



## Filling the voids; Dilemmas and options in the conservation of a Dutch tile panel

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*SUMMARY: At the beginning of 2015 a large 17<sup>th</sup> century tile panel was restored in a project jointly undertaken by the restoration workshop PETRACON and the University of Amsterdam. The 260-tile panel depicts a naval battle made-up of three different tile pictures that have been combined and are flanked by two tile pictures depicting lions. Exceptionally for the Netherlands, the panel used to be located on the outer façade of a building in the historic centre of Amsterdam.*

*Dutch tin-glazed tiles are in principle unsuitable for prolonged exposure to the Dutch climate and no other instances of early tiles being used as external decoration are known in the Netherlands. The tiles were generally in good condition and damage to the tiles was minimal. However, the first and last column of the panel as well as the entire bottom row of tiles and ten columns in the centre of the panel have been lost. Documentary evidence shows that when the picture was in the façade, these losses were filled with single tiles alien to the design. In this paper the ethical considerations of several alternatives for aesthetic reintegration of the missing tiles will be discussed. In the previous location within a museum, blank tiles replaced some of the losses. Although this disruption in the decorative scheme was considered to be disturbing, it was not possible to remake the missing without inventing relatively large areas of the decoration. Furthermore, the creation of new tiles requires considerable technical expertise as well as significant financial resources. The use of transfers and stickers as more cost-efficient alternatives will be discussed and the use of tiles made from plaster of Paris decorated with a schematic representation of the décor is also considered. The restoration of tile pictures poses ethical dilemmas related to their decorative quality and architectural function. The restoration of this tile panel had to deal with a conflict between the conservation of its historical function as a façade decoration and ethical guidelines requiring conservators not to invent decoration for which there is no precise documentation.*

*KEY-WORDS: tile-panel, ethics, missing tiles, fills.*



## INTRODUCTION

Ethical considerations play an important role when deciding on an appropriate treatment for the conservation and restoration of ceramics. Whether a specific choice of treatment is considered to be ethical depends very much on the type of object and its historical and artistic value. Authors including Buys and Oakley have discussed the importance of the 'purpose' of the restoration in this regard, arguing that the treatment may differ if the object is restored as a work of art compared to when it is restored as a document.<sup>1</sup> In principle, ethical guidelines incline conservators to minimal intervention but, as Oakley explains, *restoration and reconstruction of the object can be considered ethical when it reinstates previously lost parts that contribute to the interpretation of the object and its aesthetic impact.*<sup>2</sup> Although tile panels clearly have an important historical and utilitarian value, their main significance lies with their aesthetic appeal. Larger lacunae, especially those involving entire tiles, can be very disturbing to the appreciation of this kind of pictorial panels. Relevant documentary evidence is not always available, making an ethical reconstruction of the missing parts practically impossible. Restoration treatment in such cases varies from taking no action to carrying out full reconstructions, even if documentary evidence is not available.<sup>3</sup> Many authors advocate an approach somewhere in between these two extremes, filling and colouring the missing areas in a minimally disturbing background colour or applying a schematic representation of the missing decoration.<sup>4,5</sup>

In extreme cases, such a large area of a panel might be missing that even such a schematic representation would require too much invention. Mimoso has compared this in tile panels with what the ethical theorist Cesare Brandi might call a 'ruin'.<sup>6</sup> It is often very difficult to define, however, when a panel should be considered a 'ruin' as defined by Brandi. In this article we discuss the case of five separate tile panels that were combined in the past to form one long facade decoration. Although much of the decoration has been lost, the damage is mainly concentrated on two of the panels. During discussions with the parties involved, the documentary evidence was deemed insufficient to support a full reconstruction. However, it could be argued that decoration that is repeated, such as the sky, could be reconstructed with some certainty.

The restoration materials and techniques chosen can also have ethical implications. Many different techniques for filling voids in panels have been suggested.<sup>7,8,9</sup> Which technique is most suitable will vary from object to object. In the final part of this paper possible techniques are presented and the influence the treatment on the tile-panel are discussed.



