8. Archaeological Site Museum as Architectural Heritage

An assessment of the Reversibility and Minimal Intervention Principle through the Case Study of Norwegian and Chinese Site Museums

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1. Site Museum, Its Origin and Definition

The term 'site museum' appeared rather late in the museological literature until 1950s. As Ralph H. Lewis noted in 1959, the nature of and need for site museums were first concerned as one section by a group of UNESCO experts on historical sites and monuments in Paris in October 1949. The expression ‘museums of the monuments' was used in the published report (Museum, vol. 3, no. 1, 1950) due to the lack of an appropriate name. Then in 1951 and 1952, the French translated terms le musée de site and petits musées de site were there for American expression ‘trailside museum'. Until 1955, the English term ‘site museum’ seemingly was first taken by Douglas A. Allan in his article ‘Site Museums in Scotland' (Museum, vol. 8, no. 2, 1955).

As Dr. Allan pointed out, “In Site Museums, the site is the major element in the museum …”, which Lewis thought is the essential character of this subject. Some experts tend to define the word ‘site’ with a broader extent like Udo Küsel states that “Site museum, ... , preserves and interprets the remnants of cultural history or natural history phenomena on a site where these have been preserved in situ or restored or reconstructed.” He further mentioned there’re archaeological, geological and palaeontological site museums. In one of the first monographs of this topic in China, some museum professionals also divided ‘site museum’ into three categories, which were historic heritage site, natural heritage site and industrial heritage site. But most obviously, the term ‘site museum’ applied to museums at historic and archaeological sites since Dr. Allan described those Scottish examples from the very beginning. As a word shall be understood in its evolving context in reality, one fact is that the term ‘site museum’ is mostly encountered with museum institutions of outdoor and indoor archaeological ruins. For its narrow sense of an indoor museum operation, the term can be even referred to those protective buildings including temporary or permanent structure built on the top of specific ruins which carries out the basic functions as a museum. That is the main focus of the essay in the following discussion.
The value ascribed to the physical evidence and its display in situ is the fundamental to the concept of sheltering archaeological sites. The idea of using protective structure to preserve and display the excavated ruins is not new. By that understanding, it is not so surprising that the form and settings of archaeological site museum in practice are far earlier than the term itself. One of the earliest surviving site shelters was built for Bignor Roman Villa Remains in West Sussex in England after it was first discovered in July 1811. The remains of Roman mosaic pavement is protected by vernacular houses built of stone and timber and thatched roofs in about 1814 and open to public since then. Several archaeological sites of Roman villas in England were protected in this way in the nineteenth century including the one in Chedworth in Gloucestershire.

One of those prominent examples can also be dated back to the time when the Italian archaeologist Giuseppe Fiorelli (1823–1896) directed the excavations at Pompeii in 1860s. His simple pitched metal roof shelter at Pompeii is certainly one of those early protection buildings as old as the first large-scale modern excavations in the 19th century. Fiorelli was considered by Glyn E. Daniel (1914–1986) as a must-mentioned archaeologist figure who showed the beginning of scientific methods, one of the pioneers of stratigraphical analysis. (Daniel, 1950) German art historian Adolf Michaelis (1835–1910) described that Fiorelli was “a thoroughly scientific man” and his way of working was to “uncover entire blocks of houses (insulae) simultaneously from the top, stratum by stratum; and where any characteristic part of a building or beam was laid bare.” The following is a depiction of his methods initiated at Pompeii in 1863.

“He declared and repeated in his reports that the centre of interest in the Pompeian excavations was Pompeii itself; that the discovery of works of art was a matter of secondary importance; that efforts were directed, above all, to reviving a Roman city that would depict for us the life of bygone ages; that it was necessary to see the city in its entirety and in its minutest details in order that the lesson it taught might be complete, that knowledge was sought the poor, with their common household utensils and crude wall decoration. With that end in view, everything became important, and nothing could legitimately be overlooked.” (Gaston Bossier, cited by Glyn Daniel, 1950)

It’s truly a statement which meets the essential goals of modern excavations to present an archaeological site as a museum.

2. Introduction to Three Site Museum Cases
The Hedmark Museum, or Hedmarksmuseet in Norwegian, is an archaeological site museum for the medieval ruins of the cathedral, the bishop's residence and other buildings located in Hamar, Norway. Hedmarksmuseet also belongs to an “in between” group of museums named by Küsel as the site has combined an open-air museum of the collected timber farm houses for the rural life in the area of Hedmark county during the 18th and 19th century since 1912. Two buildings for the conservation of the main body of the archaeological sites will be taken for discussion, which are the Storhamar Barn for the excavated fortress of the bishop (Storhamarlåven) and the protective structure for the cathedral ruins (Vernebygget).

