

Material monumentality or virtual multiplicity

The palace facade of Tell Halaf as part of the reconception of the Museum of the Ancient Near East

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Abstract: The upcoming restoration of the Pergamonmuseum in Berlin provides the Museum of the Ancient Near East with an opportunity to create a new concept for its exhibition space. Amongst other changes, it will include the integration of the entrance facade of the Western-Palace of Tell Halaf in northeastern Syria. According to the famous reconstruction from 1930 in the former Tell Halaf-Museum, three main parts existed, each consisting of a base animal carrying a standing statue of a god with a head pillar. Research related to the restoration of numerous stone sculptures from Tell Halaf has shown that this reconstruction is not tenable. At the same time, new considerations regarding the architecture of the facade uncovered hitherto unconsidered alternatives. Now, the museum has to decide whether to use a reconstruction, which has been proven wrong, but due to its fame is already a monument in its own right, or to portray the variety of possible interpretations simultaneously according to modern methodological and didactic concepts. A first step in this direction was the presentation of the facade in the Bundeskunsthalle in Bonn, where different possible reconstructions were alternately projected on canvas sheets placed in front of the base animals. A continuation of this approach could be a mixture of a material reconstruction of secured components and a virtual projection of different proposals for the unsecured sections. Recent developments in holography and 3D high performance space projections make this a viable solution, even taking into account the special requirements in the Pergamonmuseum regarding object dimensions, brightness and visitor numbers. The tradition of architectural reconstructions in the Museum of the Ancient Near represents a special challenge in this case, as such a hybrid solution would have to stand in contest with famous traditional reconstructions such as the Pergamonaltar and the Ishtar-Gate.

Keywords: museum concept, architectural reconstruction, augmented reality, volumetric display, Tell Halaf

Introduction

As part of the extensive renovations of the Pergamonmuseum, a fourth wing will be added to close the circuit through the museum. The palace facade from Tell Halaf will find a new home in this new light-filled connecting building, as part of an Ancient Architecture Tour. In the tradition of the famous one to one scale reconstructions, based on the exhibition concept by Walter Andrae, it was planned to rebuild the palace facade as Max von Oppenheim did in 1930. However, recent studies have shown that this reconstruction is strongly idealized and therefore untenable.

The aim of this technical feasibility study is to present and discuss alternatives to the von Oppenheim reconstruction: material solutions as well as virtual or a mixture of both. The considerations take place in the special light of Andrae's exhibition concept. For that reason general aspects of museum studies or digital 3D reconstruction (BEGAND 2008; WITTUR 2013) are not considered.

The basic requirements for all approaches to a solution are the one to one scale presentation of the palace facade, as it also applies to the other stations of the Ancient Architectures Tour and the accessibility of the reconstruction. The technical feasibility of all potential solutions will be investigated as well as their compliance with Andrae's exhibition concept. Further criteria for their suitability are the transfer of knowledge about the reconstruction and its uncertainties as well as the perceptibility in an immediate or mediate way.

Walter Andrae and the Museum of the Ancient Near East

Founded in 1899 as Near Eastern Department, the Museum of the Ancient Near East is located in the Pergamonmuseum on Berlin's Museum Island since 1930 (VORDERASIATISCHES MUSEUM 2000, pp. 7, 11–12). The exhibition includes exhibits from 7 millennia of Near Eastern culture, especially from the present states of Iraq, Syria and Turkey. Until now the exhibition is predominantly characterized by the architectural staging of Walter Andrae.

Andrae, an architect and building researcher, is mainly known through the excavations in Assur, which he headed from 1903 to 1914. In 1928 he was appointed director of the museum, over which he presided until 1951.

According to Andrae ancient oriental art found its supreme law not in beauty but in meaning (ANDRAE 1934, p. 46). It didn't primarily follow aesthetic considerations, but the laws of symbolism. This belief plus the principle of combining space and content influenced his didactic considerations and built the foundation of his exhibition concept. This in turn manifests itself mainly in four basic elements:

First Andrae attached great importance to all-glass showcases, which allowed exhibits to be looked at from all sides (Fig. 1). Furthermore he had a special colour concept, enhancing the effect of the exhibits (ANDRAE 1988, pp. 279–280). Additionally, up to 10 by 3 m large murals of excavation landscapes at the time of the excavations played a special role in his concept. They were meant to introduce the mood and the size of the ruin landscape (ANDRAE 1988, p. 282).