Figure 1; Overview of the panel before restoration. The image has been digitally combined using Photoshop (photo by the author)



Figure 2; Detail of the left side of the panel before restoration (photograph by the author)



Figure 3; Detail of the right side of the panel before restoration (photograph by the author)



Figure 4 (left); Part of the print by Cleas Janszn. Visccher (Coll. RijksmuseumAmsterdam)

Figure 5 (right); Detail of the panel corresponding to the print. (Photograph by the author)



## A TILE PANEL ON A DUTCH FAÇADE

### The panel in the Rijksmuseum

In 2014 the final stage of the renovation of the Rijksmuseum in Amsterdam was completed. The southern wing where the most important works of the collection had been housed during the main renovation, opened in November of 2014 as the museum's new exhibition wing. During the renovation work, a large 17<sup>th</sup> century tile panel that had adorned the wall of the entrance hall was carefully removed for restoration. The entire panel is almost 7 metres long and consists of 52 columns of 5 tiles. It depicts a naval battle in the centre, flanked by two lively panels of lions (fig 1-3). Part of the naval battle represented, had been taken from a print by Claes Janszn Visscher depicting the battle of the Downs (1639) (fig. 4 and 5). Considering the date of this print the panel has been dated to around 1640. The condition of the panel was poor and many tiles had been lost and replaced with more modern white tiles. However, 185 tiles of the original scene still remained. When the restoration is complete the panel will be remounted for display at a new location in Amsterdam.

Although the panel was part of the interior of the Rijksmuseum, it is owned by the *Koninklijk Oudheidkundig Genootschap* (KOG)<sup>10</sup>. It was donated to the KOG by one of its prominent members Mr. Franken Dzn., in 1879. As a major contributor to the collection of the Rijksmuseum, the KOG was offered its own meeting room in the southern wing in 1917. The tile panel was placed as part of the decoration of the new meeting room. However, as the wing was needed to house the temporary exhibition, the KOG moved leaving the tile panel on the wall.

### The panel before the Rijksmuseum

Until its donation to the museum the panel had been located on the outer facade of a building in the centre of Amsterdam.<sup>11</sup> A watercolour by the painter (and member of the KOG), J. M. A. Rieke from 1877, documents the panel in its original location in remarkable detail (fig. 6 and 7). The fact that the panel was used as a facade decoration is extraordinary. Seventeenth century Dutch tin-glazed tiles are not suited for exposure to the Dutch climate and there are no other surviving instances where such tiles were used in exterior settings within the Netherlands. It is therefore not surprising that this specific panel appears to have been damaged when it was acquired by Franken. The 1879 KOG annual report makes note that 'the piece has been saved from further degradation', indicating that the condition of the panel was not optimal.<sup>12</sup> Ten year earlier, the president of the KOG, Jacob van Lennep, had already written about the panel in a book on shop-signs and commented on the dismal state it was in.<sup>13</sup> In the watercolour, a large part of the central decoration appears to be have been lost and replaced by other tiles alien to the design (fig. 8). When the panel was moved to the Rijksmuseum, most of these extra tiles were replaced by plain white tiles and nine columns of the alien tiles were omitted altogether.

Based on the image in the watercolour one can conclude that about a third of the tiles seem to have been lost over time. There is no clear evidence when the tiles were placed in the facade, but if they were specifically designed for this location and placed soon after their production in the 17<sup>th</sup> century, one would expect the damage and losses to be much higher. The ceramic structure of many of the tiles is inhomogeneous making the tiles even more



vulnerable to deterioration as a result of climatic extremes. If one considers the evidence it seems likely that, although the panel consists of 17<sup>th</sup> century tiles, the panel was not placed in the facade until much later.

## The panel as separate tile pictures

During restoration of the panel, a closer inspection of the tiles revealed that the piece was in fact a combination of five different panels. Obviously the panels depicting the lions stand apart, but as can be derived from the numbering on the back of the tiles, the naval scene consists of three different panels (fig. 9). Numbering is frequently found on the back of pictorial tile panels to make sure that the panel was mounted correctly. As the numbers were fired onto the ceramic body, there is no reason to believe that they were a later addition and can be assumed to show how the panel was originally arranged. Due to the numbering, many tiles that were misplaced when the panel was moved to the Rijksmuseum could be returned to their original location in the panel. However, the rearrangement of the tiles created new voids in the scheme of the panel.

