REALIGNING THE ATTENTION:
Fascination, Spatial Experience and Stage Magic

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Declaration

I certify that, except where due acknowledgement is made, the work is the work of the author alone; it has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party has been acknowledged; and that ethics procedures and guidelines have been followed.

Patricia Pringle
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An unexpected intervention stopped the work for several years and again I must thank Peter Downton, colleagues and friends, in particular Jean James, Peter Bourke and Edvard Zagorski, for helping me back into the world and reminding me about what I had been doing.

Acknowledgements in scholarly publications from earlier years often finish with a few words of thanks to the author's wife for typing the manuscript and preparing the index. Times have changed, and my husband has neither typed, nor read, the manuscript, but unbeknownst to himself he has often acted as a sort of living index through words or comments that indicated a different way of thinking and pointed me to another way of seeing. Not least, he showed me the copy of Magic: Stage Illusions, Special Effects and Trick Photography that started the whole thing off. Without him, and it, this project would never have happened.
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REALIGNING THE ATTENTION:
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Abstract

Today the manipulation of fascinating visual and visceral experience forms part of art and design practice. Spatial experience has become a medium through which something more can be said. It can be delightful, or make us laugh, or fall into a meditative silence. The ways in which such experiences may be felt today as poetic, significant, joyful or moving still draw on many of the spatial concepts that informed the imagination of the later 19th century. This project seeks to identify some of the factors that shaped these concepts, to trace how their connotations shifted and regrouped during the years of my study (1850-1930), and to discuss some of the rather different ways in which we attend to them today. The concepts are considered in relation to today's discipline of 'interior design'; a discipline which today is differentiated from interior decoration or from architecture by being a discipline of performance and experience, rather than of composition or style. By performance and experience, I am referring to the complex and often nuanced totality of the entanglement of these things in this place with these people at this moment in time, rather than any designed 'experience' or spectacular event. Thinking of interiors as something created and sustained through the experience of their audiences has changed the boundaries of the discipline, but this also suggests ways of enjoying spatial experience that are already calling on a different sort of attention from its audience.

I suggest, however, that the pre-conditions for today's increased sensibility to spatial experience existed in the 19th century and can be traced, as well as in that century’s new perceptual sciences, in its popular entertainments. These, seemingly innocent, offer insight into areas of social and cultural change and show us ideas at work on many levels. The practice of interior design has been described as 'the practice of natural magic, an attempt to
arrange life for maximum emotional and practical power.¹ Curiously enough, another discipline that employs natural magic is that of the 19th century stage illusionist. I explore some examples from both disciplines, suggesting that when these examples are considered as 'spatial entertainments', they offer insights into both the practical mechanisms that made them work, and also into the ideas, desires, pleasures and uneasinesses of a spatial nature that made them potent to their contemporary audiences. This opens a different set of histories from the ones that are more usually considered relevant to design students or scholars today.

My project examines the changing manipulation of space by stage illusionists in the late 19th and early 20th centuries and speculates as to the shifting perceptions of space in its contemporary audiences. But rather than simply looking at magic shows, I have looked out from them to the context in which they were set, to try to understand the web of ideas and technologies and perceptual modes that allowed them to fascinate their audiences, once 'magical' experiences no longer needed supernatural agencies to explain them.

The project focuses on the years 1850-1930, since these were both the 'Golden Age' of stage magic, and also the period that is often cited as the one from which 'Interior Design' emerged as a distinct profession. However, by offering a variety of ways to think about the significant entanglements between things and people that were created through manipulation, anecdote and play a century ago, this project has allowed me to speculate about many works created in the 20th and 21st centuries which I consider to be forms of interior design. My broader concern in my research has been to contribute to the ways in which 'interiors' - their histories, their construction, their existence - may be considered, and to suggest different antecedents and different futures for interior design, beyond current popular understandings of it as a discipline that is primarily para-architectural.

Introduction

The Background to the Project

The beginning

Some years ago, for the first time in my life, I saw a live performance by a conjuror. It was taking place in a small cabaret in a town in Mexico that had been fashionable in the 1950s but had been fading ever since. The audience was small, the stage was close and I was in the front row. To my surprise I found the performance both fascinating and moving. When I later discovered Alfred Hopkins’ classic text *Magic: Stage Illusions, Special Effects and Trick Photography*, first published in 1898, I found that my conjuror’s routine had been a very old-fashioned one and that most of his tricks might equally well have been performed a century earlier. That was the beginning of this project, which is about the moments when a shift in our individual awareness of the world of things around us leads to a spatial experience that is felt, in some way, to be significant, life-enhancing and even 'magical'.

I need to emphasise from the start that I have no love for magic shows in general, and little interest in the conventions of the genre today. So although I will refer throughout the thesis to material that is drawn from the literature of magical shows and performances from the 19th century onwards, this thesis is not about magicians and magic tricks but rather, about their effect on audiences then and now, and the different role that the manipulation of space for entertainment plays in today’s spatial disciplines. The routines have served as a fulcrum around which to work my speculations about the changing histories of spatial experiences, while elements within them have suggested analogies with other aspects of design. My broader concern in my research has been to contribute to the ways in which 'interiors' - their histories, their construction, their existence - may be considered, by bringing to the fore aspects that sit in the gaps between other disciplines. This in turn has allowed me to bring different material to my teaching in this emerging discipline of 'interiors': a discipline
that today is concerned with multiple aspects of the inhabitation of space and spatial practices in the context of the constructed environment.

To return to the fascination of that first show: a memory that had stayed with me as one that I wanted to return to and think about was a brief moment during a routine when the conjuror held an ‘empty’ silver vessel in front of my eyes to demonstrate its emptiness. As I looked into the cylinder that he held towards me, I had an experience that is difficult for me to write about without sounding precious. A sensation of visual and visceral pleasure flooded me, as if my eyes had dived into a boundless ocean of cool silver. A glimpse, a leap, a dissolve, a resolution of momentary dissonance…no single one of these attempts to describe the moment is successful; they are all both too grand and too singular in their connotations. All I can say is that I felt a moment of pleasure which was delicious, and which reminded me of a pleasure that I sometimes feel in experiencing space.

The gentle 19th century cleric Sydney Smith said heaven will be like eating foie gras to the sound of trumpets. Writer J.D Salinger described a particular and important moment as feeling as if someone had just entered the room and played a few impossibly sweet high notes on a cornet. For me, the similes tend to be in terms of visual and visceral experiences, which is perhaps what led me to become an architect. Various pleasures of spatial experience have formed an important part of my personal history. The sweeping width of a street, the sudden opening of an unexpected door, the simultaneity of sections, the accretion of awareness as to how parts of things relate to each other, the thrill when the space inside is larger than the exterior suggested – permutations of the complex dimensionality of the world have given me many, many moments of delight. Such moments are more than raw perceptions. They are products of the sensuous intellect, that human faculty where sensation meets thought and something freshly seen meets previous knowledge.

Although my momentary interplay of body, attention and experience in the conjuring show was intense enough for me to be able to call it up and examine it later, a minute after my epiphany with the empty vessel it became again an ordinary utensil into which the conjuror was tearing up a page of newspaper. This he set light to, only to restore it in a moment to its original complete state. I remember thinking that it must be the original sheet because it had the same grubby marks that it had when he started the trick. He was a down-at-heel conjuror with a lugubrious manner and a food stain on his black waistcoat, but with
hindsight I realised that he had been a very good one. He performed his tricks with complete self-absorption and few words, as if conducting experiments for his own private ends and occasional satisfaction or surprise. He was probably the best conjuror I will ever see, because I will never again be able to receive those tricks in exactly that way. My own complete innocence of conjuring routines added to my pleasure. There were no more moments of bliss as such, but many small cerebral delights in the counterintuitive challenges that his old-fashioned routine demonstrated. (The 'torn and restored newspaper' routine dates from 1903 at the latest, though the optical and spatial confusions that the shiny cylinder permitted were probably known to the ancient Greeks. But facts like these I was to learn later.)

That magic show started two trains of thought. The first was that the practical workings of some of the manipulations might be a source of inspiration for an undergraduate design studio, since some must have involved practical techniques to change the external appearance of things by manipulating them physically (for example, by articulating larger items so that they could fold down into smaller spaces, or by using the properties of materials themselves, such as the ability of silk to compress into a tight ball and then spring out when released), while others must have used optical effects to influence the perceptions of the onlooker. All these seemed provocative starting points from which to stimulate a variety of ideas about design, and so I went in search of more information about conjuring tricks and apparatus. The second train of thought was one that led me to wonder about the various mechanisms by which the tricks had engaged me. Clearly some used special apparatus, others needed highly practiced dexterity and skilful distracting techniques by the performer. But these could be descriptions of a good dentist at work. Where did the delight come from?

From my early reading I learned that magic shows, performed for pure entertainment with no occult pretensions, are generally considered to have had a ‘Golden Age’ between the second half of the 19th century and the first decades of the 20th century. This is the period when the sort of magic known as ‘stage magic’ became a popular theatrical entertainment that drew regular enthusiastic audiences. ‘Stage magic’ or ‘stage illusion’ refers to the type of routines that are performed onstage in front of a seated audience. Parts of the illusionist’s routine may make use of stage machinery and large-scale carefully designed props, which can often require back-stage assistants, and careful control of sightlines and lighting. There are many possible reasons why such shows became so popular during this particular period,
some of which I will discuss later, but it struck me that many of the tricks that were first introduced at this time achieved their effects through the manipulation of objects and space in ways that were fascinating (a carefully chosen word to which I will also return) to their contemporary audiences.

Changes in spatial awareness in the 19th century have been addressed by 20th century historians in many fields: architecture, literature, fine arts, performing arts, sociology, physiology and more. They are adduced as characteristics of modernity: the pre-cursors of the spatial concepts that permeated, for example, 20th century architectural Modernism. The period is one that many design historians suggest as the one in which interior design emerged as a profession in the Western world, in response to the growing attention that architects and artists were giving to the workings of interior space. But since so much else is considered to have begun, or to have blossomed, or to have changed markedly, during the same period, it seemed relevant to look beyond architectural commentaries alone for evidence of changes in the ways that people were attending to space. Texts like The Culture of Time and Space, 1880-1918 \(^2\) or The Railway Journey: Trains and Travel in the 19th Century \(^3\) introduced me to ideas about the new spatial cultures of the 19th century, and the notion that human perceptions themselves are not biologically determined but have histories which can be traced, often in parallel with the histories of new technologies. But the suggestion that catalysed my interest from a general one, sustained by the hope of finding suitable material to develop for an undergraduate design studio, into a larger research project was in an article by Brian Winston in the cinema journal Sight & Sound.\(^4\) In this Winston was reviewing The Great Art of Light and Shadow: Archaeology of the Cinema, a major French work on the pre-history of cinema, published in 1995, which had recently been translated into English. Winston concluded that Mannoni’s book, though full of compelling historical detail about technical innovations by what Winston calls ‘Dead White Males’, still failed to tell the full story because it did not address André Bazin’s feeling that the fact that cinema was ‘invented’ in 1895 was disturbing. “"How was it," he [Bazin] asked, "that the invention took so long to emerge, since all the prerequisites had been assembled? "" In other words, cinema

\(^2\) Kern (1983).
\(^3\) Schivelbusch (1980).
was technically possible and various proto-forms were in use well before the first commercially important public screenings of short film. Winston’s point was that both Mannoni and Bazin (for different reasons) fail to acknowledge the role of the audience in the ‘invention’ of cinema.

'Over the last quarter of a century there has been much writing in English about how the audience learned to be an audience throughout the 19th century: to sit in the dark in rows, to understand transitions between images, to read titles and the rest. This approach emphasises the social context of the lens, the image, and the screen and suggests implicitly that it is in this area that the clues to Bazin's "disturbing" delays are to be found. The ingenuity of Mannoni’s great men is beside the point because it wasn’t until the 1890s that an urban audience existed in sufficient numbers to nail cinema to the screen."

Winston’s review moved on to the importance of an available audience in making cinema into a commercially viable industry, but it left me wondering about other aspects of what the audience brought to, as well as took from, the entertainments that preceded the new moving pictures.

Eric Barnouw’s study *The Magician and the Cinema*, published in 1981, was one of the first works to explore the role that professional magicians had played in the evolution of moving pictures, leading up to the crossover decades after 1895 during which magic shows started to decline and cinemas flourished. Early attempts had soon proved that very little remained of the magic when a conjuring routine was filmed. Film in itself was magical enough. Many of the performers, technicians and impresarios who had been a minor part of the magic industry found more success in the new cinema industry. As Barnouw and others have shown, parts of conjuring technique contributed to the language of film making and editing, at first in trick films and eventually as special effects in non-magical narratives. But although I had enjoyed the odd bits that I had seen of works by Georges Méliès (19th century magician turned 20th century film-maker), those early films had never created for me that mixture of feelings of visual, visceral and intellectual pleasure that I felt during the Mexican conjuror’s routine. My responses to the two genres of performance were quite different.

5 Winston (2001), op. cit. p. 11.
Winston’s comments on the role of the audience reminded me that the sensations that had engaged me then were as much to do with me as with the conjuror.