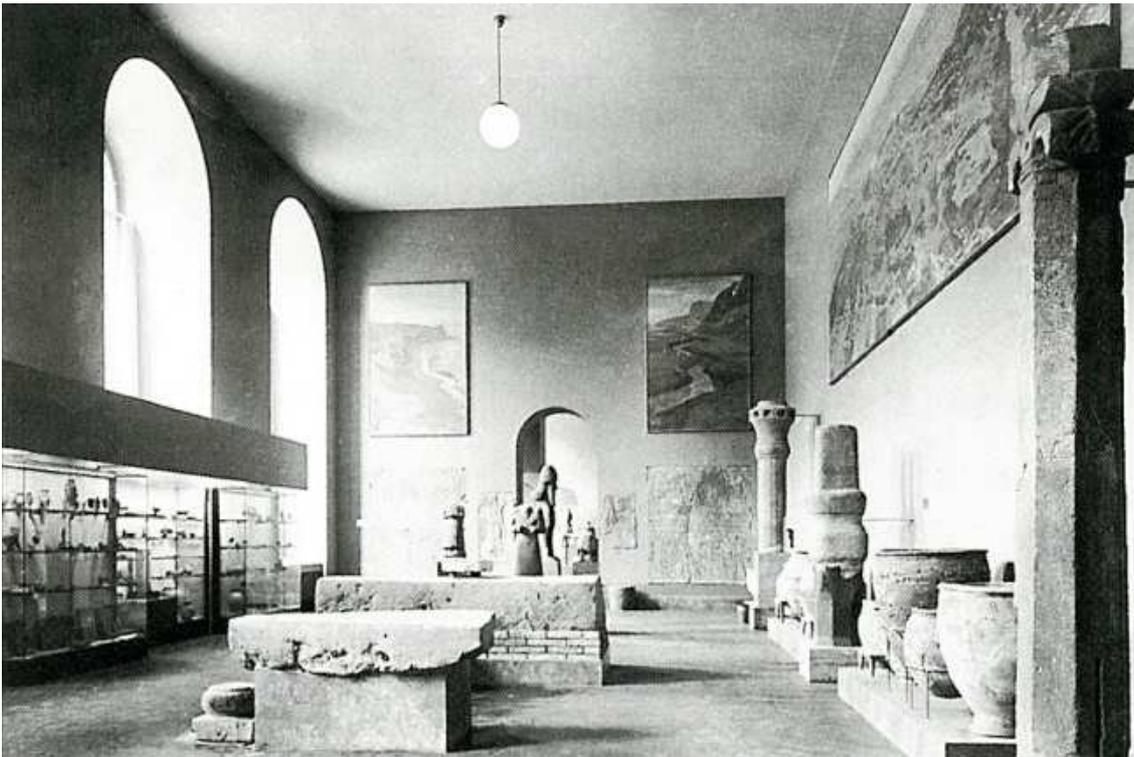


Fig. 1 – Assyrian Room with all-glass showcases and large murals of excavation landscapes in 1934 (Copyright: Vorderasiatisches Museum, Staatliche Museen zu Berlin – Preußischer Kulturbesitz, Berlin)

The final important component of the concept were the architectural reconstructions. Especially important to Andrae was their presentation at a one to one scale, as he thought the imagination of visitors insufficient to capture the true dimensions of the architecture on the basis of pictures and models alone (ANDRAE 1934). The Ishtar Gate (Fig. 2) and the Processional Way of Babylon were back then, and still are, the heart of the exhibition. However, also in the other halls of the museum the one-to-one reconstructions stand for the success of the didactic concept, such as the castle gate from Sam'al or the Karaindash facade from the Inanna Temple in Uruk.

The upcoming restoration of the Pergamonmuseum provides the Museum of the Ancient Near East with an opportunity for expansion and the integration of the recovered collection Max von Oppenheim, including the entrance facade of the so-called Western-Palace of Tell Halaf.

The palace facade of Tell Halaf

Tell Halaf, the ancient city of Guzana and in the early 1st millennium B.C. the capital of an Aramaic principality called Bit-Bahiani, is located in north-eastern Syria, just a few hundred meters away from today's Syrian-Turkish border (BECKER/NOVÁK 2012, pp. 221–233). Extensive excavations in Tell Halaf took place under the direction of Max Freiherr von Oppenheim from August 1911 to August 1913 and again in spring 1929. One of the main buildings on the citadel was the Western-Palace, which was built at the turn of the 10th to the 9th century B.C. and dates back to the Aramaic ruler Kapara. From its magnificent entrance facade (Fig. 3) three base animals, two embrasure sphinxes and a great number of orthostates were found in situ

(LANGENEGER et al. 1950, pp. 54–71). In its surroundings the excavators discovered parts of several collapsed statues.



