is a lot deeper and is more curving than on JJ\_048. The

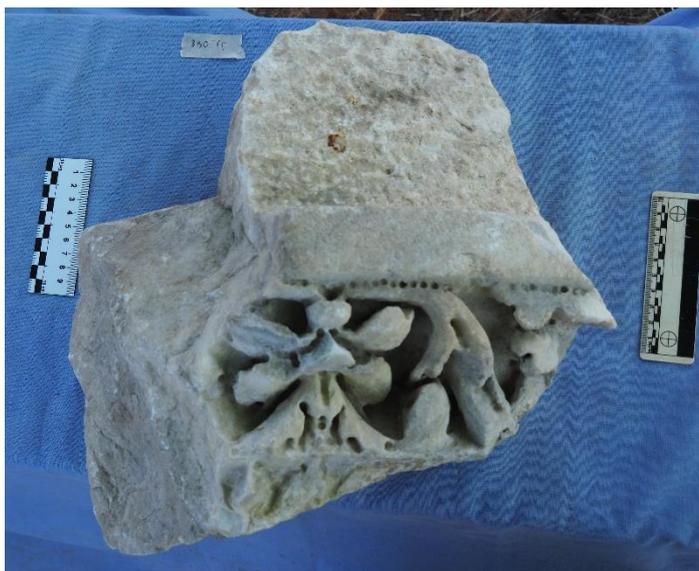


Figure 14. JJ\_048. Fragment with an anthemion. Photo by Jesper V. Jensen.

frieze is smoothed by a tooth chisel. On the opposite side of the fragment, in comparison to the frieze field, a concave curving polished area oriented in the same direction as the frieze is rendered. The two elements do not run in a parallel trajectory, however, and with the distance between them being less on the left side of the fragment than on the right. The *anthemion* is, like on JJ\_048, deeply carved and a drill has been heavily utilized. JJ\_050 has the *anthemion* followed by a bead-and-reel astragal. On the lower side of the fragment, a concave curving, polished area is rendered as on JJ\_049. The *anthemion* does not appear to be as deeply caved as JJ\_048 and JJ\_049 which could possibly hint at an earlier date. JJ\_051 has a blank upper part above the *anthemion* which could be either a wide *taenia* or a very flat frieze field. JJ\_056 also has a small part of an *anthemion*, but this fragment is heavily burned.

These fragments were likely part of architraves and formed the border between the architrave proper and the frieze section above. Comparisons to this can found elsewhere in Ostia, both in terms of style and use, as for example inv. no. 30923<sup>21</sup> which has an animal depicted in relief, possibly a bull, in the frieze section with

<sup>20</sup> Pensabene 1977, 44, cat. no. 141, tav. XII

<sup>21</sup> Also, numbered as JT\_015 by Johannes Trockels.

the *anthemion* below<sup>22</sup>. Also, in Rome can close comparisons be found as for example in the lower architraves of the interior of the Venus Genetrix temple on the Forum of Caesar<sup>23</sup>. This architrave can be dated to the Trajanic renovations of the temple in the early 2<sup>nd</sup> century CE. The *anthemion* motif was also popular in the Flavian period, as seen in the entablature of the Forum of Nerva, although they appear to be in a slightly different style. The *anthemion* is also a popular motif later in the 2<sup>nd</sup>



Figure 15. JJ\_004. Corner of a relief framed by an anthemion. Photo by Jesper V. Jensen.

and early 3<sup>rd</sup> century – as seen elsewhere in Ostia on monuments such as the Tempio Rotondo complex and the Arch of Caracalla. Therefore, a dating of the TFR fragments is likely in the period between the late 1<sup>st</sup> and early 3<sup>rd</sup> century.

The *anthemion* motif where also used as frames for reliefs, as is exemplified on JJ\_004. This fragment is from a corner of a relief of which two flower buds are preserved. It has very close similarities, both stylistically and dimensionally, to a relief from Ostia depicting a griffin framed by an *anthemion*<sup>24</sup>. A monumental inscription found reused in one of the porticos of the forum likewise has a comparable *anthemion* frame<sup>25</sup>.