To approach the project as dependent on audience and performer and technical knowledge (on both sides); to identify the constellations of forces that at certain points in time have allowed certain sets of effects, sustained by certain sets of technologies, to appear in some way to be sufficiently delightful to the sensuous intellect to hold the attention of an audience who were not expected to believe that supernatural forces were at work – this excited me. It suggested many different ways to think about the manipulations and manoeuvres that I was expecting my students to analyse in the proposed design studio. This, when it did take place, was called ‘Vanishing Point’. It used a collection of magic tricks to introduce ideas and information about technical aspects of glass, mirrors, light transmission and reflection; historical and theoretical analyses of visual regimes in different times and in Western and non-Western cultures; ideas about ‘framing’ as both a literal and literary concept…I mention these simply to demonstrate how the tricks served as a springboard to widely diverse concepts that nevertheless have relevance to the study and practice of spatial design.

Meanwhile, other aspects of the tricks led me to write a conference paper which proposed a resonance between fin-de-siècle magic performances and other preoccupations of the period, and to compare them to some of the design works that appear compelling to my students today, which also often seem to be dealing with ‘impossible’ feats, but which are received today as works of art rather than as amusements. The comparison allowed me to wonder what shapes the spatial imagination of a period, or of a society; and in what ways it might manifest itself in its entertainments. 'Entertainment', a key idea within my thesis, will be discussed more fully later, but for the moment I need only to explain that, in this thesis, entertainment will be considered in the sense in which 'to entertain' a thought or an idea means to permit it into the mind for consideration. Entertainment, which, like magic, happens in the mind of the audience, may then be considered as an attribute of the sensuous intellect. Later too, I will discuss in more detail what I mean by 'magical', but for the moment it is enough to suggest that, once supernatural explanations (which reduce everything to the merely fantastic, or the unquestionably miraculous) are excluded, then something is felt to be magical when it seems to be more than is possible.
Other papers followed, each containing some reference to a stage routine, in which I speculated about other ways in which the ideas latent within the performances seemed curiously prescient of concepts, techniques and desires that inform the sorts of things that I name as 'spatial entertainments' today. I have looked for these in the ways that magical effects were received by the audience; in the routines that were invented; and in the technologies that sustained the effects, both in the ways that new technologies were appropriated by the performers for their routines and in the audience's preconceptions (or misconceptions) about such technologies.

**Audience /performer/technology: the spatial imagination and modernity**

David Devant, one of the most famous stage-magicians of the turn of the century, defined magic as 'the feeling that we have seen some natural law disturbed'. Conjurors have always been skilful in their grasp of natural magic, meaning the phenomena derived from the sciences, which they manipulate to conceal the true causes of apparently inexplicable occurrences, but it is relevant that the period of my study - the 'Golden Age' of stage magic - coincides with the epoch in which ideas drawn from science and technology rather than from religion, having shaken beliefs that might once have seemed to be indisputable natural laws in themselves, were changing the ways in which space and matter could be imagined.

The magic shows that interest me are part of the culture of later 19th century modernity, using the sense in which modernity is defined by Stuart Hall: that is, the culture of the predominantly materialistic, industrialized societies whose economies were based on the production and consumption of goods, where political authorities were organised on secular lines, and whose citizens were finding their places in new social classes and new social identities. Hall emphasizes the shift in the (European) intellectual and moral universe of the century that was the outcome of the scientific revolution of the 17th century and the Enlightenment of the 18th. The point that is important here for my thesis, formed by the essential difference between the belief systems of the later 19th century audiences and the beliefs of their predecessors, is that although the conjurors no longer offered supernatural

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explanations for their powers, the audience still retained a sense of wonder at what they had seen. It is the elusive qualities of extra-ordinary but non-supernatural spatial experience that the series of papers sought to examine.

Part of the wonder, once the merely supernatural explanation has been removed, remains in the dance between science and art, the rational and the erratic, the absolute and the contingent. What perceptions evoke such experience as they strike on the sensuous intellect? By what metaphors will the experience be described, and in what mental space will it take place? In an insightful interdisciplinary study on the relationship between British literary and scientific culture in the years between 1815 and 1850, Alice Jenkins writes of the spatial imagination that developed in the first half of the 19th century as being shaped by a time when science and literature still shared enough language in common for ideas from the first to travel to the other.8 Her study of the spatial imagination addresses the abstract and conceptual space with in which early 19th century writers organised knowledge. She shows how this was informed by ideas and language from contemporary science. For an enquiring reader (and one who was not yet constrained by the boundaries created by the professionalization of the disciplines or the specialist language that made later science writing inaccessible to a general reader), 'processes...appropriating, half-digesting, and half-comprehending ... turn[ed] literature into science, science into literature'.9

Although Jenkins' project does not extend into the period with which my thesis is largely concerned, the concepts that entered the mind of an educated general reader became the foundations for, in her words, 'the cultural life of the imaginary, the hypothetical, and the abstract spaces in which no 19th century person walked, but with and through which they thought'.10 The physical forces in and between space and matter that scientists were studying and describing as scientific entities became metaphors in the language of non-scientists. These were woven into serious entertainments - not only the poetry and literature that Jenkins discusses, but also works of art - through which human relationships with one another and with the cosmos were discussed, illuminated and conceptualised.

8 Jenkins (2007). *Space and the 'March of Mind': Literature and the Physical Sciences in Britain, 1815-1850*
9 Ibid. p. 142.
10 Ibid. p. 234.
The kind of space that Jenkins discusses is 'neither the lived space of social practice...not the described space of geography... Instead, it is the immaterial, conceptual space that contains and informs those other kinds of space; the space that allows us to perceive and compare...' This is the kind of space, she argues, 'that allows us to think about things at all, and that allowed the early 19th century to think about how to comprehend and organise its things at a moment when formerly stable principles of organization were in jeopardy'.\textsuperscript{11} She makes the point that this kind of mental, or conceptual or abstract space is neither universal nor timeless, but is subject to variation and change as material conditions differ and alter. Therefore it is neither 'transcendent' nor 'sublime', nor independent of the social and political context in which those who imagined it were living.

After the mid-century, serious scientific language moved far beyond everyday language, off into the world of mathematical symbols and highly specialised terminology. Paradoxically meanwhile, an enormous amount of basic and verifiable scientific knowledge (e.g. in physics, chemistry, physiology, and the mechanisms of human perceptual systems) was being harnessed by the stage conjurors for very unexalted reasons - to use its phenomena to amuse and astonish an audience, and to lend prestige to the practitioners. At the same time it continued to hint obliquely at inarticulate mysteries. Although their body of work had the potential to link the pragmatic beauty of science to poetry, it rarely did so, choosing instead to dazzle and obscure. So in many ways my project is an attempt to find the poetry on their behalf, and to see in their stage magic a metaphoric language that might, given a different sort of attention, have been speaking of things beyond itself: things that are not necessarily 'beautiful' or 'sublime' but which call on the true mystery of what it is to be ordinarily human.

In his study of poetic myth, \textit{The White Goddess}, Robert Graves has claimed that there is a sort of poetry (which he considers real poetry) that makes your hair stand on end and produces 'magical' effects. As I will show, aspects of entertainment magic have been re-incarnated in many acclaimed recent design works that are described as 'poetic' and which still have the quality of fascination. I stress again that I am not implying that some relentless trajectory connects 19th century magic shows to 20th century interior design, but only that thinking about the knowledge embedded in the one has allowed me to think in a different way about the other, and offer ideas for consideration. Examining this knowledge, which I

\textsuperscript{11} Jenkins (2007), op. cit. p. 4.
stress could not have been at the forefront of the performers’ minds, has allowed me to find resonances with many of the changing sensibilities which inform the more culturally ‘elite’ products of the same decades. I’m not suggesting that many artists and writers ever saw magic shows, or that those who did were influenced by them (although a surprising number do refer to them in their memoirs), but rather, that a conjuror’s routine, when dissected and analysed, reflects back to me both what the audience and the performer wanted to see in it, and also what they did not see then but that I might see if I were able to bring my modern eye back to that fin-de-siècle moment.

My project is a fiction of course. When I imagine the conjuror’s work I am seeing it from an anachronistic position and reading nuances into the work that would surprise the conjuror. The reality of the few magic shows that I have seen since that first one has not lived up to the imagined pleasure. The thesis is about the potential, not the reality. And yet I know that I am not alone in feeling a sense that it should be there, for moments in recent films like *The Illusionist*\(^\text{12}\) and *The Prestige*\(^\text{13}\) convince me that the makers of these have followed some of the same thoughts that I have. I do however have an occasional glimpse of specific persons in the 19th century conjuror’s audience watching a performance and seeing it, not as it appears in the 19th century literature of conjuring, but as it might possibly have appeared to the eyes of that person. In Chapter Five, I suggest that a particular magical production that was the literal subject of one of Eduard Vuillard’s paintings (*The Conjuring Act, 1895*) also emerged in other works by him that are usually discussed in terms of their unsettlingly perceptive psychological expression. As I imagine Vuillard, in colour, in the audience of that Parisian cabaret, he makes a very different image for me from the sedate and passive black-and-white propriety of the figures who inhabit *Magic: Stage Illusions, Special Effects and Trick Photography*. This is not to imply that Vuillard looked less formally correct than they (as his photographs confirm), but rather, that the performance might have offered him something that resonated with his personal modes of seeing the world. I can support this by discussing other aspects of his work in theatre, set design and painting but of course it all remains speculation on my part.


Can speculation be defended as a research method? I intended that the research should periodically be turned back towards my own discipline; however part of the larger question has been to identify for myself what or where this discipline actually is in the 21st century. With this in mind, I have tried to present the work-in-progress across a variety of disciplines and to offer it for critique to, for example, film-makers, historians, scientists and professional magicians, as well as to my peers in the School of Architecture & Design. All of these have been helpful and intrigued by the work, which has reassured me that by broadening the knowledge base that a spatial designer can build on, I am contributing to my students' education. It is with historians that I felt least qualified to offer my ideas. In the first place my arguments often contain two sets of discussions or follow lines of thought that go in different directions, rather than following a single path to a discrete conclusion. In the second place, I am aware that I have snatched what I want from bodies of thought as I skimmed over them. I have also made many generalisations about 'the popular imagination', implied that there are divisions between 'elite' and 'popular' culture, and spoken about webs of thought within societies that suggest that 'worldviews' and 'Zeitgeists' can be attributed to periods of time and groups of people. I am aware that these are not historical methods, but I am not speaking as a methodical historian. Rather, in setting one argument against another to create something new and offer it for consideration, I acknowledge that the work is, at heart, a fiction about spatial experiences and entertainment.

Nevertheless, it is my theory of interior design. I was delighted when I first grasped the liberating idea of theory as a 'way of seeing'. Its Greek and Latin roots link 'looking at', 'viewing', 'contemplation' and 'speculation'. Demonstrating the wonderful way that many important words can have several mutually contradictory meanings, the Oxford English Dictionary goes on to offer usages both of 'a hypothesis that has been confirmed or established by observation or experiment', and a 'more or less unsupported hypothesis'...hence, a mere hypothesis, speculation, conjecture; an idea or set of ideas about something; an individual view or notion. This project is the second sort of theory.

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14 Oxford English Dictionary online, accessed May 2011

15 My supervisor Peter Downton adds to this:'Theory' comes from the Greek theōria: a looking, a seeing, an observing, or a contemplation. Hence it has a strong sense of speculation. A theory might thus best be seen as a form of insight, a tool for active looking and inquiry, not a static form of knowledge. It is, in fact, something that is designed. The form and delight of a good theory involve aesthetic judgement.'
Key Ideas And Key Terms

Entertainment and spatial thoughts

In the early stages of the project each paper began as a collection of disparate ideas in search of a resolved explication. In this I was sustained by Michael Polanyi’s thoughts on discovery, which he describes as:

'...taking place through the reorganisation of focally unspecifiable particulars. Hence we can both focus our attention on a prospective discovery and be unable to tell what we are attending to...It presents as something possessing reality...and only by assuming its potential pre-existence can we go on passionately searching for it.'

Writing the papers allowed me to uncover and articulate the assumptions that run through all the chapters of the thesis. I hope of course that the work will demonstrate their validity.

The first of these, which is not particularly controversial, is that spatial experience has a history and that this relates to the history of perception. The second, somewhat more original, is that modernity finds spatial manipulation pleasurably fascinating. My third proposition, which moves my arguments into stranger territory, is that the study of a society’s entertainments can offer insight into its underlying shifts and disturbances and throw light on the context that made them entertaining at that time. These threads are woven together through my key terms of 'performance' 'experience' and 'entertainment' which appear, developed and combined in different ratios, in the various chapters that follow.

In these, I will suggest that a new spatial awareness is evident in the concerns, amusements and products of the later 19th century. This offers new and different material through which to think about interior histories, both as the spaces of thought and the physical spaces through which we move and live. I will suggest that spatial experience took on increased importance in many sorts of entertainment during the period, from the physical thrills of the bicycle or the roller coaster to the cerebral shiver felt by the audience member, viewer or reader. Whether these were watching a magic show or a Symbolist play, reading a detective story or a scientific treatise on field theory when they felt the cerebral shiver is of

16 Polanyi (1957), Beauty, Elegance and Reality in Science p. 105.
no importance; I will suggest that they were all being entertained by things that called on their spatial sensibilities. Tied up in this is a new sense of psychic space: a sense of a bridge between ourselves and the things around us through which our experiences are felt to be charged with character or with qualities.