Fig. 2 – One-to-one reconstruction of the Ishtar Gate in the Museum of the Ancient Near East (Copyright: Vorderasiatisches Museum, Staatliche Museen zu Berlin – Preußischer Kulturbesitz, Berlin, Foto: Olaf M. Teßmer)

As assemblages were often divided at the time a great number of finds, including the parts of the palace facade, were brought to Germany. Originally, the finds should have been presented in the Near Eastern Department of the National Museums. But due to bureaucratic and financial difficulties von Oppenheim had to decide upon a private exhibition in a former machine factory in Berlin-Charlottenburg, which opened in 1930 (CHOLIDIS/MARTIN 2002, p. 43).

Von Oppenheim divided the exhibition space of his Tell Halaf-Museum into two halves (CHOLIDIS/MARTIN 2002, pp. 44–45). In the first of two main rooms (Fig. 4), the stone reliefs and sculptures were presented as pure artwork, namely in the condition in which they were found. In the second main room the reconstructed entrance facade stood in the centre. Von Oppenheim built it up using plaster replicas and reconstructed it as an ensemble of three base animals, carrying statues of Gods with high head pillars, on which the entablature of the passage rested. In contrast to the originals on the replicas blemishes had been supplemented to reflect condition true to the primal condition.



Fig. 3 – The palace facade as it was found in 1911 (Copyright: Archiv der Max Freiherr von Oppenheim-Stiftung, Köln)

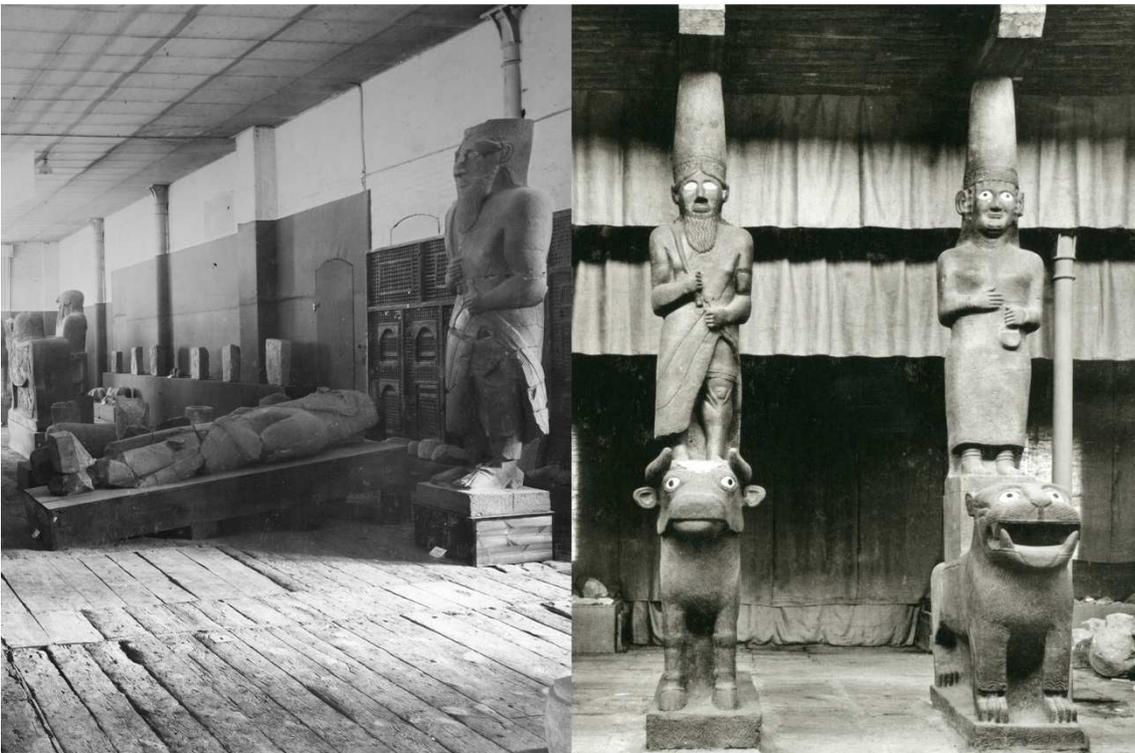


Fig. 4 – The two main rooms of the TellHalaf-Museum. In the first room the stone reliefs and sculptures were presented as pure artwork, in the second the reconstructed palace facade stood in the centre (Copyright: Archiv der Max Freiherr von Oppenheim-Stiftung, Köln)

