Frontiers of Architectural Research (2016) 5, 265–275

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Frontiers of Architectural Research

www.elsevier.com/locate/foar

RESEARCH ARTICLE

Digital re-analysis of lost architecture and the particular case of Lutyens' Liverpool Metropolitan Cathedral

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Received 28 August 2015; received in revised form 5 January 2016; accepted 20 January 2016

KEYWORDS
Unbuilt architecture;
Digital critique;
Forensic analysis;
Digital modelling

Abstract
Research and critique of unbuilt or destroyed works of architecture is traditionally carried out through the examination of surviving information such as drawings, models, photographs, biographies and monographs. The case study presented here demonstrates that this approach cannot always give a full-picture of the architect or designer's intentions, and may miss inconsistencies in the design and links to other precedents or antecedents in such schemes. Here, we employ strategic contemporary digital representation techniques to re-present and re-analyse the evidence available for a particular architectural project. We describe a systematic methodology, which shows that these techniques can challenge or enhance current understanding. The focus therefore is on the digital re-analysis process that has been devised. Sir Edwin Lutyens' unbuilt Liverpool Metropolitan Cathedral design, that would have delivered one of the largest cathedrals in the world, is used as a case study. The findings reveal new information about the cathedral by following structured lines of enquiry generated from the study of primary and secondary source data, as well as serendipitous results that occur as a potential by-product of the methodological process.

1. Introduction

Mediating devices are essential tools to describe architectural designs and traditionally these have been physically based, for example scale drawings and physical models. Such devices have been extended through the digital realm with the widespread adoption of computer aided drafting and design. Beyond their use as tools for architects to construct

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Peer review under responsibility of Southeast University.

http://dx.doi.org/10.1016/j.foar.2016.01.004

graphic and textual descriptions of schemes that are yet to be built, digital representation techniques have been exploited to visualise damaged, destroyed and unbuilt works of architecture (Forte and Siliotti, 1997; Novitski, 1998). Such investigations have become significant in producing enhanced understanding of what these buildings and designs would have looked like. However, debate continues into the use of digital tools to preserve architectural and cultural heritage, as it is potentially biased on the interpretation of the creator of the digital representation (Kalay, 2007). More recently, such research has begun to focus on the capabilities that digital techniques can provide as analysis tools, rather than focusing primarily on the representations created (Brown and Webb, 2010; Mark, 2011). The research presented here extends these previous studies as it specifically looks at the process of digitally creating an architectural design and the re-analysis this can provide. Also, it exploits the possibilities that become available by utilising digital software to analyse the resulting representations.

Many architectural designs are not built. Also, works of architecture may have been constructed and subsequently damaged or destroyed. In these cases, representation documents may still remain, offering an insight into what could have been or once was. Such unbuilt works are increasingly acknowledged for their contribution to cultural heritage; Wilson, for instance, suggests that 'the built environment we inhabit is just the residue of a much greater imaginative world that never saw the light of day, evoking what might have been or still could be – the unbuilt, the lost' (Wilson, 2004). This paper focuses on Lutyens' unbuilt design for the Liverpool Metropolitan Cathedral, and the possibilities that digital techniques can bring in enhancing our understanding of it. The methodology proposed can also be utilised for existing, damaged and destroyed works of architecture; however, the case study discussed here is an unbuilt design.

2. Methodology

The nature of unbuilt, damaged or destroyed works of architecture results in the information available for investigation almost always being incomplete. This can be seen in digital reconstructions such as the destroyed synagogues of Vienna project (Martens and Peter, 2002). Therefore interpretation of material requires parallel study into the architect or designer, their influences and the contemporary context they operated within. This research can then be used to make inferences in order to fill gaps in an informed way. It is therefore crucial to make clear the interpretive nature of such decisions, as any representations created have the potential to mislead the viewer. It is important then to re-iterate that the resulting representations are secondary in terms of the research goals. Consequently, the focus of this study firstly places emphasis on the reading of source data and how it can be utilised to pose specific questions about architectural designs in which knowledge can be enhanced using digital techniques that would not have been available for the designers to make use of at the time and secondly, emphasis is placed on the process of constructing the digital representations and what can be learned from this.

The methodology displayed in Fig. 1 represents the process of selecting a case study, researching it, generating lines of enquiry, creating appropriate digital representations, investigating the lines of enquiry using the representations created, and finally analysing and reviewing them against identified gaps in knowledge and questions posed in the lines of enquiry. This methodology is demonstrated in the following sections.

3. Lutyens' Liverpool Metropolitan Cathedral

After a stalled attempt to construct a catholic cathedral in Liverpool in the mid nineteenth century the idea was raised again in the 1920s with the Archbishop, Dr. Downey, becoming a key figure in progressing efforts to build a cathedral. Downey was introduced to Sir Edwin Lutyens in London in 1929, in which a rough sketch was drawn and Lutyens was consequently confirmed as the architect.

Lutyens was a leading English architect of the late nineteenth and early twentieth century with architectural historians going so far as stating he was 'the greatest artist in building that this country has produced' (Hussey, 1984). He initially gained attention designing country houses in the 'Surrey Vernacular' style followed by Neo-Georgian houses. Around the time of the First World War his work developed beyond housing into more abstract forms such as war graves and monuments, the most well-known being the Cenotaph in London (1919–1920), a design that was replicated all over the world. Another important phase of his career was his work in New Delhi, particularly the All India Gate and Rashtrapati Bhavan. His influence there was so great that the area is known to this day as Lutyens' Delhi.

In 1929 Lutyens began the Liverpool Metropolitan Cathedral design which would arguably have been his most significant building had it been completed. It is of particular interest in his body of work as it overlaps the periods in which he was designing projects in New Delhi as well as war memorials such as Thiepval in France; both of which can be seen in elements of the cathedral design (Butler, 1984). Although Lutyens worked on other projects after the initiation of the scheme, the cathedral became his primary focus for the rest of his life.

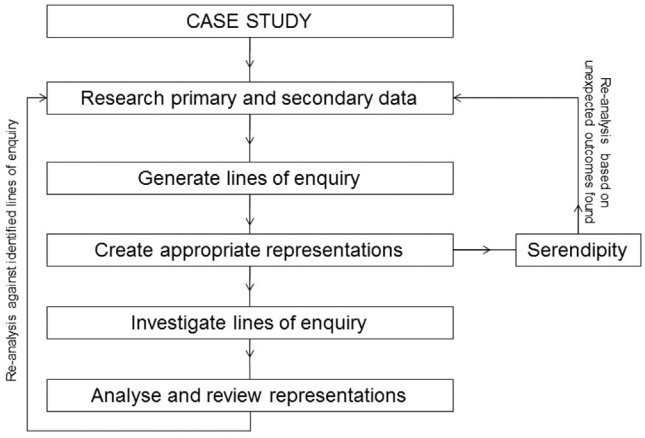

Fig. 1 Methodology developed to re-analyse damaged, destroyed or unbuilt works of architecture using digital techniques.