**Entertainment as a mode of thought**

In the thesis I will describe a great many things as being 'spatial entertainments'. Among these are cultural productions at all levels from the popular to the elite. Since, within the thesis, I define a society’s (or an individual’s) culture as ‘that to which it gives its attention’, the possibilities for entertainment are vast. But I am concerned here with spatial entertainments, and the desires and disturbances that they suggest. Richard Dyer's comment, that entertainment 'works with the desires that circulate in a given society at a given time, neither wholly constructing those desires nor merely reflecting desires produced elsewhere' has been an important one for me in following my initial hunch that many of the entertainments of the 19th century both required and reflected profound reorganizations of inarticulate spatial concepts. On the immediate level, direct connections between spatial design and entertainment in its modern and popular sense are easy to suggest, since the theatre, cinema, performances, events, dance are all disciplines in which spatial designers practice. This however is not what I mean.

Instead, I emphasize the sense in which ‘to entertain’ means ‘to permit into the mind for consideration’, as in 'entertaining an idea'. The *Oxford English Dictionary* gives the etymological roots from Latin *inter* 'among' + *tenere* 'to hold', and defines the verb under sixteen subheadings, which between them imply these concepts: upkeep; maintenance; occupying the attention thoughts, or time of (a person); giving reception to; holding in the mind with favour; experiencing (a sentiment). A Martian trying to understand 'entertainment' by starting from the dictionary would need to sift through twelve subheadings.

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Also, from (http://www.etymonline.com): Entertain - 1475, 'to keep up, maintain,' from M.Fr. entretenir, from O.Fr. entretenir 'hold together, support,' from entre-'among' (from L. inter) + tenir 'to hold'.
to find 'a public performance or exhibition intended to interest or amuse'.\textsuperscript{19} My definition therefore does not limit entertainment to diversion, but suggests a serious engagement; one in which one is actively 'entertaining', not passively 'being entertained'. Entertainment then, like play, is essentially a creative state, in which interest and attention are engaged. It is a state in which a play of thought is allowed, while other rules of everyday life are suspended.\textsuperscript{20} However there is still pleasure somewhere at the heart of it - the intellectual pleasure of turning over ideas, being shocked or delighted by thoughts or sensations, experiencing dissonances and resolutions, rearranging concepts, being moved to reactions -whether of tears or anger or laughter or disgust - that bring some glimpse of understanding or insight, however fleeting. Physical experiences too may be entertainment, not only as diversion but also as exploration of states of body/mind.

By spatial entertainments then, I am referring to the situations when the performance and experience of our surroundings offer entertainment to the mind; where the experience of psychic space and the experience of physical space meet in ways that are acknowledged in us by a sense of delight or excitement or understanding, that call for elaboration in our thoughts, or that return to us in dreams, or come back to us when we are trying to describe something else.

**Performance and experience**

In the thesis I often refer to interior design as a discipline of performance and experience, in contrast to a discipline of composition or style. Rather than being a mere arrangement of inanimate matter, spaces of inhabitation exist through the behaviours they elicit or sustain, and in the thoughts which they bring up, which in turn also become part of the totality of the work. ‘Performance’ comprises the complex totality of the entanglement of *these things in this place with these people at this moment in time*. The outcome is the

\textsuperscript{19} *Oxford English Dictionary* online edition.

\textsuperscript{20} My feelings about the ambiguous nature of entertainment are supported by John O’Brien’s statement: ‘Considering [the] indeterminacy at the center of the concept, it is perhaps no surprise that entertainments - theatrical, athletic, literary, filmic, and televisual - have often functioned as loci of cultural conflict and confrontation; they are activities in which cultural values are contested, negotiated, and legitimated, and through which those values may become both intelligible to contemporaries and perspicuous to later historians who want to identify and understand them.’ (O’Brien, 1998, p.489)
experience. It can be seen from this that the performance is being done on many levels at once, both by the components of the space and by the inhabitant.

By ‘performance’ I do not mean something that happens in a theatrical or dramatic situation. Instead, I am taking the uncomplicated, non-theatrical, meaning of performance as ‘the doing of an action’ to describe the ways that 'things' and people come together. Hence, a piece of furniture may be 'being a chair' and/or 'being the place next to my desk' and/or 'being a place to put books for the moment' and/or being 'a chair designed by so-and-so' or 'being a chair that is broken'; a wall may be 'being green' and/or 'being a gentle soft colour that feels easy to the eye' and/or 'imprisoning me' and/or 'creating an acoustic and visual barrier between me and the neighbours' and/or being 'a wall designed by so-and-so' and/or contributing to 'a fictional setting described by so-and-so' and so on. Though this is embarrassingly simple to put down on paper, this notion of an interior as a lived experience follows the trajectory of interior architecture from its 19th century emergence into today’s discipline concerned with inhabitation, rather than composition or style.

Nor do I mean ‘experience’ as something that is unforgettable or spectacular, so I am not referring, for example, to the exaggerated 'experiences' of themed shopping malls. Although providing customers with 'an experience' has recently become part of the language of marketing and branding, this passive connotation is not what I mean by 'spatial experience'. I am referring instead to something that is contingent on the recipient rather than the event. Spatial experience involves processes, subliminal or consciously perceived, which may in turn be culturally or historically inflected. Parts of the process may be physiological or neurological in origin. The totality of the event is subjective. Some elements may come forward or recede, take on character or fade into insignificance, depending on the circumstances. There is no particular value to be inferred from the word 'experience' in the sense that I am using the word; the experience might equally well range from one that is mundane and unnoticed, or the composite of a series of enfolded perceptions and conventions, to a singular and conscious appreciation of qualities and possibilities. There will be times when we may be very aware of choosing what to see and on what to turn our attention – when finding our way through a hospital or an airport, say, or perhaps visiting an iconic building that we have always hoped to see – and at other times we may be less conscious of our selective vision or our distracted state of mind. However we are always the
recipients of what the interior does when it acts upon us. We may curse the signage or be taken aback by the smell, be surprised by the height of the balustrade or the unexpected heaviness of the door, be frustrated by the procedures at reception, or peripherally aware that the place is like somewhere else, or not even consciously think anything at all, yet still know that we are expected to leave through the door and not the window.

A designer is expected to manipulate the more universal of these perceptions in a constructive way, through considering many aspects of performance simultaneously. Naturally, a designer must be aware of the technical performance capacities of materials that he/she specifies, but it is not this pragmatic aspect of ‘performance’ that makes it a keyword for interiors. ‘Performance’ as an aspect of interior experience implies the engagement between inhabitant and context, the result of the relationship between matter and people, and what each does - with, or to, or because of the other. Both the animate and the inanimate are protagonists in this event.

Thinking about the dynamics of this engagement opens other worlds of thought and brings into the spotlight other disciplines that are outside the immediate world of building and construction. In spite of saying that I am not referring to excessively dramatic moments, the more active language of theatre keeps coming in. When ‘the actor’ or ‘the protagonist’ replaces the coldness of ‘the inhabitant’ or ‘the occupant’ or ‘the user’ or ‘the recipient’, the shift takes us into the world of fictions, where the setting-out of possibilities and the contingency of point-of-view become important. I have drawn frequently on discussions of the role of space and spatial experience in novels, plays, painting, games, sports and other cultural expressions, at least as often as I have drawn on the volumes shelved in libraries under ‘interior design’. Interior design, like architecture itself, has a historical life outside of ‘mere' architecture.

Magic and revelation

The central connector that holds the work together are the moments when performance and experience seem to create something wonderful, in other words, that aspect of magic which in provoking revelation creates something beyond itself. Those parts of the conjurors’ routines that I cared about were the moments in which the audience experienced a
deeply engaged attention in which something was revealed, or occurred, which for that moment seemed a thing of wonder. So the project has not been about ‘magic’ as such, but rather, about experiences that seemed to their perceiver to have a particular quality that took them beyond the everyday at that point in time.

I do not pose the question, “What is magic?” but only try to communicate what I mean by a magical experience and how this is tied up with ‘entertainment’ in the very broad sense in which I use the word. By extension, I want then to use this material to make a claim for the roles of experience and performance within the sorts of spatial practices that are addressed by the discipline of interior design today.

By ‘magical’ I am emphatically not referring to the supernatural or the occult. I am interested in those fragile human moments when we become aware that we are in a place that is different from the one we normally occupy, where things are connected in a way that is different from what we assumed. The object of our attention is not simply itself, but opens us to a succession of fleeting thoughts and impressions. At the heart of the matter is always some sense of duality: of oscillation, simultaneity, multiplicity, of shifting (either from here to there, or from one form to another, or from one meaning to another) and this oscillation is in some way satisfying, exciting or profound. We too are transported – our hearts or our thoughts leap perhaps – we may feel a kind of shock or thrill and a quickening of vital feeling that may express itself in laughter, or in wonder, or in a sense of delight at the perception of other possibilities. The experience that I am intrigued by is usually a creative one, often invigorating and delightful, occasionally of deep personal importance.

By employing this modern, trivial and colloquial use of the term I am aware that I am turning my back on many of the aspects of the word that might seem to others to be important – the esoteric ‘real magic’ of belief and superstition; spiritualism; paranormal, superhuman or charismatic powers; ‘Magick’ in curly letters; fantasy; fetishism etc. I am not looking at the sort of magic that demanded even a pretence of belief in beings or forces above and independent of the material universe.
Simon During\textsuperscript{21} describes the technically produced magic of conjuring shows and special effects as ‘secular magic’. This is a useful term for me also but the scope of my study is much narrower than his since I am already starting from that point in entertainment magic’s history where the supernatural, if referred to at all, was only introduced to demonstrate how a charlatan’s effects could be simulated by modern conjurors. During considers that the resonance of his wider argument depends on a historical understanding of non-secular magic since, he says, ‘Entertainment-and-fictional magic refers back to its “real” double even when departing from it. Thus the logic of secular magic is describable only in relation to a magic with supernatural purpose.’\textsuperscript{22} I, on the other hand, am examining technically produced enchantments to probe what they can tell me about the optical, mechanical and psychological principles at work in them, and what they suggest to me about the perceptual systems of their intrigued audiences in 19th century modernity, or at least that part of the audience who believed that the natural world was more wonderful and mysterious than the supernatural. Throughout the thesis I make the assumption that adult audiences in the late 19th century did not believe that the supernatural was involved. The literature of show business - magician's memoirs etc - is full of anecdotes about credulous audience members who took the routines at face value, but I have yet to find a description from the audience's point of view that supports this.

My assertion then is, that as objects and space became seen as protagonists in the drama of daily life, their manipulation became fascinating, and that this manipulation has an attraction that went beyond mere utility. I suggest that the new interest in the experience of space that informed the 19th century’s poetry, literature and works of art can also be traced in its popular entertainments. These, seemingly innocent, offer insight into areas of social and cultural change and show us ideas at work on many levels. The manipulations performed by stage illusionists in the later 19th and early 20th centuries, as they unashamedly and cheerfully juggled physical space and psychic space, throw light on the shifting perceptions of their contemporary audiences. The popularity of magic shows in the second half of the 19th century is another expression of the same mystery (the ‘reorganisation of focally unspecifiable particulars’) that was attracting attention elsewhere towards new research into

\textsuperscript{21} During (2002), \textit{Modern Enchantments}.
\textsuperscript{22} Ibid., p. 3.
human perception, new movements in art, and new concepts of space as something produced and dynamic rather than something absolute and neutral.
Theoretical Underpinnings

Looking for my theoretical position

The nexus of body, technology and modernism has been examined in many seminal studies both of 20th century modernist literature and of modernist architecture. The material of my study is banal in comparison – popular amusements that juggled the spaces around the body in perplexing ways, new ways of moving that opened the body to new sensations and blurred preconceptions about the boundaries of the flesh – and I am not trying to suggest that the conjurors were pioneers of modernist practice (indeed they were anything but, as I will show). But I was struck from the start by the fact that many of the materials, techniques or phenomena that the 19th century conjurors were manipulating covertly for their own ends had later become the explicit subject matter of 20th century avant-garde practices.

However the traditional conjuror was disingenuous in presenting the act to an audience, usually seeking to conceal the source of the effects that the audience was experiencing, or presenting a fictional and misdirecting account of them. Many ‘fascinating’ spatial entertainments have moved from the stage to both the art gallery and to the built environment during the past century. In the transition, the presentation has shifted from concealing the processes to offering the phenomena themselves for consideration as the focus of the work. This can be seen both in the practice of late 20th century artists such as Olafur Eliasson or James Turrell, but also in the reappraisal of works by some of the chief figures of early-to-mid 20th century architecture, notably Mies van der Rohe (that these too are often ‘Dead White Males’ isn’t my point here), and the renewed interest in the work of others, such as Frederick Kiesler or Eileen Gray. These personages will all turn up in the following chapters, as I draw out resonances between their concerns and the effects that the conjurors were producing a few decades before them.

For example, commentaries on Gray’s work, written between 1922 and 1995, refer to it in terms of how it is experienced: the ‘floating phantasmagoria’ on the surfaces of Gray’s lacquered screens, their ‘implied extension’ ‘depth’ and ‘evanescence’, along with her ‘fusion of furniture and space’, her concern for mutability, and the creation of a milieu rather than a
composition, elements that each ‘change and transform itself into itself’, even the
choreographic consideration of the paths of all the actors (‘host/guest/servant as well as sun’) as they cross the paths of the nomadic furniture.\(^{23}\) It intrigued me that similar observations could also be made about the active performance of the components of a fin-de-siècle stage illusion, implying something about the tacit knowledge that was latent within the conjuror’s apparatus and effects.

Just as writers are said to write in order to find out what they want to say, the shaping of my early papers revealed, to me at least, many sets of things that I felt should be part of the project. Some originated from the fact of the magician and the routine, others from the fact of the audience that wanted to see these things. Within each of these two, I found myself trying to talk about two things at the same time: the changing technologies to which it had access and the culture (i.e. ‘that to which it gave its attention’) that it reflected. Three ways of thinking have helped me to deal with these.