From about the end of the 30s Walter Andrae contemplated how to integrate the Tell Halaf collection into the Museum of the Ancient Near East. In an undated memo concerning the palace facade he wrote that the Near

Eastern Department is arranged under the aspect of setting large- and small-scale sculpture in a lively relationship to the architecture. So the given space for the facade is on the south-eastern side of the southern wing, currently dominated by the smooth wall with stone slabs. He visualized the front facing to the northeast, not to the canal (CHOLIDIS/MARTIN 2002, p. 58).

During an air raid in November 1943, the Tell Halaf-Museum burned to the ground and the numerous basalt sculptures burst into thousands of small fragments. In 1944 they were rescued and stored in the cellars of the Berlin Museum Island.

A restoration project– which had been thought impossible up to that point – succeeded to re-assemble numerous architectural parts and 30 sculptures out of 27,000 basalt fragments between 2002 and 2009 (CHOLIDIS/DUBIL 2011, pp. 299–307), finally shown in the exhibition “The Rescued Gods from the Palace of Tell Halaf” in 2011 in the Pergamonmuseum.

Reconception of the Museum of the Ancient Near East

State of planning

In 1990 it was decided to concentrate the archaeological collections on the Museum Island as part of the reunification of the museums of East and West Berlin. In 1999 followed the Master Plan Museum Island, which provided the renovation of existing buildings, as well as the structural summary of the individual houses in a common museum complex and the reorganization of the till 1990 split collections (WEDEL 2002, p. 151–155). The reopening of the Museum of the Ancient Near East is planned for 2025. The newly built reception and entrance building in front of the Neues Museum, where the new entrance to our museum is located, is important as well as the planned fourth wing of the Pergamonmuseum (Fig. 5), which will enable a closed circuit for the first time.

In the bright connecting building, designed by Oswald Mathias Ungers, exhibits of the Egyptian Museum will find their place, as well as the palace facade from Tell Halaf (Fig. 6), representing the transition between the new construction and the head room of the southern wing (MARTIN 2011, p. 397). But, in contrast to the reconstruction in the former Tell Halaf-Museum, the intention this time is to build up the facade using preserved original parts as much as possible.

However, due to the results of the restoration project, this plan is to be challenged. As written before, von Oppenheim reconstructed the facade as an ensemble of three statues of gods with high head pillars, standing on base animals. While the bases were found *in situ*, the statues lay between collapsed parts of the building, several meters away from the entrance. Additionally, the fit between bases, statues and head columns was strongly idealized in von Oppenheim’s reconstruction (CHOLIDIS/DUBIEL/MARTIN 2010, pp. 346–354). Therefore, this composition is untenable and the question of alternative solutions appears obvious.



Fig. 5 – Pergamonmuseum with the planned fourth wing (Copyright: Stiftung Preußischer Kulturbesitz, Berlin/ART+COM, Berlin)



Fig. 6 – The palace facade representing the transition between the new and the southern wing (Copyright: Bundesamt für Bauwesen und Raumordnung, Berlin)

Alternative solutions

A first alternative could be, not to rebuild the facade as a reconstruction of the entrance to the Western-Palace, but as a reminiscence to the former Tell Halaf-Museum, after all with replicas again and with parts of the wooden floor and the factory hall ceiling of the destroyed building. Nevertheless such a concept might hardly disclose itself to the visitors without detailed explanations.

A second possibility would be to build up only the parts that are secured by findings, meaning only the embrasure sphinges, the base animals and some of the orthostats adjoining to the passage. But this certainly "honest" solution would be contrary to Andraes intension to give visitors an idea of the monumentality of the installation.

An interesting solution to the problem was offered by an exhibition about Max von Oppenheim in the Art and Exhibition Hall in Bonn, where the group of figures could be seen in 2014 (GRELLERT/SCHMID 2015). The statues of gods were not placed on the base animals but on standing platforms at the back (Fig. 7). On Canvas sheets, which were hung in front of the base animals, various alternatives for the composition – for example, with columns instead of statues – were projected in alternation.