The conclusion that the panel consists of five different panels, rather than having been designed as one, is further supported by differences in the ceramic bodies of the tiles. The ceramic of the lion panels is very homogenous whereas many tiles from the central panels still show the lamellar structure that results from insufficient mixing of clays common in the first half of the 17<sup>th</sup> century. This suggests a difference in age and/or provenance between the different panels.<sup>14</sup>



Figure 6; Watercolour by J. M. A. Rieke showing the panel on the façade. 1877 (collection KOG)



Figure 7; Watercolour by J. M. A. Rieke showing the panel

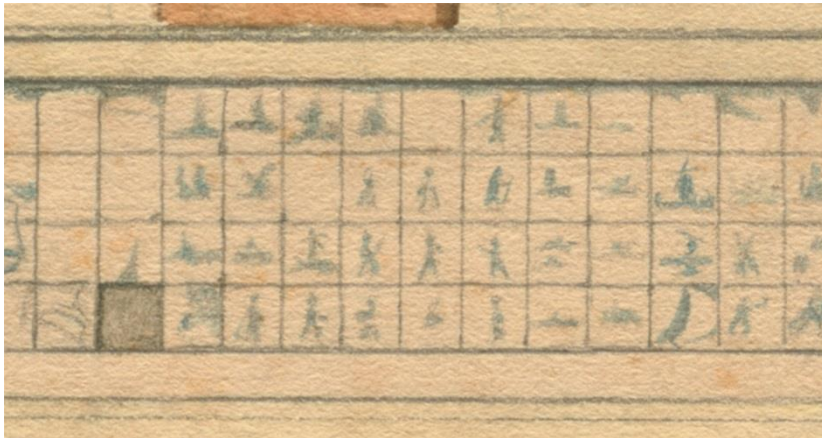


Figure 8; Detail of the watercolour by J. M. A. Rieke. In the centre missing tiles have been replaced with other 17<sup>th</sup> century tiles alien to the décor. 1877 (collection KOG)

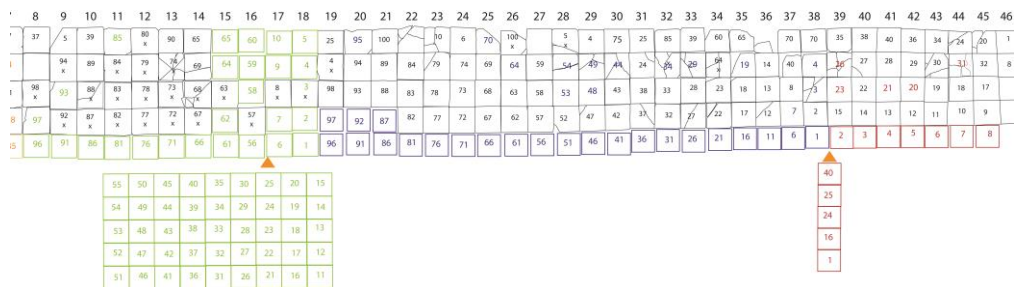


Figure 9; Numbering scheme on the back of the tiles of the naval scene. The tiles shown in colour are missing. The difference in colours indicates the separate panels.



## FILLING THE VOIDS

### Dilemmas

As the restoration of the panel proceeded, the missing tiles became more obvious. Any conservator will understand the problem that damages or missing areas that were not obtrusive before the restoration become more conspicuous after restoration as the eye is no longer distracted by the previous imperfections. In this case, the rearrangement of the tiles further aggravated the problem, as the missing tiles were no longer grouped together, but became scattered throughout the panel. If one regards the panel as one piece about a third of the original tiles can be considered to be missing.

Various solutions have been found to fill the missing tiles during the history of the panel. Obviously, when the panels were designed and produced as separate tile pictures, they were complete. However, the watercolour shows that by 1877 other tiles alien to the design, had taken the place of a large number of missing tiles. (fig. 8) These replacements included tiles with images of windmills and soldiers probably dating from the 17<sup>th</sup> century. When the panel was moved to the meeting-room of the KOG in 1917, these alien tiles were removed and partially replaced by modern white tiles. While rearrangement of the tiles enabled some of the voids to be filled, a large area in the centre of the panel was left blank.