I have borrowed the concept of ‘technological frame’\(^{24}\) from Wiebe Bijker, as a more concise way of referring to what I mean when I think about the web within a society (its materials and artefacts; its current understandings of feasibilities, possibilities, and impossibilities; its scientific belief systems; and its desires, including whims, obsessions, fashions, fears and prohibitions) that brings new things into existence. This web connects technology to desire as well as to utility. This is not to suggest that all members of the web hold the same beliefs, desires etc., but rather that there are moments, as Winston has already shown in the case of the 'invention' of cinema, when enough possibility meets enough desire in a way that seems significant to enough people to leave markers in time that are perceptible in hindsight.

Alfred Schütz’s concept of ‘finite provinces of meaning’ gave me a way to think about the cognitive dissonance that often sits at the heart of play, humour and poetry as well as the experience of a successful magic trick. In Schütz’s view there is a world of reality that a society shares by tacit agreement – everyday reality – but each of us enters and leaves many

\(^{23}\) These commentaries are discussed further in Chapter Three.

\(^{24}\) Bijker (1995), Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change. In my understanding of Bijker’s term, technologies, or rather, their development, uptake, application, and after-effects, are shaped by social factors and interactions among social groups, each of whom has their own kinds of ‘expertise’ that may have no apparent ‘technical’ content.
other realities during our waking and our sleeping lives. Each of these realities or ‘finite provinces’ has cognitive style that makes that reality consistent within itself, though not necessarily compatible with the reality that we experience in the next province. Schütz’s examples included the world of dreams, of the theatre, of a child’s playing, of a scientist’s engagement in theorizing, of jokes, of any intense aesthetic or erotic experience. For Schütz the finiteness ‘implies that there is no possibility of referring one of these provinces to the other by introducing a formula of transformation. The passing from one to the other can only be performed by a “leap” … which manifests itself in the subjective experience of a shock.’

The spatiality of this model pleased me, although I later questioned whether 'leap' and 'shock' are the best terms for the experience, which I think of more as an oscillation.

The third important concept is that of 'creative apperception', a term that I first came across in the writings of psychologist D.W. Winnicott. The Oxford English Dictionary defines apperception as: 'The mind's perception of itself as a conscious agent; self-consciousness', and expands its definition as a term in psychology as: 'The action or fact of becoming conscious by subsequent reflection of a perception already experienced; any act or process by which the mind unites and assimilates a particular idea (esp. one newly presented) to a larger set or mass of ideas (already possessed), so as to comprehend it as part of the whole.' One cited example of its use continues: '...Apperception does not always follow perception immediately, for years sometimes intervene between the learning of a fact and its comprehension.' Winnicott wrote that 'It is creative apperception more than anything else that makes the individual feel that life is worth living.' My understanding of 'creative apperception' then links it to revelation, and the perceiving of oneself perceiving, in some way that seems worth attending to. This comes back again to my broad definition of 'entertainment', and the work of the sensuous intellect within performance and experience.

Others have expressed each of these three concepts in different words, and I have probably simplified or misinterpreted the original authors’ intentions. For example, the 'technological frame' seems to be a similar concept to Actor Network Theory; Schütz's finite provinces of meaning are William James' islands of reality; Arthur Koestler's theory of

25 Schütz (1970), On Phenomenology and Social Relations; Selected Writings, p. 256.
26 Oxford English Dictionary online, accessed May 2011
bisociation as a springboard of creativity ('the perceiving of a situation or idea ... in two self-consistent but habitually incompatible frames of reference')\(^{28}\) combines Schütz and Winnicott. However, rather than continuing to try to refine my understanding of them, which was taking me deeper and deeper into territories to which I have nothing original to contribute, I have grasped them as tools with which I could think about aspects of the sort of spatial fascination and intrigue that I was tracing as it bubbled up in different places in both elite and popular entertainments.

Something that the illusionists themselves stated consistently is that the ‘effect’ is what takes place in the mind of the audience, not what the conjuror does on stage. I suppose the conjurors could be fancifully described as intuitive phenomenologists; the pseudo-scientific pomposity of the title would probably have appealed to some of them if they had been aware of the terms. I was not comfortable with trying to express the work in a formal language of phenomenology, in spite of my allegiance to Alfred Schütz, although much of the thesis could sit within this theoretical framework, partly because I lack the training to do so, but also because I feared that it would close off too much else that my reading was suggesting to me.

For example, when thinking about the ways in which the conjurors used materials and technologies in innovative ways, I wanted to meander through the sidetracks in social and industrial history that these opened up for me. I was excited, for example, by glimpses of a tentative link between changes in the techniques of producing piano wire, bicycle technologies, 19th century perceptions of the shapes of women’s bodies and the role of ball-bearings in 20th century avant-garde furniture design.

Quirky accidental genealogies amused me too: from fragments gleaned from biographical memoirs I could weave a possibly spurious web of connections between the characters who appeared in the different papers; for example, from the English critic of fashion and decoration Mary Haweis to her son Stephen, a photographer, who documented the work of sculptor Auguste Rodin, who acknowledged his creative debt to the stage performances of dancer Loïe Fuller ‘the Fairy of Electricity’, whose companion Gabrielle Bloch ran the shop opened in Paris owned by Eileen Gray, whose personal affinity with the

seemingly weightless infinity in the exhibition designs of Frederick Kiesler led to a friendship which continued after he emigrated to the United States, where his innovative shop window designs extended a tradition of drawing on the techniques of stage magic that had been suggested by Frank L. Baum, (of *Wizard of Oz* fame) whose theatrical background also permeated other works by him, from *The Art of Decorating Dry Goods Windows and Interiors* to *The Master Key: an Electrical Fairy Tale*.

In a half-dream state in the night, I put together the rest of the audience whose responses to that show I wished I could know. Apart from Vuillard, I decided I would invite Winnicott of course, and Frederick Kiesler, Stefan Mallarmé, Georges Rodenbach, Luis Barragan, Eileen Gray, Loïe Fuller, Gio Ponti, Mies van der Rohe, Vladimir Nabokov, Susan Sidlauskas, Sam Sharpe, Jim Steinmeyer, Robert-Houdin, Ralph Waldo Emerson, John Dewey, Gregory Bateson, Peter Berger, Robin Evans, Mimi Hellman, Adam Phillips...which made me realise also how much of what I think about simply demonstrates my own way of 'choosing what to see'. This is a topic that I return to in the final chapter.
Method and Structure of the Thesis Research

The material of study

The primary material for study was that which documents classic stage magic. A parallel industry of publications and memoirs by conjurors themselves arose in the later 19th century, almost in synchronicity with the new routines, in which many of the techniques of professional and amateur conjuring were described (a point which raises interesting questions about the role of ‘secrecy’ in technique). These popular publications were freely available to anyone who chose to buy them. Their authors always emphasised their rejection of any claims to supernatural powers. Such publications were part of a move to link professional magicianship to modernity, science and respectability, and to imply an educated and sophisticated audience, which frequently (according to the memoirs) included various ‘Crowned Heads of Europe’. (This of course emphasises that the audience that I am considering here is a Western, largely middle-class, one, and indeed the bourgeois nature of the 19th century audience for magic is an important aspect of my thesis.) The literature of the time invariably refers to the conjuror as ‘he’, and since the majority of the performers at the time were male my citations will follow the same convention.29

These 19th century books and their 20th century equivalents were the starting point for information about the illusions. Working through different sets or types of stage illusions and then following up the spatial thoughts which they brought up for me has led me to consider aspects of many histories: such as theatrical and cinematic history, the history of leisure, the development of natural magic into modern science, changing ideas of entertainment, the development of modern physiological and psychological theories of perception and attention, the functional and manipulative aspects of ‘decoration’, the mechanics of vision in relation to the optical attributes of materials and the ‘working’ properties of decorative surfaces, and the role of play in spatial experience. I have also drawn on my memory bank of novels read, places visited and things seen.

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29 There were some female conjurors (see for example Amy Dawes (2007), The Female of the Species: Magiciennes of the Victorian and Edwardian Eras), but their acts were similar to those of the male performers. Many were female assistants who took over the conjuror’s role in their acts when their husbands died. The assistant’s role was often highly physical, uncomfortable, and generally unacknowledged by the audience.
The period of study

The period of magical performance that interests me (1850-1930) was not only 'the golden age' for stage magic, according to magic's historians, but it also started at the period when, as Alice Jenkins' work had shown, the stirrings in the spatial imagination that had been set going by science were now percolating through everyday language and influencing the tools with which people thought. Of course the period 1850-1930 contains sub-divisions within itself, many of which are characterised by vehement rejection of the one that preceded it. The routines offer me positions from which to discuss some of these, and their part in the technological frame.

The magic performances that will appear in the chapters start with from those of Robert-Houdin 'the father of modern magic' in France, who was just about to retire when my period starts. The scientific demonstrations by Professor Pepper just after the middle of the century open a period of mirror/glass illusions which are a large part of the routines that harnessed the popular interest in spiritualism in the 1860s and 1870s, ostensibly to debunk it but possibly, as I will suggest, because it provided plausible narratives in which to play with the effects that the mirrors could create. The 1880s and 1890s took on these spatial games, along with many new technologies, to demonstrate flying, floating and vanishing. Stage magic after the turn of the 20th century began to lose its spatial urgency around the same time that magical ways of seeing were entering the world beyond the magician's stage, and these are the themes that I bring out in those parts of the thesis that refer to the work of artists, writers, architects, theatre designers, furniture designers working around the fin-de-siècle and into the early years of the 20th century.

These, who are the precursors of architectural Modernism, are also practitioners of 'interior design' in the sense that the spaces that they thought with and about were simultaneously physical and mental. The 'emergence of architectural space' during the same period as my study has generated a considerable body of study by architectural historians.30 Although I do draw on many of the same sources as these scholars (new psychologies of perception, theories of empathy, descriptions of anxious perceiving subjects who were finding that space was forming and reforming as they moved through an uncertain world etc),

30 This is discussed more fully in Chapter Two
rather than reiterate their arguments, I have tried instead to show how these ideas also have been explored in 'entertainments'. Many of these turned uncertainty into a form of delight (perhaps to offer reassurance, in spite of it all).

Because the entertainments are all in some way fictions (the idea of ‘fictional truths’ is discussed more fully in Chapter Four) it is important for my thesis that my study of stage magic starts in a period in which 'the interior' as a stereotype for domesticity was well established in many genres of entertainment, and ends at the time when 'interior design', in establishing its first professional bodies as para-architectural, located it stolidly in relation to an equally narrow concept of 'architecture'.

'Interior designs' is an awkward term that does not yet work in a sentence in the way that the word 'architectures' does. 'Design' implies a deliberate intention, rather than an outcome. In thinking about architecture I align myself with Jonathan Hill when he clarifies that in his concept of architecture, buildings, spaces and artworks may all be discussed as architectures (though I would say interiors) regardless of how each was originally conceived. 

In this thesis, it will become clear that I am describing many architectures as forms of 'interior design', and treating them all as serious entertainments. In each chapter, I refer back to the history of stage magic while discussing some aspect of interior spatiality from the 20th and 21st century. Some of these are drawn from buildings, but others - such as events, films, texts, reflections, surfaces - are works that would be more immediately classified as artworks, writings or fictions.

**Stage magic and conjuring considered in relation to other disciplines**

The study of non-supernatural magical performances is also informing other disciplines today; neuroscience, education, philosophy, computer studies, artificial intelligence.

Again, rather than go into any of these at any depth here, I mention them only to emphasise both the web of thought in which the study of interiors spins, and the rich potential of the concepts that the practice of entertainment magic embraces.

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32 See Chapter Nine
The dominance (or otherwise) of vision, and the suppression (or otherwise) of 'the body' and the other senses in the constitution of modernity are further topics that my study runs up against. Much late 20th century scholarship has suggested that Western culture is dominated by 'an ocularcentric paradigm that both created and sustained an elite vision-generated, vision-centred interpretation of knowledge, truth, and reality.' The opposing argument is that this simply re-affirms the specific set of power relations embedded in that way of seeing the world; through considering other sensory domains, other scholars have created new views of social history that give a voice to those who were not part of the elite.

The study of magic tricks offers a way to wiggle between such bodies of thought. The conjurors, like pickpockets and confidence tricksters, worked on a range of senses and perceptual systems. I accept that the audience for their tricks was largely the conforming bourgeoisie. However, since the tricks work by sometimes playing within, and sometimes playing against, the rules that may have prescribed the perceptual possibilities of their audiences, I can use this material to talk about what was not in the tricks then, and what might be found in them today. The very 'niceness' and middle-class respectability of 19th century stage magic have suggested many readings to me, and permitted many strange thoughts into my mind for consideration. Through these terms I created for myself a set of tools that have allowed me to make some of the rather extravagant speculations that I will come to in due course. Indeed, the very act of drawing them together and writing them down became a form of magical production, a fabrication constructed from the entertainment of the thoughts that the conjurors’ routines have provoked for me.

