

Unfolding Space

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New concepts of space and strategies for spatial research and practice across disciplines have been inspired by our changing understanding of reality. Essentially, information technology, Einstein's theory of relativity and quantum physics have brought radical changes in cosmology, science, art, design and philosophy, as they have altered our understanding of space and our experience of it. Such a radical turning point in contemporary thought, has attracted the interest of numerous thinkers and artists like Lev Manovich, who, as the educator and critic Monika Bakke describes, defines this change as the shift from Modernism to "informationalism" (Bakke 2006, 11, 14-15). The focal point is neither objects nor forms, but various 'information flows'. Space is now defined as a constantly and uncontrollably changing 'informational substance' in which various kinds of polymorphous relativistic spaces emerge. Such a shift necessitates new spatial research strategies for advancing contemporary site-specific art and architecture.

The boundary has been the fundamental aspect of architecture. As Steven Connor explains, architecture can be essentially conceived as a "confrontation and exchange" between the "spatiofugal" and "spatiopetal" orders of space (Connor 2004, 121-122). As space itself is neither uniform nor inert, the conventional boundaries of built architecture are radically challenged. In addition to the quantum paradigm shift in science, non-Euclidean geometry has increased contemporary artists' and architects' interest in visualising and creatively engaging with the invisible and unknown co-ordinates of reality and perception through revealing various fields of interaction between the environment, matter, technology and users, challenging thus, our conventional notions of space and built architecture as well as the functionality and morphology of the latter.

The developments that have been discussed above, necessitate a creative in-depth and inventive investigation of the relationship between digital and physical spaces for advancing digital site-specific art. In particular, new methodologies are needed for creatively revealing the paradox of the informational space of Virtual Reality due to which, the digital boundaries

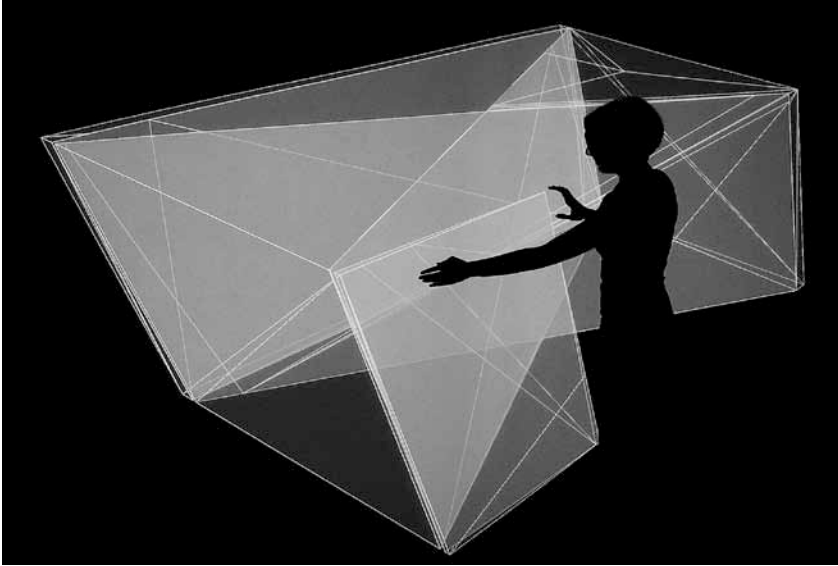


Fig. 1: Stereoscopically projected 3D digital model in the room-sized virtual environment Photo: Artwork & photograph by Eugenia Fratzeskou, all rights reserved

of architecture are not only abstract and fuzzy but also, highly flawed and unstable. This is achieved in my work through the visualisation of inter-spatiality between the physical and digital spaces of architecture, as opposed to creating interfaces and complying with the conventional modes of using digital visualisation and virtual environments in art, architecture, design and science.

Through the in-depth practical and theoretical investigation of digital visualisation systems, which has included their philosophical and mathematical foundations, it has been possible to develop new types of site-specific drawing within semi-immersive room-sized virtual environments. Although Boolean Algebra has enabled the creation of computer algorithms and volume-based digital modelling, the 'ghost' of Boolean inconsistencies remains in the algorithmic orders and its full expanse has yet to be creatively explored. The emphasis is placed on analytically visualising how the inter-passages between the actual and virtual boundaries of architectural space can be gradually revealed through the stereoscopically projected digital modelling of the built space within the virtual environment by using Boolean Set Operations [Fig. 1].

The conventional modes of digital visualisation, site-specificity, virtual and mixed realities in art, design and science are radically challenged, as the built boundaries of architecture are 'unfolded' to reveal a paradoxical hybrid space within the virtual environment. The digital boundaries of architecture are revealed to be highly inconsistent, undermining the solidity, stability, continuity of the built space and our perception of it. Such irregularity exposes not only the inherent abstraction but also, the flaws that occur in the

interchanges between the binary, numerical and graphical levels of digital visualisation systems.

A new paradoxical kind of spatiality (inter-spatiality) emerges through visualising not only the processes but also, the inconsistencies of volume definition, layering, geometry and boundary generation that characterise computer 3D modelling. Various unknown and ambiguous types of space appear as we pass through various spatial orders and geometrical paradoxes. The hidden dimensions of architectural space that remain unregulated, elusive and unbuilt are revealed. The manifestation of inter-spatiality enables a new philosophical understanding, experience, and perception of space that inspires new types of spatial research and practice in art, architecture and the related disciplines.

References

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