Fig. 7 – The palace facade presented in an exhibition in the Art and Exhibition Hall in Bonn in 2014 (Copyright: Marc Grellert)

Augmented Reality

Taking up the last idea and attempting to transfer it into the third dimension, one inevitably ends up with solutions from the area of augmented reality and volumetric displays. In both cases, only parts based on direct evidence – base animals, embrasure sphinges and adjoining orthostats – would be rebuilt as well as the almost reconstructable entablature of the gate.

The unsecured parts - statues, columns with or without capitals, made by stone or wood - could be added in alternation virtually by head-mounted displays (Fig. 8). The visitors could move freely in the passage area, while looking at the various options from all perspectives. But considering the number of visitors in the Pergamonmuseum and the therefor needed quantity of head-mounted displays, the practicability of this solution is doubtful.

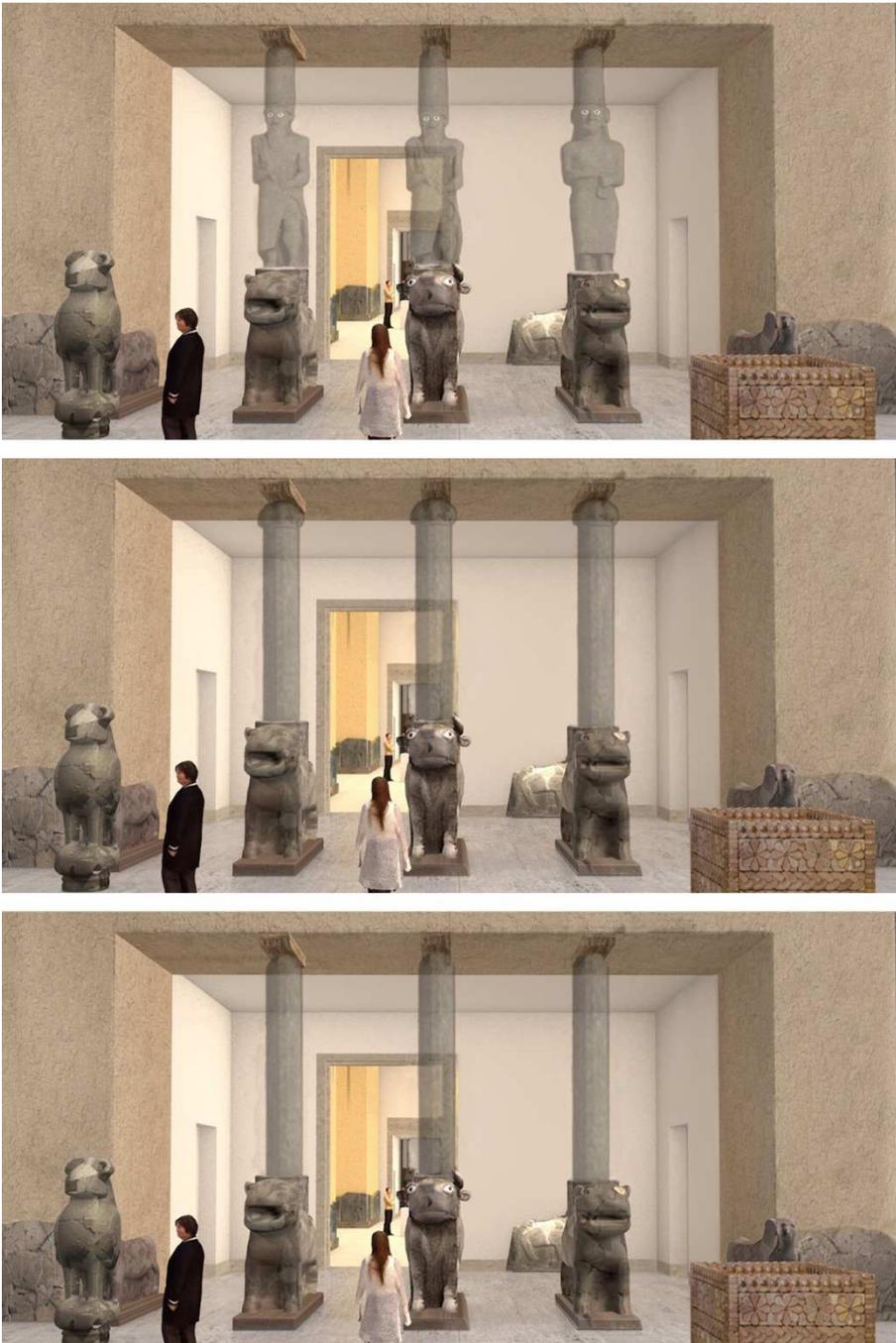


Fig. 8 – Augmented reality gives the opportunity to present different solutions for the unsecured parts in alternation (Copyright: Bundesamt für Bauwesen und Raumordnung, Berlin/Tell Halaf-Ausgrabungsprojekt, Berlin)

The next approach would circumvent this problem. In times when the majority of museum visitors have smartphones or tablets, it would be possible to load the virtual supplements on a mobile device. In this case,

the visitors could move freely too and look at the proposed solutions from all sides. Unfortunately, one would have no direct view of the facade, but could only view it on the screen of the smartphone.