When I looked back on the first paper that I wrote, and on the notes that I was making at the time, I was troubled by how many of the things that I felt then to be ‘relevant’ without knowing exactly why, were turning out to have been bound together already by others in disciplines beyond my own. In some ways this was reassuring in that it reinforced my faith that if I looked at the tricks in many different ways I would find something that would be important for me, and, I believe, to others in my discipline. In other ways it made

34 Levin (1993), Modernity and the Hegemony of Vision. p. 2
35 Smith (2007), Sensing the Past: Seeing, Hearing, Smelling, Tasting, and Touching in History
me nervously aware that my research did not sit within a single explicit theoretical framework, and that it was leading me to many bodies of thought in which I do not have a confident competence. In defence, I would say that the original contribution of the project is in its attempt to identify other possible antecedents and other possible futures for the changing discipline in which I now teach, by bringing together ideas from disparate sources that sit outside of today’s more conventional professional hierarchy of ‘architecture/interior design/decoration’, but instead treat them all as aspects of spatial practice.

Since the conjurors themselves constantly drew on eclectic sources in the design of their effects, seizing on new technologies and appropriating (or misappropriating) theories and ideas from more scholarly sources to suit their own ends (some architects have been accused of the same thing), I could claim to be working within an established creative tradition. This is said slightly tongue-in-cheek, but it also reflects the impossibility of fitting into a fixed place a discipline that today, like the magic shows, involves art and science, psychology, performance studies, theatre and event design, and the creation of moments in time as well as places in space.

**Structure of this thesis document, and a defence of its music-hall character**

The thoughts that the conjurors’ routines provoked for me led to undergraduate design studios, lectures, papers and articles which were both the product of the research and the stimulus for further ideas. The act of writing became in itself a tool for production which was often stimulated by the constraints of the context, such as the conference theme, the proposed word count, the likely audience and so on. I hoped that the papers would themselves be both entertaining and capable of provoking moments of insight. Parts of the key ideas needed to be recapitulated in each paper, and many of the motifs, definitions or key references reappeared in slightly different roles, but turned to different ends to construct the new argument. Since similar reiteration, internal repetition and re-appropriation were part of most conjuring routines, the work seemed to have some parallels with the way that the performers themselves worked to build up their full act.
Dariel Fitzkee, a theoretician of magical thinking, has described a hierarchy of ways in which a conjuror adds a new effect to the repertoire. (*In magical parlance a trick is an effect performed with specific things or people. An effect is a general result which seems to happen, through apparently supernatural means, but while it is happening the spectator is perfectly aware that nothing of the super-natural is associated with the agency of accomplishment.*) One example of an effect is any production of objects or people from a space that has previously been demonstrated to be empty; another effect is the magical transformation of one thing or person into another. Examples of some very old tricks are the Egg Bag, the Linking Rings, the Torn and Restored Newspaper.

According to Fitzkee, the simplest way to add a new effect to a routine is to find a readymade trick in a shop, catalogue, book etc that appeals to the performer. The readymade trick usually determines the object with which the effect will be accomplished. The second way is for the magician to decide what object he wants to work with (perhaps something topical), and then look for a pre-existing trick that can be adapted to allow him to do it.

The third method (the creative one) of adding a new effect is both to decide what material to work with, and also invent a new method of doing something with it. With hindsight, and Fitzkee’s hierarchy in mind, I think of my original papers or articles as performances, even entertainments, in their own right, which in some ways were analogous to tricks of the third category. Their subject matter was suggested by the theme of the conference or journal. My creative input was to manipulate the work-in-progress into a self-contained argument that could both advance my project and fit the requirements of the journal or conference in question. In doing so, each paper revealed something unanticipated to me, sometimes quite displacing me from my own original supposition as I turned the same material this way and that, finding different ways to use it. Like some of the trick apparatus, the ideas showed different aspects when seen from different positions.

This thesis document is structured around revised versions of those separate works (performances) that were produced over a period of years and presented to audiences from different disciplines. They have been rewritten and expanded in response to developments in my own thinking during the process of the doctorate.

36 Fitzkee (1944), *The Trick Brain*, pp. 34-36
An early version of Chapter One was presented at the SAHANZ\textsuperscript{37} 18th Annual Conference, Darwin (2001). An expanded early version was published in *Space and Culture*, 5, 4, (2002).


A section of Chapter Four was presented at the SAHANZ 27th Annual Conference, Newcastle, (2010) and an expanded version was published in *Interiors: Design, Architecture, Culture*, 1, 3, (2010).

Part of Chapter Five was presented at *Instruction, Amusement and Spectacle: Popular Shows and Exhibitions 1800-1914*, University of Exeter, (2009). It was expanded to the early version of the chapter and presented at SAHANZ 28th Annual Conference, Brisbane (2011).


Themes within the thesis introduction and conclusion were presented at *Keywords for Interior Design*, IFW2010 (Interior Forums World), Milan, October 2010

\textsuperscript{37} Society of Architectural Historians of Australia and New Zealand
The Research Project

Recapitulation

Today the manipulation of fascinating visual and visceral experience forms part of art and design practice. Spatial experience has become a medium through which something more can be said - it has become 'entertainment' in the serious sense. It can be delightful, or make us laugh, or fall into a meditative silence. The ways in which such experiences can be felt today as poetic, significant, joyful or moving still draw on many of the spatial concepts that informed the imagination of the later 19th century. This project seeks to identify some of the factors that shaped these concepts, to trace how their connotations shifted and regrouped during the years of my study (1850-1930), and to discuss some of the rather different ways in which we attend to them today.

I suggest that the pre-conditions for today's interest in spatial experience existed in the 19th century and can be traced, as well as in that century’s new perceptual sciences, in its popular entertainments. These, seemingly innocent, offer insight into areas of social and cultural change and show us ideas at work on many levels. My project examines the changing manipulation of space by stage illusionists in the late 19th and early 20th centuries and speculates as to the shifting perceptions of space in its contemporary audiences. This offers a position from which to consider today’s new spatial disciplines.

Rather than simply looking at magic shows, I have looked out from them to the context in which they were set, to try to understand the web of ideas and technologies and perceptual modes that allowed them to fascinate their audiences, once 'magical' experiences no longer needed supernatural agencies to explain them.

Finally, by offering a variety of ways to think about the significant entanglements between things and people that were created through manipulation, anecdote and play a century ago, this project has allowed me to speculate about many works created in the 20th and 21st centuries which I consider as forms of interior design. My broader concern in my research has been to contribute to the ways in which 'interiors' - their histories, their
construction, their existence - may be considered, and to suggest different antecedents and different futures for interior design, beyond current popular understandings of it as a discipline that is primarily para-architectural.
Outline of the Chapters

Chapter One draws on examples from stage illusions to discuss our human fascination with 'impossible' operations, such as dematerialising, defying gravity, vanishing, or changing form. I speculate on reasons why these 'impossibilities' became so fascinating in the late 19th/early 20th century and suggest that these desires and fascinations are still at play in today's spatial cultures. The chapter introduces many of the themes that will be developed in later chapters: the new perception of space as experience rather than container or void; the proposition that space is perceived as something active which sometimes seems to behave in extra-ordinary ways and requires us to see in 'impossible' ways; that seeing in impossible ways is disturbing but pleasurable, and demands a new agility of sight, a type of play; that such play, in dealing with the disturbance of vertigo, shock and destabilising of the senses, has psychic profundity. It concludes that although today the old sort of entertainment magic is no longer significant, the desire for its effects still lingers, but these have become art/high culture and are seen as profound rather than comic.

Chapter Two emphasises the role of the audience/observer in receiving the perception - a type of play. I discuss the changing sensibility to spatial experience that I feel is a characteristic of modernity and suggest that the modern body has learned to feel itself pleasurably stretched and destabilised by the exercise of the spatial sense, both through actual physical experience and also imaginatively through an empathic engagement with what we see. I draw on some 19th and 20th century theories as to the role of the corporeal and the visceral in perception to speculate as to how an audience might have seen and experienced three popular entertainments from the early 20th century. All three entertainments shifted and extended the boundaries of the body, not only in the apparent bodies of the performers but also, I suggest, in ways that resonated within the bodies of their audiences. I suggest that such internal resonances, engaging the senses both imaginatively and viscerally, have contributed to the perceptual vocabulary of modernity, and often form part of the practice and experience of today’s spatial arts. By referring to theories of perception that are drawn from the sciences, the chapter re-engages with the idea of interior design involving the manipulation of natural magic. In both chapters I examine the entertainments using the assumption that the audience was also part of the work, their modes of seeing contributing to the total experience.
Something that the magician has always known is that the magical effect takes place in the mind of the audience rather than on the stage. The performer's skill lies in the skilful alignment of the audience's attention towards things that seem to stretch the bounds of the possible. However, to be felt as 'magical', the [almost] impossible needs to be of interest to the audience. In Chapter Three and Chapter Four, I treat the entertainments that I present as if they were fictional truths, a term that I have appropriated from literary theorist Michael Riffaterre. His proposition is that although fiction is by definition artificial, paradoxically it ‘must somehow be true to hold the interest of its readers, to tell them about experiences at once imaginary and relevant to their own lives’ [my italics].

Examining the magic routines in the light of the contemporary context in which they were popular has allowed me to suggest what was 'somehow' true in each - what was interesting - and by extrapolation, to speculate about the spatial desires and fears felt by their contemporary audiences. I identify some ways that an urgent delight (in Chapter Three) or distrust (in Chapter Four) in the potential abilities of our artefacts has been absorbed into the discourse of 20th century design.

Chapter Three addresses spatial concepts that are optimistic and positive, full of joie de vivre, and delight in the possibilities of the modern interior. Chapter Four, however, points out that the representation of the domestic interior as a quasi-magical protagonist that acted out the utopias, fears, and amusements of its time correlates with the history of the depiction of the 'psychologised interior' in painting, theatre and literature. Much of the accepted history of modern design starts from reaction against the superfluity of the Victorian middle-class home, while representations of the Victorian interior and its contents allow us to read 'traces of anxiety, longing and repulsion'.

Chapter Four examines some active interiors drawn from modernity’s entertainments during a period spanning the late 18th to the early 20th centuries: a period in which it became possible to conceive of the interior as a reflection of a relationship between objects and people - a fluid entity whose inanimate components and living occupants could be perceived as working on and with (and possibly against) each other. It concludes by suggesting that two quasi-magical interior scenarios that became stock characters in popular 19th century entertainments continue to have roles today as members of the magic ensemble through which contemporary dreams and anxieties about the home in

38 Riffaterre (1990), Fictional Truth. p. xii
39 Logan (2001), The Victorian Parlour. p. 9
relation to the world, whether enchanting, ludicrous, pompous or alarming, are offered for consideration.

The third part of the thesis, Chapter Five and Chapter Six, discusses varieties of ways in which we may see 'nothing'. Both chapters refer to the innovative illusions created by glass and reflections that became possible in the second part of the 19th century. These revolutionised stage magic of that period, but in addition they have entered the vocabulary of modernity, both as characteristics of modern architecture and as generators of a great deal of the metaphorical language through which the multifaceted swirl and anxiety of modern life is described, for example in terms like the phantasmagorical circulation of goods and money, or the kaleidoscopic succession of images.

Chapter Five, which discusses the imagery of ghosts in fiction, turns back to the older interior, the mind, to show how theatrical illusions reflected (and created) the spatial imagination and cosmic beliefs of their times. This chapter suggests that such quasi-magical spatial manipulations formed part of the nexus between new technologies and new models of space both mental and physical. They are part of a framework that includes not only the spatial tricks and techniques of their period, and the innovations in technologies that enabled these, but also the inner spatial worlds of their audiences and their relationship to the mysterious. The chapter looks at some of the ways in which the enigmatic world between 'being' and 'not being' has been depicted, and how this visual language has been absorbed into the vocabulary of subjectivity. Chapter Six pulls back from the hypersensitive world of the fin-de-siècle artist to suggest that 'transparency' and 'invisibility' remain slippery concepts. In recent years 'seeing nothing', and being brought to the awareness that one is seeing nothing, have been used to evoke the sublime, particularly in such sombre situations as Holocaust memorials. However, the chapter reminds us that the manipulation of experiences of 'seeing nothing' is still part of conjuring.

The fourth section, Chapter Seven and Chapter Eight, further develops the idea that perceptions (in a deeper sense than mere perceptual acuity) are learned. It goes without saying that we are acculturated both as to how to perceive and as to what to perceive: perception has many histories. Some familiar examples are apocryphal: Oscar Wilde is reputed to have quipped that no-one ever saw fog until Whistler painted it; Parisian audiences are supposed to have been provoked to riot by the first performance of Stravinsky’s Rite of
Spring, yet applauded it less than a year later; various primitive tribes, we are told, have no word for the colour blue, or was it red? The list is endless, but within the scope of this thesis, I am concerned with the development of the sort of perceptions that create spatial experience, and particularly with experiences that seem charged with extra significance. Many of the phenomena that are exploited by conjurors are present in everyday life, but are not always present to the attention until we learn, or choose, to perceive them. Chapter Seven suggests that quasi-magical effects may have more potency today in the art gallery than in everyday life because they are able to ask us overtly to attend to them in certain ways, paying attention to the fleeting and the ephemeral and being aware of ourselves experiencing our perceptions. The work then becomes whatever is created by the sensuous intellect of the observer, as it is brought into more-or-less willing alignment with the intention of the artist. As a counterpoint, Chapter Eight traces the ways in which one spatial typology, the Wintergarden, has taken on different forms to suit the interests and values of the day. That which enchants or excites at one time may seem dreary at another, but there is something in the contradictions inherent in its name that has allowed the Wintergarden to change its appearance and retain its fascination.