When deciding on an ethical approach to the current restoration of the panel many factors had to be taken into account. Writers on ceramic restoration such as Oakley state that the appropriate treatment is directly related to the 'purpose', of the restoration.<sup>15</sup> Should the historical or artistic value of a work be restored? As mentioned before, tile panels have both an obvious utilitarian and historical value, but a significant value lies in their aesthetic appeal as an artwork. In the case of this panel, documentary evidence adds significantly to its historical value. In the following section we will discuss how these different 'values' influenced the options considered to restore the panel in an ethical manner.

### Historical value

As possibly the only example of a tile panel used as exterior decoration in the Netherlands, the panel has a clear historical value. The watercolour by J. M. A. Rieke adds to this value by depicting the panel in a unique historical context. If the panel had indeed been decorating the facade for three centuries, its historical value as an architectural element in the Amsterdam cityscape is clearly of great importance. There is some circumstantial evidence that suggests that the panel might have been produced and placed in the facade by Hayé Esdré, a tile manufacturer from Amsterdam.<sup>16</sup> If proven, these tiles would be the first to be attributed to his factory, further adding to the historical value of the piece as an architectural element. However, there are serious doubts concerning this provenance.<sup>17</sup>

The watercolour by J.M.A. Rieke provides the documentation needed to restore the panel to its state as a facade decoration. The painting provides just enough detail to be able to distinguish with some certainty which alien tiles were used to replace the missing tiles. As such simple pictorial tiles were produced in large quantities in the 17<sup>th</sup> and 18<sup>th</sup> centuries, it would be possible to find similar tiles and replace them in the panel. In practice this would mean however that the panel would become over 1,5 m longer and 13 cm higher as 12 columns and one row would have to be added to the panel.



Another option would be to restore the panel to its 'original state' as a decoration in the meeting-room of the KOG. As a society the KOG has played an important role in the conservation of Dutch cultural heritage. Their acquisition of the panel and the subsequent display in their meeting room is interesting historically, providing an example of early cultural heritage protection in the Netherlands.

When restoring the panel to this state, the missing tiles would be replaced with white tiles without any decoration. There are, however, some ethical difficulties concerning this approach. The most obvious of these is the fact that many tiles were deliberately misplaced in 1917 to fill the gaps left by missing tiles. Due to the numbering on the back of the tiles, all but three of these tiles could be returned to their original location. Misplacing these tiles again on purpose, conflicts severely with the ethical requirement as stipulated by ECCO to preserve the historical integrity of the object.<sup>18</sup>

Another problem is created by the choice of tiles to fill the remaining voids. In 1917 modern tiles were used with a very different hue and tonality than the 17<sup>th</sup> century tiles. Replacing these with contemporary tiles that are less distracting is more in line with current practice in restoration, but conflicts with the idea of restoring it to its historical state as an early acquisition of the KOG.

Finally, and most problematic, the KOG did not restore the panel in 1917 and chose to display it in its battered state. By having commenced and almost finished the restoration it is now no longer possible to truly return to this state of the panel without undoing the restoration work.

Of course it is also possible to regard the panel not as one piece, but as five distinct panels. As the panels were obviously not designed as one, it seems reasonable to assume that they were only assembled on the facade after their production. Thus it is possible the panels only functioned as a facade decoration for a short time. A much shorter exposure to the Dutch climate would also better explain the relatively good condition of the tiles. The historical level of the separate panels is negligible compare to the historical value the panel would have as an exterior architectural decoration. However, artistically the value of the separate panel greatly exceeds their historical value. This is especially the case with the two panels of the lions that are exceptional both in technique and style. Theoretically, though the idea has been discarded during discussions on the treatment options, restoring the panels to their first state implies that they can also be displayed as separate pieces. Its architectural history would be ignored in this way, but the individual panels could largely be restored aesthetically.

