

The Rebirth of the Door Gods: Conservation of a Pair of Traditional Chinese Timber Entrance Doors

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1. Introduction

This poster outlines the conservation process and the challenges faced in the treatment of a pair of timber entrance doors of the century-old and only remaining purpose-built communal hall in Hong Kong. Exquisitely painted with two auspicious Chinese door gods on the front, these three-metre high doors and the artistic merits of its sophisticated underlying carving techniques are rare examples in Hong Kong.

2. Structural Restoration

The timber doors were partly rotten at the bottom, losing much of their structural strength, and the two door gods were severely faded. Striking a balance between preservation of the doors' physical originality to retain their cultural significance and their functionality after restoration, conservators first determined whether wood sections could be retained or should be replaced. Wood analysis was carried out to identify the original wood species, so that the same kind of wood could be used for replacement to attain a similar expansion and contraction coefficient between the original and the replaced parts. Tenon and joint, along with bamboo nails, were used to connect the original and replaced sections.



(1) Doors before restoration;
(2) Tenon and joint work;
(3) Rotten wood replaced
and joined.



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3. Rebuilding the Image: Scanning and Drafting

The doors were first examined under infrared imaging to check for underlying drawings, to no avail. To enhance the faded carved lines for the purpose of recapturing the image of the door gods, 3D laser scanning was carried out. The original look of the door gods became more noticeable as a scanned image. Conservators used these carved details and the remaining patterns to trace and draft the door gods back onto the wood.