Discussion of the sensuous intellect - the human faculty where sensation meets thought - then leads to the concluding part of the thesis, in which I discuss the implications for design practice and education if the nuanced shifts in perception that 'create' the spatial experiences of which I speak require a willingness on the part of the protagonist to see in this way.
CHAPTER ONE

The Spatial Implications of Stage Magic

The invention of space as experience

The history of the emerging discipline of interior design could be thought of as a history of spatial desires. Its true history as a discipline of performance and experience, rather than of composition or style, begins when spatial experience becomes the explicit subject of manipulation, anecdote and play. The interior architect/designer, that 20th century offspring of the Arts and Craft Movement, can speak of space flowing, leading, inviting, shifting, embracing, shimmering; in short, space is given active attributes. An ability to design space so that it ‘works’ is the attribute expected of the profession. But on even the most mundane level, it is common today to think of making space ‘work’ for us, by manipulating spaces and forms so that some aspects of their characteristics are either concealed or transformed, for example by painting a ceiling to ‘lower’ it. We and the space are united in a performance. How does this way of thinking fit into a history of spatial design, and in what ways has such spatial play entered our imaginative experience?

In this opening chapter I am going to look at a body of work which reached a certain level of glory in the late 19th century, that of the stage magician, and suggest that ideas which were embedded in that work prefigure (albeit unintentionally) thoughts, desires and fascinations which are still at play in contemporary spatial culture. These ideas nowadays are expressed through works which at their extreme seem to be designed, not merely to perform, but to perform ‘impossible’ operations such as dematerialising, defying gravity, vanishing, leading to an ‘architecture of lightness [in which] buildings become intangible, structures shed their weight, and facades become unstable, dissolving into an often luminous evanescence’.¹ Notable examples might be Diller + Scofidio's *Blur Building* (2002), whose fabric of mist shaped by wind has no fixed envelope,² or Jean Nouvel's *Cartier Foundation*.

² The form of the building was given by a shifting cloud of mist created from the waters of the lake in which it stood. The fog created an experience of visual and acoustic silence for those who entered it. Its authors describe it as an
for Contemporary Art (1994), where the boundaries between interior and exterior shift in relation to the viewer’s position. This interest in spatial ambiguity, reflection, perceptual layerings and the thickening of space by light, also informs the work of contemporary ‘artists of light and space’ such as James Turrell or Dan Graham. The desire that space should transform, change shape, fold in on itself or put a boundary to infinity seems to be driving some of the most interesting work of the moment.

Conjuring with space

Why do I propose a resonance between late 19th century stage magic and the emergence of a spatial discipline of performance and experience? Later I will talk about more elusive similarities, but I was first struck by the simple fact that many of the practical techniques used by the old-fashioned illusionist are second nature to a designer.

For a demonstration of some pragmatic effects, consider this tricky table, which from the front is supposed to look like a delicate piece of furniture but that actually conceals a space large enough to contain an assistant. The illustration is taken from Conjurors’ Optical Secrets by Sam Sharpe, one of a series of volumes in which he catalogued some of the optical, mechanical, hydraulic, and psychological effects at work in magic tricks.3

Image courtesy Brian Hades: M. Hades International

architecture of atmosphere: ‘Blur is decidedly low-definition: there is nothing to see but our dependence on vision itself.’


3 Sharpe (1985), Conjurors’ Optical Secrets, p.16.
The table demonstrates the following (Sharpe’s terminology is in italics): optical illusions of *apparent decrease by division*, such as *broken contour* and *bevelling*; other subtle illusions created by the understanding of how the eye will read dark and light surfaces; *concentric confusion* when the eye is bewildered by the multiple horizontal lines of the beading; the use of the *streamlined cavity principle*, which takes advantage of the way that the eye and brain decipher perspective; the *thin edge principle*, which is the same one that often made the true depth of a old-style cathode ray tube television set take us by surprise; plus spatial illusions caused by people’s misassumptions about the size of a human body, usually so much smaller than we realise. The trick would be further enhanced by illusions generated by the plasticity and elasticity of materials and of the human body itself.

Sharpe’s notes were written in the 1970s and 1980s, towards the end of a career involved with documenting conjuring tricks. They represent a straightforward twentieth century theory of the psychology of perception, and most of the observations could be related to the working knowledge of a professional interior designer or industrial designer today. But as well as demonstrating a manipulation of perceptual experience, do the illusionist’s tricks reveal spatial disturbances and tensions, spatial beliefs held by the audience? Once my thoughts had turned to magic, I was naturally intrigued by the following sentence, drawn from a quite different context (the author, Thomas Moore, is a psychotherapist): ‘Interior design, whether amateur or professional, is largely the practice of natural magic, an attempt to arrange life for maximum emotional and practical power.’

‘Natural magic’ means the application of phenomena derived from the sciences, phenomena that have an objective existence. An example of the covert use of natural magic to maintain power would be the apparatus supposedly used by Greek temple priests that caused the temple doors to open when a fire was lit on the altar. What I find interesting here is in identifying what it is that we still find marvellous, magical, and enchanting in the temple trick. We don’t find it charming that air expands when heated or that a siphon works, but we find it magical that a door could appear to open by itself. David Devant, one of the most famous stage-magicians of the turn of the century, defined magic as ‘the feeling that we have seen some natural law disturbed’. In actual fact, we have seen natural laws in operation but have been misled or misdirected in our understanding of which natural laws were at work.

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My suggestion is that the contemporary fascination with spatial operations is part of a current willingness, even longing, for space to play with us; to respond to us; to trick, tease, and disturb us; just as we, as designers, speak of playing with it. It is a desire that was stimulated by the new spatial interests of the 19th century, which prepared people to experience space in different ways.

**The active eye**

That the 19th century witnessed a ‘crisis’ in the culture of space and time is a recurrent observation in 20th century scholarship. New modes of transport and communication created new spatial experiences and new spatial practices. New spaces of movement, such as the railway train, revealed space opening and closing, unfolding and rearranging itself in layers of space moving past us at different speeds. Space, having first disintegrated, reconstituted itself as a dynamic and fluid entity.

Accustomed to the panoramic view, the 19th century eye now learned to select details from the multitude. As perception of depth became more elastic, new sorts of spaces found within flatness communicated other possibilities. New optical entertainments allowed people to experience the moving image and to learn to read depth into its flatness while conversely learning that the depth was only an illusion and not to be feared. (I refer here to common anecdotes about short-lived early reactions to film, such as audiences diving to the floor as a train appeared to come toward them.) Henry James was able to speak of the literary technique he called ‘foreshortening’: the creation of an illusory depth by emphasizing certain details while allowing others to fade into the background. The flat space of Japanese art influenced spatial composition for artists such as Whistler, Bonnard or Vuillard. The enigmatic space formed by overlapping layers of flatness offered the sort of magical space that became characteristic of illustrations for fantasy or fairy tales, such as those by Arthur Rackham or Maxfield Parrish. (I will discuss this imagery further in Chapter Four.) Sometimes these were the ground for disturbing perceptions, as for example for the troubled narrator in Charlotte Perkins Gilman’s protofeminist 1899 novel, *The Yellow Wallpaper*, who gradually becomes the other woman she sees creeping along the paper each night trying to escape from behind its pattern.
This increasing flexibility and fluidity of vision was accompanied by the development of other ways of giving attention to space, leading to a perception of space as a flexible presence, capable of holding a charge. I suggest that the same increase in agility and ability that sometimes allows us to be the perceptual equivalent of multilingual or ambidextrous, could lead to the possibility of a shift in spatial awareness whereby space can be experienced as a dynamic set of events rather than (or at the same time as) a two-dimensional or three-dimensional emptiness, and that this perception distinguishes the character of interior design and the new sorts of discourse that rose around it.

Consider these examples that indicate this changing perception of the complex experience of interior space, and the interplay between performance and experience: Richard Redgrave, addressing the Society of Art in 1850, pleaded that the utility of a carpet lay not only in its ability to cover the floor but also in its capacity to provide a visually continuous plane from which the various objects in an apartment could rise. His apprehension of the space-negating effect of a riotously patterned floor surface predates James Gibson’s psychological theory of perception a century later—that space, rather than being perceived as a collection of objects hanging in nothing but air, can be reliably perceived only in relation to a continuous surface.

When in 1881, Mary Haweis, author of *The Art of Decoration*, hypothesized that the highly polished surfaces and reflective elements in a Louis XIV interior would have produced ‘a softened and indefinite effect’ before which figures in the foreground would appear more clearly delineated, while ‘throwing the background in arrear,’ she noted that this motive ‘has never to my knowledge been pointed out before’ although ‘in painting a picture, these calculations always enter in; and the idea is worthy of French wit’.  

Voysey (whom I cite as an example of the new mood of design that sought to reclaim the interior from the grasp of the upholsterer in the late 19th century) wrote about the relationship of colour and light to our perception of the height of a ceiling in terms that address the physiological as well as the psychological effects. Mrs Haweis also had strong opinions about ceilings, which are more subtle than the decorator’s convention of today,

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which is ‘white to raise and dark to lower’. Her words suggest both that she enjoyed her rooms by lamplight and that her seeing possessed a haptic quality:

‘Ceilings should always be coloured, for a darkish ceiling throws no cold reflections down, and materially heightens the room’ (Haweis: 230). White walls ‘greatly diminish the size of a room, as a white ceiling diminishes its height. A dark wall adds size, because the eye cannot exactly measure the distance at which the wall stands; whereas in the case of a white wall, the eye calculates it to an inch’.  

She wrote perceptively about the physical sensation of the eye as it reads a window in a wall, (sharp edges where the frame meets the wall create uncomfortable glare) and was aware of the subtle working of the splayed reveal by which ‘the shock is lessened’.

The awareness that our surroundings work on us by what they do to our physical senses, in addition to what they symbolise or signify, was part of a new way of thinking about the role of the human body in the creation and appreciation of space. This way of thinking informed the work not only of architects and designers, but also artists and writers of the 19th century. It also informed the world of stage magic, for all the examples I have just given of observations of the interplay between performance and experience had parallel applications in the great stage illusions. Stage magicians used pattern to make the location of surfaces appear non-specific. A shimmering backdrop often obscured the depths behind the performer standing out sharply in front of it and also camouflaged suspension wires. Dark interiors in any stage apparatus made its depth ambiguous. This technique, coupled with exterior lights that point towards the audience, can turn any cabinet into a portal through which to disappear into blackness. This leads me to my next proposition: that space had become an ambiguous and provocative entity by the late 19th century, a suitable subject for the play of imagination.

10 Haweis, op. cit. p. 217.
12 This knowledge, which is embedded in vernacular architectural traditions, was used in reverse in many magic tricks that used dazzling light to prevent the audience from seeing what was really happening. The ability of light to hide things is expressed in Walter Chalmers Smith’s 19th century hymn, which praises a deity ‘in light inaccessible hid from our eyes’ where ‘only the splendour of light hideth Thee’. Jasper Maskelyne, of the third generation of the famous family, claims to have used his magician’s technique to ‘hide’ the Suez Canal from enemy bombers by lighting the whole area so brightly with whirling lights directed at the sky that dazzled pilots were unable to see the target accurately (Fisher (1983). The War Magician.)
13 The same effect was recreated in a 1982 production of Macbeth for the Welsh National Opera Company to ‘vanish’ the witches: they were swallowed by the dark interior of a cabinet on wheels which then silently withdrew. The director, David Pountney, acknowledges the importance of working with a lighting designer who understood the use of cross-lighting to make this effect work.
The disturbance of space

To turn now to the manipulation of space in stage magic: what were some of the new visual/spatial experiences offered by the stage illusionist, and why were they so effective at that time? Although conjurors have been applying natural magic since the dawn of time, the late 18th and early 19th centuries saw the evolution of professional magicians as pure entertainers in many western countries. The large-scale stage illusions that are the focus of my interest developed during the second half of the 19th century. The new routines connected to traditions and techniques from the theatre, rather than the street or the fairground.

Although the stage magician today can appear a sad character, a third-rate act at a sales convention, often stereotyped as ludicrous, melancholy, shabby, or somehow impotent, the 19th century stage magician provoked a very different reaction. In the period under discussion, magic shows became hugely popular, reached a peak of creativity around the turn of the century, and had largely declined in popularity by the 1930s. Although enthusiasts continued to enthuse, the acts remained much the same but were no longer able to interest large audiences until the more recent return of popular interest in the type of extravaganzas that might be described as ‘living special effects’.

In the earlier decades of the century things such as card tricks or simple sleight of hand tricks that worked with whatever was to hand had moved from the bar-parlours of inns to drawing rooms and had become acceptable as domestic entertainment. Amateur conjuring was a genteel accomplishment, and books of instructions sold well. The difference between the large scale illusions and anything that had gone before is that, in the same way that professional science no longer had room for the enthusiastic amateur, the new stage magic, which also required apparatus, learning, discipline, and a laboratory or theatre for its demonstrations, had briefly gone beyond the reach of the non-scientist/non-professional. It is relevant that the first articles to discuss the technical secrets of many famous stage illusions from the 1850s to the 1890s appeared in the journal Scientific American.\textsuperscript{14}

The Victorian magic shows combined traditions from the theatre, the pantomime, and traditional conjuring with the new 19th century amusements derived from the popular exploitation of science, such as the phantasmagorical lantern and the class of illusions known

\textsuperscript{14}{} It is these that were later gathered together in Hopkins’ Magic: Stage Illusions, Special Effects and Trick Photography, published in 1898.
as ‘Pepper’s Ghost’. To give just one example of their popularity, John Nevil Maskelyne and his successive partners were able to stage magic shows in London for more than 50 years, beginning in 1873 with a 30-year run at ‘England’s Home of Mystery’, the Egyptian Hall and later moving to St Georges Theatre where the family continued the tradition.\(^\text{15}\)

Unlike the music halls or the funfair, these stage shows contrived to be considered as suitable for the respectable, professional, or educated classes, in short for an alert and modern-minded audience, and to some extent edifying insofar as the audience had been challenged intellectually as well as amused. An atmosphere of mystery and inexplicability was the expected convention with both audiences and performers, although the majority of well-known performers were vehement opponents of charlatanism; indeed, there is a tradition of performers developing their skills to expose the trickery of those who claimed supernatural powers. For example, any account of the origins of the partnership of J. N. Maskelyne and George Cooke will start with the story of how they set out in 1865 to discredit the acts of the fraudulent spiritualists, the Davenports, by demonstrating that they could achieve identical effects by skill alone. Magic sketches throughout the period of my study regularly parodied concurrent pseudo-supernatural phenomena, such as séances, mind-reading, hypnotic trances etc., yet at the same time they relied on the audience finding the connotations of such things mysterious and somewhat disturbing, even when not supernatural in origin, because they implied that the human mind had unexplored capacities. It is a position that informed the accessible but serious theories as to the origin of ghost sightings, telepathy and mesmerism that were discussed both at learned societies and in the non-scientific press.