## Artistic value

Thus, restoring the panels to their earliest 'original state' involuntarily implies a shift in focus from the historical to the artistic value. Much has been written on the decision to restore the artistic value of ceramic objects.<sup>19,20</sup> Although there seems to be a consensus in the conservation literature on the desirability of minimal intervention, in practice treatments often involve full reconstructions of form as well as decoration. The charter of Venice states that *restoration ends where hypothesis begins*, but the boundaries between hypothesis and an educated guess are often unclear.<sup>21</sup> This means that some conservators will fill-in a





decoration on a filling where others might just have continued a repeating border pattern. By leaving a blank area where the decoration is uncertain, it is easier to distinguish the filling as a later addition. However, replacing missing tiles with blank tiles could be considered to be re-inventions in themselves, especially if such elements as background and border are retouched-in to make the blank tiles 'blend' in with the rest of the piece. Although the educated observer might not be fooled, members of the general public might not make the distinction so easily.

The amount of damage and consequent possibilities to restore the artistic value of the panels varies greatly between the individual panels. The two lion panels as well as the third naval panel are almost complete, missing only the outer rows of tiles. Even without these tiles the panels depicting the lions are formidable pieces and the restoration of their artistic value could arguably be achieved without replacing the missing tiles. In the case of the third naval panel, documentary evidence shows that the one missing tile on the left side of the panel appears to have contained no important decorative elements enabling it to be replaced with a white tile of a similar hue as the other tiles of the panel.

However, the two remaining naval panel are more problematic. The missing lower row appears to have contained an important part of the decorative scheme. For the first of these panels a corresponding print by Claes Janszn Visscher could be identified but, frustratingly, the tile panel is not a direct copy. Rather, it seems that the artist has taken elements from the print and used them in a new composition. Only one of the 67 missing tiles of this panel could be reproduced with some certainty based on the existing print. No corresponding print of the second panel has yet been found, although it seems to depict the same battle.

## Options for restoration

Due to the lack of documentary evidence it is impossible to restore the full artistic value of two of the central panels. However, the disruption in the decorative scheme caused by using white tiles to replace the missing areas was considered disturbing. As mentioned earlier, the voids greatly distract the viewer from the main picture making it difficult to 'read'. The viewer is confronted with a damaged tile panel, rather than seeing an impressive piece of applied art.

Unfortunately throughout the entire panel, the lower row of tiles cannot be restored, but many elements that are missing in the central areas of the panel could be reconstructed based on the surrounding decoration. This most obviously applies to the tiles that are missing in the sky areas. The exact shape of the missing clouds might not be known, but it can be reasonably assumed that a missing tile in the sky would have depicted clouds in the style in which the others were painted. Similarly the skyline could be continued based on the other tiles depicting the skyline. It could also be argued that with 30 ships in the decoration to go by, even missing areas that would have depicted parts of ships in the foreground could be reconstructed. Such reconstructions may be hypothetical, and considered unethical by some, but they would make the tile picture 'readable' and restore the aesthetic appeal of the panel.

Naturally the extent to which such reconstructions should create an illusionistic finish is debatable. It could be quite possible to achieve a less disturbing result by using the pictorial reconstructions to merely *suggest* the way the decoration could have been. On the other hand, a more illusionist reproduction could be considered if there is sufficient documentary



evidence to support it. In such a case, the restoration of a missing tile could be compared with the treatment of a missing corner of a single tile. During the restoration of this panel it was considered acceptable to fill and retouch the missing area almost invisibly. The same approach could be taken with the panel's missing tiles where evidence of the missing decoration is available. In the following section we will discuss some of the options that were considered for the replacement of the missing tiles. In order to provide a clear comparison, all the replicas were made of the one specific tile where documentary evidence made a full reconstruction possible.

## Ceramic tiles

The use of ceramic fills in restoration is not a common practice as it requires much skill and expertise, although its use in restoration is not unknown, especially in the restoration of tiles in an architectural context.<sup>22</sup> The time required to achieve an acceptable result makes it a costly technique. The results can, however, be very impressive (fig. 10 and 11). There is the advantage of being able to preserve the material integrity of an object. However, the distinction between the original and the restoration can become less obvious. Ceramic tiles less difficult to recreate than other ceramic objects and biscuit tiles can be easily purchased in many ceramic supply shops. On the other hand, the gloss of the glaze and the hue of the colours, are extremely difficult to reproduce as they are not only influenced by the composition of the ceramic and colouring oxide, but also complex chemical processes that take place during firing. One could argue that a mismatch in colour is not problematic as it enables the viewer to clearly distinguish between the original and the new tiles. Thus, if the primary requirements such as a kiln and raw materials are available, a ceramic replica might well be a good choice for a replacement tile within a panel. Figures 10 and 11 show an example of a tile made at the University of Amsterdam using basic materials bought at a local ceramic supply shop.



