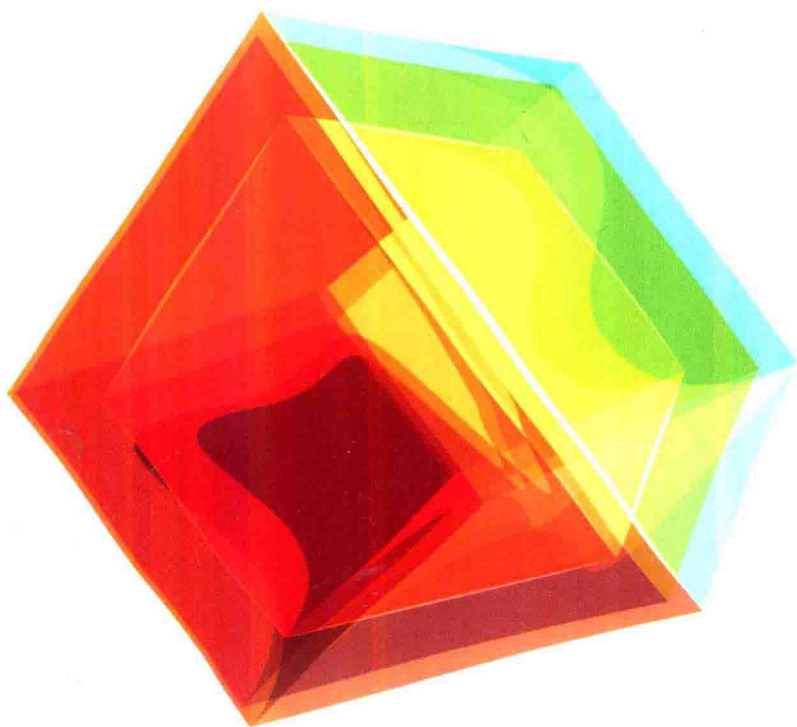


# Making Sense of Space

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Iryna Kuksa and Mark Childs

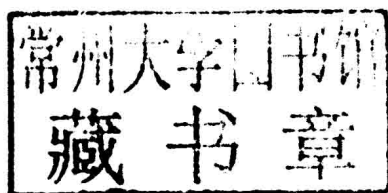


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*The design and experience of virtual spaces as a tool for communication*

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IRYNA KUKSA  
AND  
MARK CHILDS



AMSTERDAM • BOSTON • CAMBRIDGE • HEIDELBERG • LONDON

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## Making Sense of Space

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*Iryna Kuksa*

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*Mark Childs*



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## About the authors

Iryna Kuksa is a research fellow in art and design at Nottingham Trent University in the UK. In her research, Iryna investigates the challenges, and opportunities, encountered by practitioners and educators in using immersive virtual environments and in applying 3D visualization as research methodology. She examines a suite of rapidly-developing communication and computer-visualization techniques, which enable reciprocal exchange between viewers and artefacts and which transform the way in which we experience, learn and co-create our culture.

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# Introduction

## Introduction and rationale for the book

We live in the digital age – the age of seamless communication and interactivity. We inhabit cyberspace (an unlimited, constantly expanding electronic terrain), which correlates with our physical reality, gradually becoming part of it. We use it for saving and storing information, for facilitating knowledge exchange and, importantly, for communicating with one another. Virtual spaces are not simply another way for people to express themselves in the same way they used to do. One might argue that they radically changed human perceptions of the surrounding world and even could be considered as a form of art.

There is little doubt that technological development and its capability to constantly produce new multimedia applications is endless (at least to date). This affects our means of communication and brings a new (quite interactive) quality to our experiences of everyday life, art, history and culture. Interactivity is often referred to as something specific to new media technologies; in reality, however, it is an attribute of any representational media that simply enables a new form of communication. In his 2002 essay, 'Reflections on digital imagery: of mice and men', Paul Willemen defined interactivity as 'a significant feature from classical Chinese poetry to the call-and-response structures of gospel and jazz music, to Surrealism's "exquisite corpses" and to just about all forms of commercial verbal and imaged discourses in which feedback mechanisms have played a determining role for at least a century' (Willemen, 2002: 14). Several years before this statement, back in 1999, Johannes Birringer distinguished the following modes of interaction applicable to digital artistic spaces that are still relevant nowadays. The first mode is a touch-screen interactivity that is widely presented in inter-media exhibitions and video installations with Internet access. The second mode is interactivity that extends deeper into digital space, implying distance and spatial