A distinguishing feature of magical innovation in the second part of the century was the proliferation of apparatus whose conception required marrying the craft of the cabinetmaker and the understanding of the engineer with the designing mind of the magician/performer. New technologies might allow some tricks to be mysterious so long as the technology remained esoteric, such as those involving electricity or magnetism, but in general, the genius lay in the perhaps intuitive grasp that the innovative magician had on how the trick would work on the audience, not just on how the phenomena could be manipulated. A category of tricks that came into prominence during the period is that of optical tricks involving mirrors and glass in large and complex configurations. The mirrors were able to take a piece of space from one part of the stage and make it appear to be somewhere else. The

\(^{15}\) Jenness (1967), \textit{Maskelyne & Cooke: Egyptian Hall London 1873-1904}.
effect could be used to conceal the presence of people or objects that might be right in the
centre of the stage or to project a virtual image that could be taken for reality.\textsuperscript{16} Further
categories that became important were tricks that suggest levitation, tricks that use steps and
stairs as ‘innocent’ devices, and tricks that use light and surface to manipulate spatial
perceptions.

There is less secrecy about the mechanics of the tricks than people assume. The
magic lies in the art and its application, not the apparatus alone. The old sort of magicians
who worked the fairs had been selling their techniques since the invention of the printing
press. Part of the charm of the set-piece illusions at sideshows was seeing how they worked,
and this would be revealed for an additional admission fee.\textsuperscript{17} In the famous public lectures
given at the London Polytechnic in 1865, the basic principles of the new illusions that were
done with mirrors and with projections were made absolutely public for anyone who wished
to know them. Similarly, the stage technique known as ‘black art’, where an object or
performer appears invisible in front of a self-coloured backdrop, is not in itself baffling,
although it relies on an audience’s reading a deep space as flat. However, knowing the
principles by which effects might be achieved is not at all the same as being able to say what
one has actually seen or understanding the sensations that the illusion has brought up in one.
Furthermore, the use of large installations and the facilities of stage equipment both make a
great difference between the type of magic trick that could be practiced by a drawing room
amateur and a stage illusionist. Nevertheless, I don’t want to spoil anyone's pleasure in these
things by exposing their secrets, giving away anything, although giving away is surely a
generous act? Maybe I could say that I often look at illusion not in the negative sense of the
word, but rather using illusion in the sense it has in the Spanish language, where it also means
hope. ‘I have illusions of winning the lottery.’ So below the trickery, these illusions also
express desires, things that fascinate, charm, and enchant, things that were found
spellbinding, glamorous and dazzling (all words that I have chosen deliberately because they
have their origins in words that have to do with the casting of spells).

Perception is a participatory act, and the tricks of perception played by the Victorian
stage magician cannot be separated from the psychological preparedness of the Victorian
audience to sense them, and its susceptibility to their effects. I do not suggest that this was

\begin{itemize}
\item \textsuperscript{16} Steinmeyer (1998), \textit{Art and Artifice and Other Essays on Illusion}.
\item \textsuperscript{17} Hopkins (1898/1976), \textit{Magic: Stage Illusions and Scientific Diversions, Including Trick Photography}, p. 60.
\end{itemize}
dominant in the consciousness of the inventors of the tricks at the time, although the period coincides with one of research into the psychology and physiology of perceptual phenomena. The veneer of science made them respectable, a sort of edification by puzzlement, yet the scenarios contain all sorts of unquestioned and disturbing undercurrents and images; violent annihilation, possession, dissolving of identity, and confusion, coupled with vertiginous and thrilling spatial displacements. These worked at a deep level in ways that the audience members were not yet able to articulate.

It was not until stage magic was well into its decline that its historians started to theorise it in a way that, I suggest, emphasises its spatial play. One of the first to categorise the tricks was the same Sam Sharpe quoted previously. In *Neomagic* (1932) he suggested six categories of ‘primary feats’, of which only the last – Mental Phenomena – is not, I believe, spatial. This includes the sort of tricks which involve memorising of codes etc., allowing the pretence of clairvoyance or telepathy, and which do not concern us here. The other five categories are provocative (Sharpe's categories followed similar categories proposed by David Devant twenty-five years earlier, but the parentheses were his own):

1. Productions *(From not being to being)*
2. Disappearances *(From being to not being)*
3. Transformations *(From being in this way to being in that)*
4. Transpositions *(From being here to being there)*
5. Natural Science Laws Disobeyed *(antigravity, magical animation, magical control, matter through matter, multi-position, restoration, invulnerability, and rapid germination)*.  

Are these not spatially thrilling? It is the relish for the thrill of space that characterises the audience who flocked to see the grand illusions.

Many magical theorists have suggested different numbers of categories, e.g. Fitzkee (1944) suggests nineteen, Lamont and Wiseman (1999) propose nine categories, but for my purposes Sharpe's list is adequate to suggest that a new fascination with the malleability of space was characteristic of the period, and that the tricks touched on something that the audience was ready to receive.

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The dream of the audience

The relationship between early cinema and stage magic is well documented; indeed the first public screenings formed part of magic shows, and some of the first cinematographers, such as Georges Méliès, were also stage magicians, and the great-grandfathers in spirit of the people who produce special effects for cinema today. If ‘each epoch dreams the one which follows it’, implying that the dreams, visions and imaginings of one age are the pre-history of the next, then the 19th century can been described as a protracted dreaming of the cinema, as all the ingredients which would come together to make cinema possible were almost forcing themselves into existence – the magic lantern and other optical toys, the development of photography, spectacles such as the diorama, the work of scientists concerned with phenomena of vision, and the development of scientific photographic equipment which, originally designed to stop motion, eventually led to the possibility of recording and simulating motion. And add to this the theory that it was in the 19th century that the audience learned to be an audience, to sit in the dark in rows, to accept transformations as entertainment rather than manifestations of demonic powers, to resist the manipulative and bewildering aspects of the visually complex and to relish it instead as amusement. With hindsight, cinema seems inevitable; we learned to come together in darkness and share a collective dream.

I suggest however that 19th century stage magic also contains evidence of a collective spatial dream, a desire and ability to play with spatial concepts in order to feel a sense of spatial form, a spatial thrill, indeed a spatial eroticism. Just as the audience can be seen to have been essential to the ‘invention’ of cinema, so the audience was essential to the success of stage illusions.

The 19th century has been described as having exhibited a horror of emptiness that led to an excess of ornament, the filling of even the centre of the room with ‘stuff,’ and the

20 See for example C.W. Ceram (1965), Archaeology of the Cinema; Michael Chanan (1980), The Dream That Kicks, the Prehistory and Early Years of Cinema in Britain.
21 These ideas, referred to also in the Introduction, are summarised in Brian Winston, ‘Fumbling in the Dark’, Sight & Sound, 11,3 (February 2001) pp. 10-11, a review of Laurent Mannoni, The Great Art of Light and Shadow, Archaeology of the Cinema. Winston suggests that the audience ‘invented’ cinema as much as the technocrats documented by Mannoni.
obcessive draping of every aperture. But the repression of space leads to the creation of myriad new spaces: between the curtain and the reveal, within the drawer, between the picture and its frame, under the piano, hiding in the pattern of the wallpaper, and hiding within the myriad of drawers, receptacles, workboxes, and lockets. The proliferation of patented multifunctional furniture and household equipment in the period speaks of a heightened consciousness of the way in which each object has spaces and purposes latent within it.

The Victorian phobia that any space might conceal an object or person who has the potential to affect our lives is evident in fiction and imagery. In spite of, or perhaps in reaction to, improved lighting, the fear increases that darkness may rebound on us, and the home is full of dark spaces. A study of the home life of the American family 1750-1870 notes that court records and early American fiction are filled with references to the unperceived ‘telltale’ witness in the corner. The insecurity of secure spaces is also a theme of fiction, perhaps best summed up by the 20th century novels of Ivy Compton Burnett, which so tellingly work up these literary traditions in their fictionalised High Victorian settings, where the incriminating letter often springs out of the secret drawer of the desk and lays bare the moral disarray of the household. Safes and locks were the focus of exciting thoughts leading to a variety of new apparatus from the inventor and new routines from the illusionist. The shifty nature of space is both attractive and terrifying, and just the material for entertainment.

Emptiness and potentiality are relished as disturbing sensations of the Victorian period. The vacant chair and the empty hearth are metaphors in popular art and song. The gate of the enclosure surrounding a family burial plot should not close fully but remain ever slightly open, a reminder that removal to the other world may come at any moment. Again, the veiled and the screened have a deep resonance in the Victorian mind, with the symbolism of the draped urn on the grave of a child and the half-draped urn on that of a young person. Even the clothes of the late 19th century make extensive use of filmy layers of sheer and semi-transparent voile and muslin. Hints of hidden space are all around. With this in mind, the potency of a routine such as The Vanishing Lady can be imagined.

For further evidence that the second half of the century introduced a heightened sense of enchanted spatial manipulation to the conjuror’s routine, compare one collection of tricks from 1803 with another from 1898. The first book, *The Conjurer’s Repository*, is a mixture of chemical formulae, physics, and some superstition. Tricks take the form of sleight-of-hand conjuring. (Curiously, techniques that permit reproducing of an image by tracing or transfer are included as types of conjuring. There is a recipe for something that would be the equivalent of carbon paper; is this an early prediction of the disturbing repercussions and loss of identity resulting from mass production?) The only mirror trick is one that describes how to arrange reflective surfaces so that the person who looks into a mirror will see the face of another. The second book, Albert Hopkins’s well-known compendium, *Magic: Stage Illusions, Special Effects and Trick Photography*, published in 1898, contains descriptions of many optical tricks that use mirrors to swap one volume of space with another; an apparently three-dimensional manipulation. These tricks, although their principles had been known for centuries (most of them are listed in the 16th century Baptista Porta’s, 1584, *Natural Magick*) were re-investigated in the second part of the 19th century, first as optical curiosities, such as Pepper’s Ghost, and later as stage apparatus, such as Maskelyne and Cooke’s Protean Cabinet, via which one person could apparently turn into another.
In addition to the optical tricks, Hopkins describes many pieces of apparatus whose trickery used hinges, folds, springs, concealed cavities, trapdoors, pulleys, and similar mechanical ingenuity. The 19th century passion for ingenious mechanical design, allowing adaptability or reversibility to challenge space, is captured in Siegfried Giedion’s chronicling of the proliferation of patent furniture in the century. My point is not just that new technologies made it possible to manipulate the components of furniture more easily, but that people found this stimulating (and occasionally disturbing, as I will show in a later chapter). Space became something that could be created saved, stretched, hidden, consumed, charged with expectation, or made inconspicuous. The germ of ergonomic efficiency was here also, many tricks relying on the performers and their assistants making strategic use of body movements choreographed in the light of precise study of the sequence of events of the trick. It became possible to conceive of the body as a generator, user and performer of space, and not merely its occupant.

If space in magic in the 19th century was increasingly plastic and active, what was its relationship to those who experienced and enjoyed it? A striking difference between the two volumes is in their tone. The Conjuror’s Repository listed phenomena dispassionately. But to look through the pages of Hopkins’s Magic is to feel the presence of a 19th century sensibility. The descriptions are rational, didactic and scientific, yet somehow dreamlike. Elaborate sections through both performers and apparatus reveal the hidden spaces, the ‘before’ and ‘after’ of the trick, the off-stage darkneses, the secret passages, the impassive expressions of the performer and his assistant, and yet they suppress the contortions, exertions, and physicalities of the act. The illustrations often show an impossible view or one that contains simultaneous viewpoints as if the observer’s eye could be freed from the body and floating both in the auditorium and in the wings. The frisson is of being in two places at once and of seeing in many different ways at one time. And here for me is the clue to the thrill of some of the acts: not a tedious struggle to work out how the trick was done but a sensuous submission to the visceral sensations induced by seeing in ‘impossible’ ways and experiencing space in contradictory ways in rapid succession. The conflict of vision, the rapid interplay between space sensed as deep and then as flat, as static then dynamic, clear then thickened, would produce an overload of scopic sensations, an oscillation between Cartesian

24 Giedion (1948), op.cit.
and Baroque states of vision, to use Martin Jay’s terminology. This oscillation would be felt as dizzying and disturbing, impossible to bear without the relief of laughter. The sensation is heightened by a sense of mystery and the interplay of clarity and obscurity. Noticeably, the human body is implicit in the new set-piece tricks, as the subject, the observer, or the performer. And the body, particularly the female body, is made to vanish, to lose its head, to be doubled, to be in two places at once, to be torn apart, to have its understanding shattered and remade, to be consumed by darkness and transformed in light.