Fig. 10 and 11; Ceramic reproduction before and after firing. (photograph by the author)

## Stickers and Transfer Printing

The use of stickers and transfers have been suggested as a cost efficient ways to reproduce decorations on existing ceramic bodies. As with reproducing a ceramic tile, this method has the advantage of maintaining the material integrity of a ceramic object. By using



contemporary 17<sup>th</sup> century white tiles it is even possible to preselect tiles that correspond in hue and tonality with the other tiles of the panel. Furthermore it is easier to adjust the colours of the decoration so that they correspond better with the rest of the panel. The printing of stickers is easy, only requiring a computer with image editing software and an inkjet printer. Sticker sheets can be bought from paper and office supply shops. Transfer printing is more complicated and costly, requiring a ceramic printer. After application, the objects have to be fired in a kiln in order to fix the transfer onto the ceramic. The firing process makes transfers very durable, but irreversible.

Transfers, when fired on a ceramic tile similar to the other tiles of the panel, can give good results whereas reconstructions made with stickers do not have the same quality of finish. The materials used for stickers depend on the manufacturer and the often long-term aging properties are unclear. Both techniques have one major drawback in that it is extremely difficult to reproduce the effect of a hand-painted decoration in an image-editing programme. The technique is more promising for ceramics that were originally produced using transfers rather as opposed to hand-painted unique tiles. On the other hand, a suggestive decoration that does not aim to reproduce the hand-painted quality of the original could be achievable using these techniques.

## **Tiles of Plaster of Paris**

Used frequently for fills in single tiles, plaster of Paris is a logical choice of material for many restorers when recreating entire tiles to 'fill' a panel. The qualities that make it a good fill material for ceramics have been described extensively elsewhere.<sup>23 24</sup> Its hydrophilic nature, its relative low hardness, and the fact that it contains sulphates however, make plaster of Paris less suitable for tiles that are mounted directly onto a wall without any barrier, or are situated outside a controlled museum environment. The panel discussed in this paper will be displayed in an indoor setting and could be mounted on a *Hexlite*® panel eliminating any problems relating to the use of plaster of Paris for the fills.

The modelling of an extra tile with plaster of Paris proved simple and fast, requiring just two sheets of dental wax modelled around an existing tile into which the plaster was then cast. The resulting plaster tile was treated as any consolidated with *Golden acrylics porcelain glaze*® and retouched using *Golden acrylics*®. It was finally coated with *Golden acrylics porcelain glaze*® again to simulate the glaze layer.

The result closely matched the appearance of the surrounding tiles. However, it proved difficult to create a matching colour due to the effects of metamerism. The reconstructed tile appeared much more purple under TL-lighting compared to its appearance in daylight.



Figure 12; A reproduction tile made with plaster of Paris. Due to the effects of metamerism the colour is too purple compared to the surrounding tiles. (photograph by the author)

## DISCUSSION

The tile panel discussed in this paper has presented unique challenges due to its complex and sometimes vague historical background. While other tile panels may present similar challenges, it is important to note that the final choices the conservator makes will vary with each different case. Depending on the circumstances, the historical value of a panel may take precedence over its artistic value in which case a minimal intervention is preferable. In such cases a tile panel will function as a document of a specific point in time rather than as a ceramic artwork. The panel discussed in this paper could have been regarded as a historical document of a particular approach to conservation as applied by the KOG when installing the panel in 1917 in a state of repair. In this case the individual tiles would ideally remain unrestored.

