

# Structured Written Analysis-Materials

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**Abstract:** The article is mainly about to analysis the combination of the old and new, both in terms of architecture and materials on Royal Mint Museum in Sydney.

**Keywords:**The Royal Mint; Sydney; Materials; Old; New

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## 1. Introduction

### 1.1 Historical and Cultural Context of the Mint

Sydney Mint Museum, is one of the oldest building located in Macquarie Street, Sydney, built in 1811. From 1811 to 1854, the Mint as a hospital. From 1855 to 1926 as a Mint. After 1927, it changed to a government office, which is currently a museum. The rum hospital was completed in 1816. Its design is to imitate the ancient Greek architecture, cedar wood made of two columns, with Doric mold style. In addition, the pillars are tilted inward, giving a visual illusion of the Parthenon in Athens Greece. After the debt in 1853, in order to resist the 'black market' and to protect the official currency that the Government suggested to the British Colonial Secretary establishing the first branch of the Royal Mint Sydney.<sup>[1]</sup> The Mint closed in 1926 because of Melbourne and Perth Mints having much better technology and being more profitable. Shortly afterwards, a lot of government agencies moved at the Mint and lasted for fifty years, leading to the gradual demolition of old buildings. However, activists succeeded lead the movement to protect the Mint architecture in 1979. 'The Mint would come under control of the Museum of Applied Arts and Sciences' said Neville Wran, the premier of New South Wales. The museum was closed in 1997 and ownership was transferred to the Historical Houses Trust and started a major protection and reconstruction, which integrate the contemporary architecture and historical architecture elements. 'The refurbishment project is an example of the integration of service systems' (by Steensen Varming, Danish engineering firm) to provide a modern, functional headquarters while minimizing the impact on the heritage and archaeological fabric of a site. Now, the old mint buildings converted into modern offices, library and function spaces. This complicated combination of old stone work, elevated flooring, excavated ground, new steel and glass architectural elements creates a compelling entrance area into the foyer of the new offices of Sydney Living Museums.<sup>[2]</sup>

## 2. Materials analysis

### 2.1 Use of materials within the design of the Mint

An old, mainly sandstone. Another brand new, made of timber and glass. To achieve a feeling which from heavy to light on the visual. They keep the natural materials, sandstone, and stone wall. And bring the new materials, glass, steel, also the new technique.

In 2002, "Our mission is to turn it into the center of a vibrant Sydney life museum and become a public place open to all while protecting this particular hidden ruin" said Francis-Jones, the director from FJMT. Then FJMT(Francis-Jones Morehen Thorp)starts studying the Mint's history plans, photographs and maps. Since it is impossible to completely restore history, new materials are used. However, in order to achieve the overall effect, and any one of the design elements are not more important than the other, so the design paid more attention on stone wall broken relics of old buildings. For the reason that stone wall looks good and proportion well, FJMT measures and aligns existing profiles and debris. Choosing natural warm timber to contrast and complement the sandstone.<sup>[3]</sup> The original Mint is one of the most advanced and innovative buildings, which uses a prefabricated system, a steel structure and a flat roof construction. In the redevelopment, using the modern form and technology weaves carefully. Moreover, the doors, windows and skylights of the old building were reopened during the development. The aim is to make the natural light return to the buildings and the new floor. New buildings in the rich timber, steel, glass and aluminum to foil the sandstone uses in original buildings. The theater with finely detailed steel-and-glass box sheathed in cedar louvres and boarding and the floor is covered with concrete.<sup>[4]</sup>

### 2.2 Analysis of materials

As Macquarie said, "The Building is to be elegant and commodious ..." (Governor Macquarie to Lord Liverpool, 18 Oct 1811, *Historical Records of Australia*, series1, vol7, p384). The new buildings were built in 2004, and the new materials and forms used were tied to solid sandstone. They did not compete with old buildings, but to some extent to create supplement with old buildings. Therefore, the use of large scale glass make the new building more like a hall to guide visitors to see the old buildings. The cedar louvres used on the glass facades to make the building look solid when it closes. However, the theater becomes transparent when they

are opened and clearly see the outside of the courtyard. Thus creating greater transparency and openness. The new auditorium ceiling is made by large timber veneered prefabricated panels. The top of the auditorium is similar to a storage room, it includes the Caroline Simpson Library and Research Collection. The colour of the timber and the design of the special shape and sweep up to the top of the double height glass wall, which making the whole space become big and grab the attention to the view outside.<sup>[5]</sup>

On the northern part of the site, the roof made of glass connect the new and old factory buildings to let the natural light into the buildings. The original buildings used sandstone to build because as the natural building materials, it will not weathering and change colour. So the original building is well preserved and become the unique landscape in the modern city. The roof of the office area retains some of the original sandstone, the other parts use the new material which is steel. This protects the site effectively, combine the modernization, and also ensure the staff has a safe environment.

## Conclusion

The Mint is a historic building as the usage from nineteen century to the present that serves the poor, the royal mint, public services, and the museum of military service. Sydney Mint is open free to people since its redevelopment, the use of materials and function on the theater that attract lots of people. Some people will hold the parties or organize morning tea, although need to make payment on site.

The project received many awards, and it is the first and only project which receive the Australian Institute of Architects' Sir John Sulman Medal for Outstanding Public Architecture and the Francis Greenway Award for conservation in same time. "The whole ensemble is given cohesion through carefully modulated scale and proportion, juxtapositions of materials, light and shade, old and new, inside and out. A 19th century walled factory has been transformed into a 21st century campus." Judge.<sup>[6]</sup>

It is a great project that preserve the original historical traces, such as keep and protect on the material sandstone and stone walls, and also into the new materials and technology. Historical and cultural heritage is a long history of the deep accumulation of the nation, is a country splendid culture of wisdom crystallization. It is both concentrated in the past and effect the future, for any nation, any country, is a valuable spiritual wealth.

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