More fundamental problems are yet the technical burden, especially the tracking of images in movement or even the high complexity of the data. In the light of the technical development, however, one should not overstate these problems.

Volumetric displays

Another approach for a mixture of built findings and virtual reconstructions would be the use of volumetric displays. Compared with traditional two-dimensional displays, which can only simulate spatial depth through visual effects, volumetric displays are able to produce real three-dimensional images that can be viewed from all sides.

Compared to the solutions just mentioned, volumetric displays have the advantage that the viewer does not need additional devices such as head-mounted displays or smartphones, and can view the virtually generated 3D image directly.

Volumetric displays use the opportunity to present points of light floating in space, for example on a rapidly rotating disc of frosted glass or to a gaseous medium (CANCER NETWORK 2006). In the first case the image generation is based on the principle of a moving projection surface that sweeps over a given volume. If this happens fast enough and if, depending on the position of the surface, different contents are projected, the human eye perceives due to its inertia, the various images as a closed 3D image. Indeed, such displays are surrounded by glass spheres to prevent the rotating disks from touching, and these spheres would mean a significant limitation at the magnitude required in our case.



Fig. 9 – Image in free space, created on a veil of steam (Copyright: Leia Display System)

Recent developments are now trying to create images in free space and to make them possibly even touchable. So meanwhile it is possible to give rise to images on a veil of steam (Fig. 9; LEIA DISPLAY SYSTEM). However, this technique works so far only with two-dimensional images. Other experiments with ultrasonics intend to generate the feeling of being able to touch virtually generated objects (UNIVERSITY OF BRISTOL 2014). So far, this works with simple geometric shapes such as spheres or pyramids. A final approach is to bring the air itself to shine by use of a laser and so to waive an additional medium (BURTON INC. 2011). The resolution of this technique is still very small, therefore the potential volume of two cubic meters is quite promising.

Currently these latter techniques are not yet sufficient for the presentation of the palace facade in the museum. Nevertheless, considering a planned reopening of the museum in 2025, the developments should be kept in mind.

Pros and cons of the different solutions

To conclude, the pros and cons of various solutions are summarized once again (Tab. 1): Visually, the Oppenheim reconstruction would probably fit best in the series of existing one-to-one reconstructions. Admittedly, it is proven to be wrong. Thus it would be communicable only by additional information – such as a reminiscence to the Tell Halaf-Museum. The representation of the pure excavation findings would certainly be the most objective solution, but entails the risk that the gate situation could not be “experienced” by the visitors. Solutions that combine reality and virtuality, have the great advantage to be able to present several alternatives for the composition to the visitors and also to give them an insight to the difficulties reconstructions inevitable entail. In the case of augmented reality, unfortunately, the virtual parts of the reconstructions could only be viewed by aids and as regarding volumetric displays, the technology is not yet sufficiently developed to meet the requirements the palace facade would need.

A hybrid solution would hardly contradict Walter Andrae’s concept of conveying an impression of the ancient Near Eastern monumental architecture on the basis of reconstructions in their original size. Contrarily, it would be a delightful extension, because it offers new, at the times of Andrae yet unimaginable possibilities, in showing simultaneously different alternatives for the composition of the facade. Given the expected technical development until the reopening of the Pergamonmuseum especially volumetric displays seem to be an interesting option to connect Andrae’s aims with the current state of the art.

	Option 1	Option 2	Option 3	Option 4
	Base animals with statues of gods	Base animals without further composition	Base animals and virtual alternatives (augmented reality)	Base animals and virtual alternatives (volumetric display)
Pro	Historic reconstruction of von Oppenheim	Secured by findings	Possible to present several alternative solutions / Insight to the difficulties of reconstruction	
Contra	Proven to be wrong	Gate situation could not be "experienced"	Virtual parts could only be viewed by aids	Size of displays / Quality not sufficient

Tab. 1 – Pros and cons of different solutions for the rebuilding of the palace facade

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