The decision as to which particular 'value' of a tile panel takes precedence is the result of discussion between all parties involved. It is important to consider the destination of the panel. In the case discussed here, the panel will again be displayed as a decorative architectural element. This has resulted in the choice for an end result where the aesthetic finish rather than a documentary option has taken precedence. It is the role of the conservator to be aware of all the options and explain the broad range of possible solutions



that are possible. Factors such as the availability of documentary evidence as well as time and cost considerations, have an influence in determining the possibilities for the treatment.

At the time of writing, the discussion between the parties involved has not yet reached a final conclusion regarding the missing tiles. As the restoration process proceeded, the views and ideas concerning the final outcome have continuously developed. This has been the result of a growing understanding of the possibilities. With the restoration of the individual tiles completed, the voids have become more conspicuous. Now a final assessment can be made concerning the approach to replacing the missing tiles.

## CONCLUSIONS

*Restoration ends where hypothesis begins*<sup>25</sup>. In the case of the restoration of the panel discussed in this paper, the desire to follow this ethical guideline has often conflicted with the desire to restore the object's aesthetic integrity. Although the panel has a value as an historical document, there are serious issues with restoring it with this in mind. Its historical value as an architectural element is doubtful and its historical function as an early acquisition by the KOG is limited. However, artistically the separate panels, and in particular the two panels depicting lions, have sufficient value to merit the restoration of the aesthetic quality of the object. On the other hand the panels depicting naval scenes are missing so many tiles in their decoration that they cannot be restored aesthetically without a significant amount of invention. If the panel is presented as one piece, the voids in the two severely damaged naval panels would severely influence the appreciation of the other panels.

There are many ways of reproducing missing tiles. The use of stickers and transfer printing on modern ceramic tiles preserve the material integrity of the object, but are less suitable for reproducing the quality of a hand-painted finish. Firing ceramic replicas is also an option, but controlling the end result requires considerable expertise and is expensive in time. 'Filling' the missing areas with tiles made of plaster of Paris and retouching the decoration provides the conservator with a cost-efficient option, although it is only suitable for tiles that are displayed in a very stable climate. Hand-retouching with suitable media gives the conservator more control over the outcome and the final result is easily distinguishable as a later addition, although the colour of a retouch can change in different light conditions.

The decorative and historical values of tile panels can be in conflict when trying to find an ethical approach for restoration. When considering this, every tile panel is different and the choices have to take into consideration not only which 'value' takes precedence, but also the future function and placing of a panel. Also to be taken into account are the cost and time limitations as well as the material options available to the conservator. The outcome should always be the result of thorough discussion between all parties involved.



## Acknowledgements

Femke Diercks (Rijksmuseum Amsterdam), Isabelle garachon (Rijksmuseum Amsterdam), Charlotte van Rappard (KOG), Miekie Donner (KOG), Marie-Rose Bogaers (Hendrick de Keyser Stichting), René Peschar (University of Amsterdam), Luc Megens (Rijksdienst Cultureel Erfgoed), Roosmarijn van Beemen (Rijksmuseum Amsterdam), Anaïs Braja (Rijksmuseum Amsterdam).

Koninklijk Oudheidkundig Genootschap, Hendrick de Keyser Stichting, Rijksmuseum Amsterdam