separation; it involves reciprocity and feedback, and can be used in broadcast media. And the third mode represents a conceptual structure of the meeting points and conduits of interactive levels and suggests that interactive digital art is not subject to a particular technological mode, but is the intermixing of analogue and telematic (which is a combination of computers and telecommunications) media. These different modes are not only providing alternative locations for performers, artists and educators to conduct their practice, but they are also raising fundamental questions about the nature of these disciplines. Computer-based media and the variety of platforms they provide are interactive by definition. However, one of the main questions this book investigates is whether these different platforms actually constitute *locations* in the generally accepted meaning of the word, and whether there is a need for us to change our conceptions of what space, place and interaction actually are?

To address the above issues, the authors provide a comprehensive analysis of the use of digital spaces in performance, design, education and cultural heritage – the domains they are most familiar with. Their work with a range of technologies within physical classrooms and virtual worlds is informed by innovative developments in their fields and contributes to the debate about the potential of digital environments and reappraisal of the role of space. The chapters presented in this book are an amalgamation of the authors' observations and reflections on these topics, as well as a critical analysis of their audiences' experiences. Furthermore, the collaborative nature of the authors' work, which has informed this research, has defined its format as a blend of two different forms of a research-led publication. This is a co-authored book with two collaborating (and sometimes competing) voices that created most of the content. In addition, however, some chapters of the book are co-written with other contributors and presented here as case studies, which makes this book a joint endeavour by a multitude of researchers and practitioners. This variety of viewpoints enables the reader to get a clear picture about various theoretical underpinnings that inform the authors' research, to find out about different uses of virtual spaces, and to learn about some of the underlying rationales and debates that facilitate their use.

## The structure of the book

As with any study that aims to lay the groundwork for an area of debate, or even to provide a simple introduction to the field which may be

unfamiliar to some readers, the process of exploring the topic of this book begins with a definition of terms. This is particularly important when the experiences being discussed are still largely unfamiliar, and where the field is still so nascent that no single specific definition has been adopted by the majority of practitioners. Part 1 lays out some of these definitions, explores conflicting interpretations (where these arise in the literature) and gives an overview of the history of digital environments, their cultural use and applications. This part also provides theoretical and practitioner points of view on how virtual spaces – as a tool for communication, interaction and creativity – could enhance research, practice and learning activities. Iryna Kuksa begins Part 2 by looking into how digital spaces are planned and created through analysing the ways in which virtual reality and other technological applications are placed within design and cultural heritage practices. She scrutinizes the importance of three-dimensional (3D) visualization as a research tool, and discusses the paradigm shifts between traditional interface design and design for virtual environments and the ways that 3D perception is realized within them. Kuksa explores the notion of direction in virtual spaces with a particular focus on digital museums and virtual heritage sites and the importance of seamless knowledge navigation. In Part 3, Mark Childs discusses various interpretations of space that have been employed by numerous writers and researchers, beginning with Heidegger in 1920s and his notion of *Dasein*, as well as our relationship to it. Childs examines such concepts as Huizinga's 'Magic Circle' and Oldenburg's notion of 'Third Space', along with investigating the role that navigation plays in 3D environments. He proposes an extension to Oldenburg's taxonomy of space by introducing a concept of 'fourth space' that describes the common features of theatre in virtual worlds. The variety of notions of space is then applied to discussions about the use of virtual worlds in performance and education, as they relate to specific education case studies in Parts 2 and 3 and to the work of five theatre and performance practitioners in Part 4. These practitioners are each given a voice, and their statements reflect recent and future developments in their fields. Finally, Part 5 – the Conclusion – summarizes these separate themes and merges them, examining the differences and similarities between physical and virtual, and how an analysis of each informs the nature of the other and potentially the future of both.

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# **Part 1**

## **Spaces, presence, realities ...**