

Fratzeskou, Eugenia, 2006, '*Visualising Boolean Set Operations: Real & Virtual Boundaries in Contemporary Site-Specific Art*', (Ph.D. thesis), Guildford, London: University of Surrey, Wimbledon School of Art

ABSTRACT

A methodological model is invented in the present study, for expanding the development of site-specific art, through advancing the investigation of the relationship between built architectural spaces and their architectural digital modelling. Replicable procedures are developed for systematically visualising that relationship through the analytical modelling of the spatial properties of that space. A site-specific virtual environment is created for visualising how the contrast between the functional form of that built space and its model occurs while analytically delineating that space. A new mode of using computer 3D modelling is thus developed for exploring the processes and inherent inconsistencies that arise in delineating a built space within a virtual environment.

The present study expands the use of computer 3D modelling beyond rendering prospective site-specific artworks either for creating decorative or useful elements of architecture, physically undermining the functional form of built spaces. Despite their attempts, other artists have not fully explored the contrast between the functional form of built space and its digital model for creating site-specific artworks. Unlike those artists, the present study does not limit its scope to digital imaging for contrasting the renderings of existing and imaginary spaces on the basis of aesthetic criteria or degrees of realism. Instead, the processes and inherent inconsistencies of modelling spatial properties are investigated, while visually analysing that modelling in terms of the geometrical and surface characteristics of digital solids.

The findings of the present study advance a wider discourse in site-specific and digital art through enabling the in-depth investigation of the relationship between physical and virtual spaces, and the inherent computational problems of systems with graphic interfaces. New forms of modelling and rendering are also identified for overcoming the technical limitations of virtual environments, by enhancing the visual analysis of the generation and invalidation of a model and directly delineate physical spaces. The findings of the present study are relevant in the current research and art practice in site-specific and digital art in which artists investigate the transitions between virtual and physical spaces, processes or data, new tools of digital visualisation and interactivity.

Readers may consult the PhD thesis at the British Library (Shelfmark: [DXN096514](#) [DSC](#)) and Wimbledon College of Art, University of the Arts London (cat 735.29 FRA).