## Bibliographic references

- <sup>1</sup> BUYS, S., V. Oakley - *The Conservation and Restoration of Ceramics*. first edition. Butterworth-Heinemann Ltd., Oxford, 1993.
- <sup>2</sup> OAKLEY, V. - *Ethical considerations in the Conservation of Ceramics*. VDR Beiträge, no. 2, 2006, pp. 49-56.
- <sup>3</sup> TICHELAAR, P.J. – *De Restauratie van een Tegeltablauw*, in Vormen uit Vuur. Mededelingenblad van de Nederlandse Vereniging Vrienden van Ceramiek en Glas, no. 144, 1992/1, pp.53-60.
- <sup>4</sup> BUYS, S., V. Oakley, 1993.
- <sup>5</sup> MIMOSO, J. M. - *Cesare Brandi's "Theory of Restoration" and azulejos*. In International Seminar "Conservation of Glazed Ceramic Tiles. Research and Practice, National Laboratory of Civil Engineering, Lisbon, April 15-16, 2009.
- <sup>6</sup> BRANDI, C. - *Principles for a Theory of Restoration* (original title: *Principi di Teoria del restauro*), Translation by Annalisa D'Amico, 1977.
- <sup>7</sup> COLHER, I. - *About the Use of Replicas in two Tile Panels from the 17<sup>th</sup> and 18<sup>th</sup> Century*, In International Seminar "Conservation of Glazed Ceramic Tiles. Research and Practice, National Laboratory of Civil Engineering, Lisbon, April 15-16, 2009.
- <sup>8</sup> VIANA, A. S., F. Duarte and N. Proença - *Chapel of Nossa Senhora da Piedade, at Oporto Cathedral: an Alternative Methodology for Filling Losses on Glazed Ceramic Tile Panels*, In International Seminar "Conservation of Glazed Ceramic Tiles. Research and Practice, National Laboratory of Civil Engineering, Lisbon, April 15-16, 2009.
- <sup>9</sup> SCHINKEL, M. van - *De Restauratie van een Achttiende-Eeuws Tegeltablauw*, Vormen uit Vuur. Mededelingenblad van de Nederlandse Vereniging Vrienden van Ceramiek en Glas, no 159, 1996/3, pp. 14-19.
- <sup>10</sup> Royal Society for Antiquities; Founded in 1858 the society functioned as a heritage trust *avant la lettre*, collecting and exhibiting Dutch national heritage in all forms. Today the society owns a vast collection of objects of historical and artistic value, most of which are on permanent loan to museums throughout the Netherlands. The largest part of the collection is housed in the Rijksmuseum in Amsterdam.
- <sup>11</sup> Tweede Boomdwarsstraat 8-10, Amsterdam
- <sup>12</sup> LENNEP, H. J. van, Jaarverslag in de een en twintigste algemeene vergadering, op maandag 26 mei 1879, Koninklijk Oudheidkundig Genootschap. Amsterdam, 1879
- <sup>13</sup> LENNEP, J van en J. ter Gouw, *De uithangteekens, in verband met geschiedenis en volksleven beschouwd* (2 delen). Gebroeders Kraay, Amsterdam, 1868. P.276



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- <sup>14</sup> DAM J.D. van - *The Difference Between Dry and Wet Clay Mixing and the Effect on the Deterioration of Dutch Tiles*, In *The Conservation of Glass and Ceramics. Research, Practice and Training*, Tennent, N. H. ed., James & James Ltd., London, 1999, pp.146-149.
- <sup>15</sup> OAKLEY, V, 2006
- <sup>16</sup> Hayé Esdré owned the house when the panels with the naval battle were probably made, but there is no evidence that the panel was placed on the facade at the same time. His ownership of the house might only be a coincidence.
- <sup>17</sup> These include the relatively small amount of damage compared to what might be expected if the panels had been exposed for three centuries. Furthermore, based on their ceramic body, the panels seem to be of varying age, making it unlikely that they were conceived together as one architectural element.
- <sup>18</sup> European Confederation of Conservator-Restorers' Organisations - *E.C.C.O Professional Guidelines*, <http://www.ecco-eu.org/about-e.c.c.o./professional-guidelines.html>, last checked: 23 April 2015.
- <sup>19</sup> BUYS S. and V. Oakey, 1993
- <sup>20</sup> KOOB, S. - *Restoration Skill or Deceit: Manufactured Replacement Fragments on a Seljuk Lustre-glazed Ewer*, In *The Conservation of Glass and Ceramics. Research, Practice and Training*, Tennent, N. H. ed., James & James Ltd., London, 1999, pp.156-166.
- <sup>21</sup> International Charter for the Conservation of Monuments and Sites (the Venice Charter 1964), IInd International Congress of Architects and Technicians of Historic Monuments, Venice, 1964. ([http://www.icomos.org/charters/venice\\_e.pdf](http://www.icomos.org/charters/venice_e.pdf))
- <sup>22</sup> See for instance Colher, I., 2009, and Koob S., 1999
- <sup>23</sup> DURBIN, L. *Architectural Tiles*, 2011 edition, Routledge, New York, 2011.
- <sup>24</sup> BUYS, S and V. Oakley, 1993.
- <sup>25</sup> International Charter for the Conservation of Monuments and Sites (the Venice Charter 1964)