### **Fragments in 3D**

A vital part of my method of documenting and analyzing the fragments has been to generate highly accurate 3D point cloud-based models in terms of the dimensions and texture of the individual fragment (see fig. 13). This allows for a completely different perspective of the material in contrast to standard 2D photographic material and serves as a great supplement to the traditional archaeological methods of documentation such as drawings. I have at this point generated several of these models, which has already aided my day-to-day analysis of the material considerably. These models can also prove to be very useful in future virtual reconstructions of the buildings of the forum in the sense that the fragments can be inserted directly into a model. I therefore plan to continue with this practice as an important part of my method going forward.

<sup>22</sup> Pensabene 2007, 246, tav. 72,2.

<sup>23</sup> Inv. no FC 4503 in the Mercati di Traiano Museo dei Fori Imperiali.

<sup>24</sup> Pensabene 2007, 246, tav. 72,3.

<sup>25</sup> Gering 2017, 258, abb. 11.11.

Another software which is very useful for comparing different fragments and contexts is Photoshop. Here it is for example possible via orthographic photos to overlap two or several sections or artifacts and thereby quickly determine whether or not a fragment fits within a certain context without the need to do it on site with the actual fragments. An example of this can be seen on fig. 16 in which JJ\_092 is digitally put on top of an architrave currently in the basilica showing a near perfect correlation between the pieces.

The fragments from TFR, as well as the fragments from the other deposits, have a great potential to add new valuable knowledge about the ancient architectural landscape of the forum. I will therefore continue to study the fragments from TFR as well as the pieces from the other depots.



Figure 16. Combination of a 3D point cloud of JJ\_092 and a photo of an architrave in the basilica. It should be noted that the 3D model has been mirrored in this image on its vertical axis to better illustrate the correlation. Model by Jesper V. Jensen and photo of Johannes Trockels.

## **Bibliography**

Geremia Nucci, R. 2013. *Il Tempio di Roma e di Augusto a Ostia*. Rome.

Gering, A. 2016. 'Brüche in der Stadtwahrnehmung. Bauten und Bildausstattung des Forums von Ostia im Wandel.' In A. Haug – P. Kreuz (editors), *Stadterfahrung als Sinneserfahrung in der römischen Kaiserzeit*, 2016, pp. 247-266.

Gering, A. 2017. 'Marmordepots aus Kalköfen, Steinverarbeitungsbetrieben oder Verkaufsläden? Zu den Werkspuren des kommerziellen ›Recycling‹ am Forum von Ostia im 5. und 6. Jh. n. Chr.' In D. Kurapkat – U. Wulf-Rheidt (editors), *Werkspuren. Materialverarbeitung und handwerkliches Wissen im antiken Bauwesen*, 2017, pp. 149-166.

Gering, A. 2020. 'Zum Aussagewert umgenutzter Bauteile des Roma- und Augustustempels für die Bau- und Verfallsgeschichte Ostias. Ergebnisse der Spoliensurveys 2016–2018 des Ostia-Forum-Projekts (OFP)', in K.

Piesker and U. Wulf-Rheidt, *Umgebaut. Umbau-, Umnutzungs- und Umwertungsprozesse in der antiken Architektur. Internationales Kolloquium in Berlin vom 21.–24. Februar 2018 veranstaltet vom Architekturreferat des DAI*, pp. 383-402.

Hrnčiarik, E. 2014. 'Some remarks on roman buildings with a „syrian arch“', in E. Hrnčiarik (editor), *Turkey through the eyes of classical archaeologists. 10th anniversary of cooperation between Trnava University and Turkish universities*, 2014, pp. 99-106.

Leon, Ch. F. 1971, *Bauornamentik des Trajansforums und ihre Stellung in der früh- und mittelkaiserzeitlichen Architekturdekoration Roms*. Vienna.

Mar, R. 2002. 'Ostia, una ciudad modelada por el comercio. La construcción del Foro.' In: *Mélanges de l'École française de Rome. Antiquité*, tome 114, n°1. 2002, pp. 111-180.

Pensabene, P. 1977. *Scavi di Ostia VII. I Capitelli*. Rome.

Pensabene, P. 2007. *Ostiensium marmorum decus et decor. Studi architettonici, decorativi e archaeometrici*. Rome.

Rieger, A.-K. 2004. *Heiligtümer in Ostia*. Munich.