The Storhamar Barn is the major part of the site museum designed by renowned Norwegian architect Sverre Fehn (1924-2009) from 1967 to 1980 including the courtyard of archaeological ruins, the ruin hall, a serial exhibition space linked by the ramp system, the conservation workshop, the storage rooms, offices and an auditorium. (Fig. 1) The museum was transformed from an early 19th century farm structure above the edge of the medieval ruins of the bishop’s palace and has been considered as one of Fehn’s major works and unique in Norwegian post-war modern architecture. The design quality of this work in architecture is well commented by architectural historian Christian Norberg-Schulz (1926 – 2000) in his book Modern Norwegian Architecture who wrote that:

“The result is an exceptionally rich experience in which old and new play up to one another. ‘In pursuing the past one can never recapture it, - only by bringing forth the present can contact with the past be established’, was Fehn's comment on the finished work. The solution’s greatness lies in the scope of the content expressed, which is carried out through a masterly combination of ancient masonry, large modern glass surfaces, all covered by a roof construction of laminated wood.” (Norberg-Schulz, 1986)

The second chosen example is the neighbouring protective building for the Cathedral ruins designed by Norwegian architect Kjell Lund (1927–2013) from 1987 to 1998. (Fig. 2) In 1987, the submitted scheme to the competition for the protective building made by Lund & Slaatto Architects was awarded first prize from 52 different proposals. Then it was delayed due to the resistance of local community and finally got a breakthrough in 1994. With the application of new computer technology for getting maximum accuracy in cutting elements and control over the construction process, Vernebygget, the 2,640 square meters protective building made of steel and glass was quickly completed from 1997 to 1998.
The third case is Han Yangling underground site museum in Xi’an, China, formally named as the Outer Burial Pits Exhibition Hall of Yangling Imperial Cemetery of Han Dynasty, which had been constructed from 2004 to 2006. (Fig. 3) Located next to Wei River in the northern farming land of Xi’an city, Han Yangling Site Park is one of the 12 National Archaeological Site Parks in China. It is the cemetery area of Emperor Jingdi, the fourth emperor of the Western Han Dynasty (B.C. 202-A.D. 9). The site is mainly composed of the Emperor and Empress’ cemetery, the southern and northern burial pits of military camps, ritual buildings ruins, the satellite tombs, the prisoner workers’ graveyards, and Yangling town which is about 20 square kilometers.

The 81 burial pits, surrounding the emperor’s tomb, constitute the most important part in the Han Yangling site, and circle the emperor’s tomb mound and epitomize the imperial life. The 7,850 square meters protective building was built on the 10 pits located to the northwest of the emperor’s tomb and it is the first complete underground site museum in China applied to the advanced conservation technology. The museum installed automatically heated glass walls to separate the relics and visitors into two areas with different temperature and humidity. (Fig. 4) This method is aimed to protect and maintain the relics on a large scale while allowing visitors to view the relics at different angles within a short distance in the original archaeological site environment, hence learn the advanced technology of relic restoration, protection and exhibition.

3. Reversibility and Minimum Intervention Revisited through Norwegian and Chinese Examples

Reversibility and Minimum Intervention perhaps are one of the most often discussed conservation principles in modern architectural conservation. In some conservation field like paleontology, the principle has been described as “the most important axiom in conservation”. It is the same case when some authors stressed it in architectural conservation as it is the most important of “certain immutable principles must be followed”. The principles can be traced back to Pietro Edwards’s suggestion to the Venetian Senate for the setting of the rules on the restoration of public paintings when Edwards was designated as Venice’s Inspector in 1778. These rules at the time were described as the words like “even with the good intention of improving on the original, removing anything from the original, nor adding anything of his own”. For architectural conservation, the spirit of Minimum Intervention principle can be seen when Ruskin wrote The Seven Lamps of Architecture in 1849 and said that “it is impossible, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture”. As Chris Caple noted in the discussion of this topic, “the aspiration of doing the minimum necessary to preserve a building or object can clearly be ascribed to
William Morris and colleagues who founded the Society for the Protection of Ancient Building in 1877, the phrase using the ‘minimum of needed intervention’ was articulated by Cesare Brandi in 1963”. But the word ‘Minimal’ in the official conservation statement was found in 1932 in the Italian Charter of the restoration, Carta italiana del restauro, which was described as “the restoration of fragments with the addition of the minimal amount of neutral element necessary to produce a coherent overall look, and to ensure good conservation conditions”.

The intention of the reversibility and minimum intervention principle can be understood as to secure the authenticity of the preserved object, building or site. But conserving an archaeological site is different from conserving a transportable object as any intervention carried out is always irreversible. There is a logical paradox for adopting the Reversibility and Minimum Intervention principle into the execution of protective construction of site museums if such principle has been tested with the definition of Authenticity and Integrity. According to the term explanation in Operational Guidelines for the Implementation of the World Heritage Convention of UNESCO in 1977, “Authenticity does not limit consideration to original form and structure but includes all subsequent modification and additions over the course of time.” It clearly expresses one important principle for modern conservation that all periods in the history of a site should be represented and made readable as cultural heritage. Based on the above understanding, when a protective building is completed as a new layer of the ongoing history to the site, it will represent as a concrete evidence of that involvement at the time which ought not to be reversed.