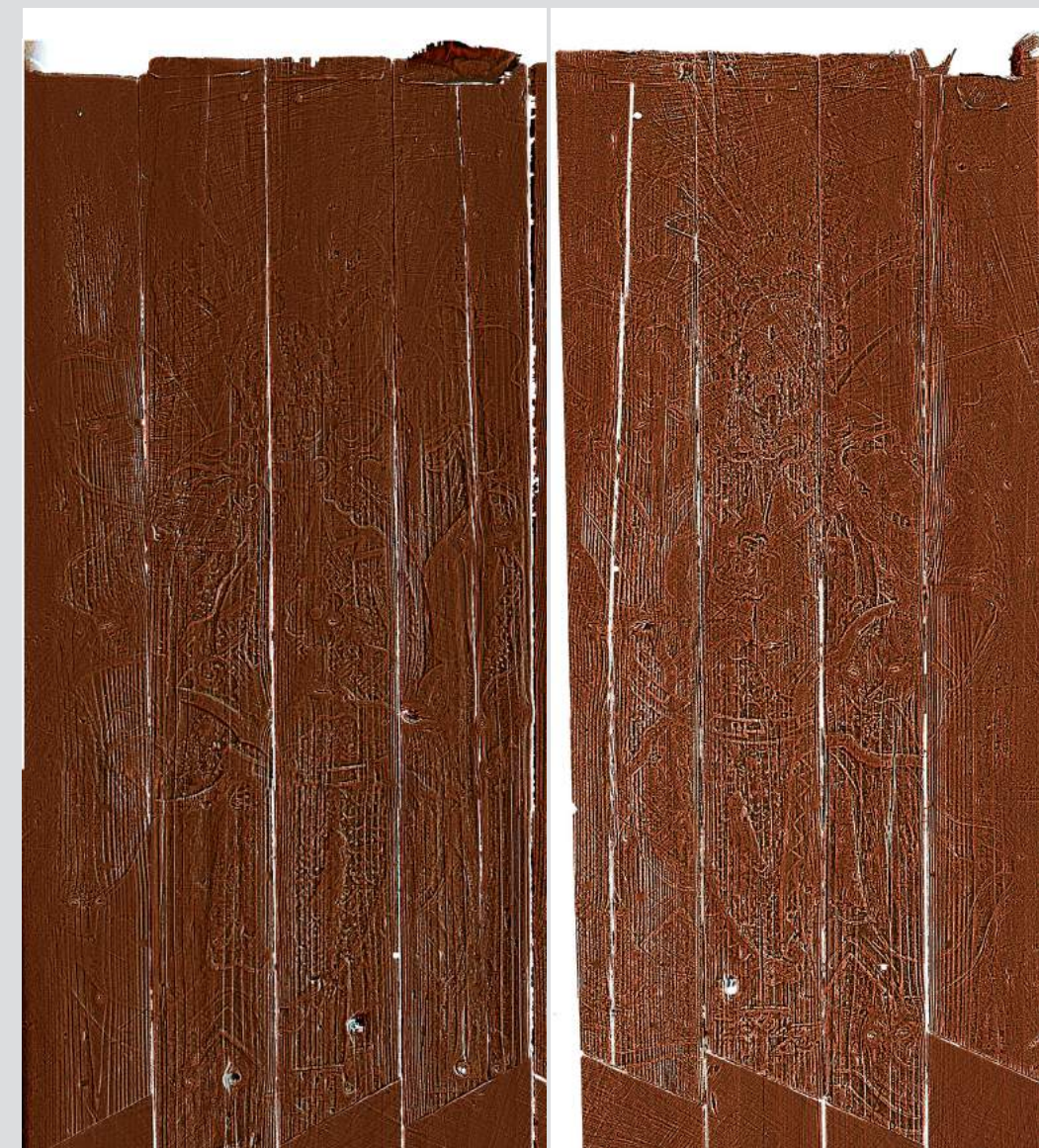
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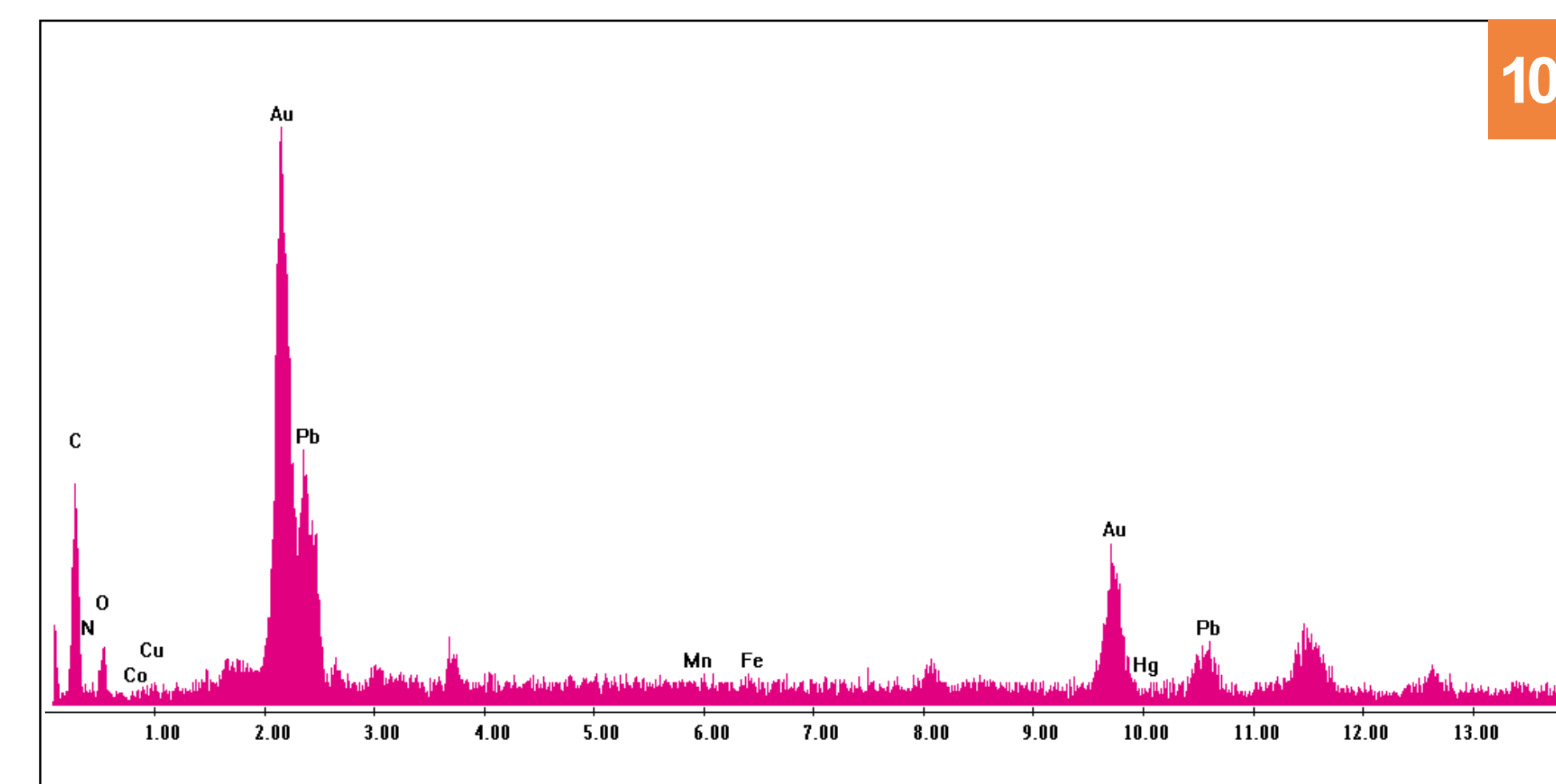
(4) Image before restoration;
(5) Infrared imaging;
(6) 3D laser scanning;
(7) Scanned image;
(8) Image traced;
(9) First draft of door gods.



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4. Final Retouching

Scanning electron microscopy with energy dispersive x-ray spectroscopy (SEM/EDX) was used to identify whether gold paint or gold leaf had been used on some areas. With the gold element detected as evidence by SEM/EDX, gold gilding was applied at the final retouching stage. Subsequently, the doors (except those areas with the carved door gods) were coated with tung oil, a traditional protective coating commonly used on Chinese architectural elements as a water and pest repellent.



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(10) SEM/EDX result.



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(11) Gold gilding and retouching.

5. Discussion & Conclusions

The main challenge of this project lay in the identification of the colour and pattern in heavily faded and abraded areas of the door gods where only minute remnants of pigment were left. Due to the lack of photographic records and original design drawings, conservators carried out diverse literature and oral history research, as these were the only references available, to help determine the colour and pattern of the concerned areas during the retouching process. The restored timber doors are now structurally sound and are waiting to be re-installed in their original place to take on their second life as part of a living heritage. Scientific analysis, the application of technological advances, and the diverse and in-depth research performed were essential elements in the conservation process, complementing one another to assist conservators in making informed decisions for returning these relics to their former grandeur.



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(12) Doors after restoration.