Should the protective building always built subordinated to the ruins of site? What would be the appropriate degree of this subordination based on the reversibility and minimum intervention principle? It may be no doubt for many conservationists but still a question worthy of thinking. When Prof. Ragnar Pedersen, the former curator in chief of Hedmark Museum was inquired for this during the interview, he thought there’s always discussion for it. Taking Storhamarlåven for example, he mentioned that there was tension between the architecture and cultural heritage conservation but Fehn expressed a historical honesty and a material chronology for the historical development of the site from the early 13th century to the present. Compared to the concrete construction of Storhamarlåven, Vernebygget, the protective building for the cathedral ruins made of steel and glass, can be considered as a kind of approach guided by the reversibility and minimum intervention principle. The latter work did show a different way of expression but it can hardly be concerned as the superior one in quality to the previous work. Even for the case of Vernebygget, Prof. Pedersen said some people still felt that protective building has deprived the cathedral ruin’s power.
As a protective building for the cathedral ruins, one interesting feature of Vernebygget is that the building space has also been taken into use for rather diverse functions like taking the concert and church service, etc. During the interview, Mr. Pål Bjønstad, the key associate architect to Lund in the project pointed out that function was intentionally designed through the negotiation with the clients. Due to the Norwegian Directorate for Cultural Heritage (Riksantikvar), the co-client, was not interested in the proposal of additional function, the architects had to persuade the client of Hedmark Museum to find the funding independently for the design of the pavement and church altar for a public gathering purpose. One dimension to assess the quality of a protective building as a site museum is to measure if it could serve its function for the continuity of the site and build a close bond with the people through generations. In that sense, Vernebygget has reached a high degree of excellence. Modern architectural heritage valued as cultural heritage serves as the physical evidence for the interpretation of ongoing development history and conception of reality. Storhamarlåven and Vernebygget certainly fulfill their role to express differently as site museums.

Concerning the Reversibility principle, one rigid way of thinking for site museums in practice is that the material of steel and glass for a protective building has often been adopted in the first place and in favor of many professionals. It’s the same for Han Yangling Site Museum case at the beginning. But the architects finally switched to the concrete structure based on the careful assessment as it’s an underground museum. I have been involved with Han Yangling Site Museum project from 2000 to 2005 as an assistant architect as well as a participant. When I revisit the Han Yangling Site Museum case with the principle of minimum intervention, I have found that most of the important breakthrough in design, which fundamentally enhanced the quality of the space, was made by overcoming the limitation of the rules like minimal intervention through the difficult negotiations with the jury of archaeologists, and the effort for trying moderate approaches and different methods to make the site more readable. One example is that the wall between two of the longest burial pits, which had been concerned as untouchable part of the ruins, was finally taken away for allowing visitors to gain a best view of the relics at the bottom level of burial pits with the closest distance to the archaeological site. Based on that examination, it can be doubted whether the Minimum Intervention would always be the best option.

4. Conclusion

Through the discussions in the previous section, conclusions may be drawn as follow. The architectural addition of a protective museum structure for archaeological sites as an
approach to Continuity will anyway, positively or negatively, add the cultural value in its expression of the time. For that reason, Reversibility and Minimal Intervention is definitely a way of expression to contribute the type richness of archaeological site museums, but hardly considered as a must follow principle for conservation and display of the site in practice. Archaeological site museum as the approach to modern cultural heritage conservation combines the site and the objects from the excavation, the recorded traces and its exhibition in situ, the natural environment and the built environment, the museum and the community, and obtains the diverse stratification as a living heritage. The goal of architectural measure to archaeological sites is at first to safeguard the physical evidence of the site, in the meantime, make the site more readable as a museum through the moderate approaches. Since there’s no simple answer for making a good work in practice, the balance and compromise have to be made by different professional participants based on their different understandings for Authenticity, Integrity and Continuity.

Combined with the literature study, all the discussion in the essay is based on the PhD fieldwork of the author for the Norwegian and Chinese cases from 2009 to 2013. The collected interview information in that field work is focusing on the reflection of the different roles of participants including museum staffs, archaeologists, architects, civil engineers, contractors and conservation officers, which represent different participating institutions from their role-playing to the related museum projects. And social anthropology is taken as a scientific tool in the field work through social participation, participatory observation and semi-structured interview. The intention of arousing a critical discussion in this essay is to throw a light on the role of architectural addition to archaeological sites as museum in cultural heritage conservation and then may that result be expectantly useful for later relevant works.