Where does the disappeared object or person go? The tricks show the development of the subliminal awareness of an ‘elsewhere’ that was not supernatural. Literally we know it to have been the space below the stage, or outside the enchanted sanctuary of the limelight. But metaphorically a previously inconceivable darkness has now been recast as a place to which people may go and return without having been visibly shaken by the experience (unlike present-day stories of being taken by aliens). Although the trope of a comic victim figure who descends into hell, is dismembered and then reconstituted, is a recurrent one in many older pantomime traditions, the nuance of difference here, I suggest, is the confusion with which an audience would receive an act like Harry Kellar's Self Decapitation (1897), or Carl Hertz's grand finale (ca. 1890), in which he takes his bow headless, holding his own and his wife's severed head in each hand. I think the audience would identify with the sensation quite differently when someone who was in many respects ‘one of them’ was demonstrating the power.

Permission was given to play with ‘other’ space without invoking madness: literally to play, for play is a serious business. Surrealism would address the psychic profundity of play. Hopkins’s illustration of The Vanishing Lady could join the picture-novel images of Max Ernst (whose La Femme 100 Têtes phonetically gives us la femme sans tête), which he acknowledged as ‘reminiscences of his first books, a resurgence of childhood memories’. In summary then, I have suggested that the magic tricks of the later 19th century played with space in a way that felt new, urgent and almost possible. In the following chapters I will give further examples of new forms of vertiginous and disorienting spatial play within 19th century 'entertainments'. But what to make of this? What indeed is play?

Roger Caillois identifies four categories of play: *ilinx*, *mimicry*, *agôn* and *alea*. He says, which has a joyous quality, consists of an attempt to

‘momentarily destroy the stability of perception and inflict a kind of voluptuous panic upon an otherwise lucid mind... surrendering to a kind of spasm, seizure, or shock which destroys reality with sovereign brusqueness’. 27

*Mimicry* has only one rule, which consists in the actor’s fascination of the spectator, while avoiding any error that might lead the spectator to break the spell:

‘The spectator must lend himself to the illusion without first challenging the decor, mask, or artifice which for a given time he is asked to believe in as more real than reality itself’. 28

Caillois holds that *ilinx* and *mimicry* in combination are always repressed at times when cultures are emerging from a stage of ‘chaotic originality’ and moving towards a state in which civilisation is dominated by games of competition (*agôn*) and chance (*alea*). Whether this is cause or effect he does not know, but he notes that when the powerful categories of vertigo (*ilinx*) and simulation (*mimicry*) are repressed, they are:

‘pushed to the periphery of public life, reduced to roles that become more and more modern and intermittent, if not clandestine and guilty, or are relegated to the limited and regulated domain of games and fiction where they afford men the same eternal satisfactions, but in sublimated form, serving merely as an escape from boredom or work and entailing neither madness nor delirium’. 29

For Caillois then, when vertigo and simulation are sublimated in games and fiction, cultures are emerging from a stage of chaotic originality. Does the relish for playful manipulation of space reflect the century’s deep reorganisation of its previous profound spatial concepts?

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28 Ibid. p. 20
29 Ibid. p. 97
21st century spatial imaginings

Today, magic no longer works where it did. Anticlimax and a sense of futility had attached themselves to stage magic by the middle years of the 20th century. Nowadays, there is something literally exhausting about watching a dull magic act as device after device is brought on stage and its hidden spaces are emptied out. The expediency and opportunism of the apparatus becomes irritating, as ultimately facile as funny putty. Most stage magic has ceased to resonate with the spatial imaginings and desires of its period, becoming merely an anachronistic reformatting of traditional routines whose outcomes seem inconsequential. Card tricks and prestidigitation predominate in the close-up magic that is popular in venues such as hotel nightclubs but are seen as displays of physical dexterity and clever thinking, perhaps in line with the current dominance of sport and competition (which fall into Caillois' pairing of agón-alea)? But still among the ideas that seem to be compelling at the moment to the students with whom I work, some insistent themes appear, suggesting that the fascination with fascinating spatial manoeuvres is still urgent - things that are reversible; things that have the ability to turn into other things, to fold up, or to turn inside out; spaces that have parallel spaces running next to them; spaces that live below the surface or within the walls; spaces or elements that seem to float; surfaces that we cannot definitively locate because we cannot fix on them for long enough; spaces that do not stay where we remembered them or are not as we remembered them when we return to them; spaces that seem larger inside than seems possible from the outside.

I think these must be very common spatial imaginings for they can be found in so many works that many people nowadays hold dear - the space of the Soane Museum or Dr. Who’s Tardis, for example. (However, Sir John Soane’s house in his own time was considered by many people to be freakish.) Nowadays, a cunning conversion or transformation or an ingenious use of space brings a sense of delight and wonder. As evidence, I offer not just concentrated examples such as the many recent publications that document ingenious ways to live in small houses\footnote{\text{30 e.g. Jay Shafer (2009), The Small House Book; Brown \& Kuma (2005), The Very Small Home: Japanese Ideas for Living Well in Limited Space; Wilhide, Small Spaces: Maximizing Limited Spaces for Living; \url{http://tinyhouseblog.com}.}} but the popular hunger to know about the reworking of domestic spaces to open them up or fit in an extra space where none seemed
possible at first glance. The idea that spatial manipulation is magical carries through to the titles of the generic articles in homemaker magazines, for example, ‘Napkin Magic’. On a larger scale too, spatial magic has moved to other media and is now as likely to be seen in the context of an art gallery or a theoretically based design project as in entertainment. The ‘impossible’ operations that gave the grand illusions their rapturous spatial thrill now feed spatial desires through a particular genre of contemporary art. However, they no longer feel uncanny, vertiginous, and likely to put us beside ourselves with shock or laughter. The sensation is more one of setting us outside of time altogether. Artists who work (often at architectural scale) with human perceptions of elusive spatial phenomena, such as Anish Kapoor or Olafur Eliasson, are described as artists of the contemporary sublime. I have reservations about the appropriateness of this term that I will discuss later, but the intrigue that such works create is evidence of our human fascination with extraordinary spatial moments. These, I suggest, are extreme manifestations of the sensation that humans feel when their attention is drawn to the awareness of space itself.

In architectures that are found ‘magical’ today, this is achieved through works that make exquisite use of the experiential and performative possibilities of their elements, using knowledge that draws on both the science of the materials and the ways that these may be received and interpreted in the thoughts of the users. The interest among current students in such poetic practitioners of natural magic as Steven Holl, Jean Nouvel, James Turrell, Anish Kapoor and others suggests that the fascinating space at the turn of the 20th/21st centuries contains spatial imaginings of luminous infinity and dematerialisation rather than the 19th century imaginings of dark spaces and spectral presences. The screened and veiled continue to be potent with the use of meshes and translucent glass, often electronically manipulated (paralleled by the popularity of translucent and filmy layers of fabric in contemporary fashion and the development of ‘smart’ fabrics). Spaces that change their physical appearance or shape in response to environmental stimuli are also desired.

Conversely, attempts to construct post-Renaissance devices of illusion into the architectural facade have banal and irritating results, condemned as postmodern stylistic clichés. The magic wanted is active, spatial, elusive, and fascinating, not one that points

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31 e.g. Lam & Thomas (2007), Convertible Houses.
clumsily to itself. The trick alone is not enough, it must touch on some moment of rapture or
of rupture that allows its audience to ‘recognise the act of seeing, of receiving, as a
participation in the creative process no less essential than the artist’s own.’33 The words are
those of architect, exhibition designer, and interior designer Frederick Kiesler, born in 1890.
His innovative designs in the early 20th century, and his manifesto for a ‘magical
architecture’ which would acknowledge the relationship between space, people, objects and
concepts, appear to my eyes to express the inarticulate spatial desires of late Victorian
illusions. Kiesler will appear again in the next chapter, in which I develop the idea of spatial
experience as a source of pleasure to the minds and bodies that were prepared to receive it.

CHAPTER TWO

Spatial Pleasures

‘Art for Bergson is a force through which one can grasp certain rhythms of life and breath which compel the individual ‘to fall in with it, like passers-by who join in a dance. Thus they compel us to set in motion, in the depth of our being, some secret chord which was only waiting to thrill.’

(W. Fleming, *Arts and Ideas*)

This paragraph brings up an extraordinary image. Where would one see passers-by joining in a dance? But the suggestion lingers with us: that to give attention to something aligns us physically and mentally with that thing, inciting sympathetic movements within us and unlocking deeper levels of perception. The syntactical inconsistency of the words hints at synaesthesia within the process. We are both agent and outcome, both singular and plural, our sight, breath, motion, resonance and insight interlocked.

The term ‘synaesthesia’ - the calling up of one sense through stimulation of another - was first coined in 1891. It carries us back to the last decades of the 19th century and a flood of neologisms to define new modes of perception which arose then in both art and science, and which have contributed to the concepts of spatial experience which underlie many of today’s spatial disciplines. These disciplines include architecture and interior design, the design of immersive environments, design for stage and cinema, event design, and a wide range of contemporary art practices that involve the interplay of attention, body and spatial experience. In this chapter, through speculating about sensations and insights possibly induced by such interplays, I tease out some ideas about possible ways in which we attend to space, and ways in which such experience might explain some contemporary spatial fascinations.

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1 Fleming (1980), *Arts and Ideas*, p. 403.

2 ‘synaesthesia - 1891, from Mod.L., from Gk. syn- "together" + stem aisthe- "to feel, perceive." Sensation in one part of the body produced by stimulus in another. Also of the senses.’ (http://www.etymonline.com).
Three threads run through my wider argument - firstly that modernity finds spatial manipulation pleasurably fascinating, secondly that spatial experience has a history which relates to the history of perception, thirdly that the study of a society’s entertainments can offer insight into its underlying shifts and disturbances. The material that I am studying is that of magical and transformative performances and entertainments, and my larger project is to identify their continued resonance in the spatial disciplines of today. In this chapter I want particularly to consider the ways in which the internalised pleasure of a physical spatial experience has become the raw material of many sorts of entertainment. My definition of entertainment is wide, ranging from the noise and physicality of sport to the silent reverie of a daydream, but in all cases it is important to remember the sense in which I use the term, of actively ‘entertaining’ (an idea, or a sensation) by admitting it into the mind or the body.

Is spatial experience fascinating, and if so, why? To ‘fascinate’ originally meant to bewitch or enchant; its connotations of delight and attraction are part of modern usage. In Chapter One I have argued that a new sense of pleasure in the manipulation of space contributed to the explosion in popularity of magic as a theatrical entertainment in the 19th century, and that this fascination with spatial transformation is still being worked through in the spatial disciplines that I have referred to. I suggested that if ‘each epoch dreams the one that follows’, then the dream of the 19th century was characterised by a heightened spatiality. In this chapter I offer the idea that physical and emotional sensations of spatial experience worked together in this new sort of pleasurable fascination - contributing to what I will later describe as spatial entertainments in architecture and design (and elsewhere).

To speak of ‘space’ as the basic material of architecture is a surprisingly modern concept. Adrian Forty claims that the term ‘space’ did not exist in the architectural vocabulary until the 1890s.³ Kenneth Frampton points out that the term ‘space’ in its modern sense is never used in Viollet-le-Duc’s great work of architectural theory Entretiens sur l’Architecture (1872) whereas 20 years later the primacy given to space itself was seen as the ‘driving principle behind all architectural form’ by late 19th century aesthetic theorists such as August Schmarsow.⁴ Many other examples of the evolution of the priority that architecture has given to space are traced in Cornelis van de Ven’s 1974 doctoral thesis, which also

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looked to their origins among theories of empathy in German aesthetics.\textsuperscript{5} However, evidence for a heightened sensibility to space in the late 19th century can be found not just in the aesthetic or architectural theories of the time but in multiple aspects of creative life that demonstrate the ways in which the pleasures and subtleties of spatial awareness manifested themselves intellectually and physically. Such pleasures can be found in peripheral locations such as in the new genre of detective fiction, in new ways of moving the body or in the descriptions of interior space found in novels, to give a very few examples, and as I will show, they also had an effect on the sorts of routines that were received as magical entertainments.

In Chapter One, I concluded that at the turn of the 20/21st centuries, many artists and designers are still engaged in working formally through the spatial changes of the previous century. But beyond the manipulation of mere spatial volumes, we have come to a point where we are prepared to feel ourselves stretched, opened, compressed, relaxed, shocked or moved emotionally by spatial experience. Today for example, artists such as James Turrell deal explicitly with the ‘sense of the presence of space’ as a profound experience, one that is mediated by both subjective and physiological factors.\textsuperscript{6} Turrell says he is ‘interested in a place where the imaginative seeing and the seeing of the external world meet, where it is difficult to distinguish the seeing from within from the seeing from without’.\textsuperscript{7}

Reflective and meditative work such as Turrell’s is today often sited within art galleries, or commissioned as an integral part of architectural spaces dedicated to quiet contemplation, such as the Live Oak Friends Meeting House (2001) constructed for a Quaker community in Houston. But spatial experience also has a history as a source of pleasure in secular contexts. Cultural historians such as Wolfgang Schivelbusch, Stephen Kern and Siegfried Giedion have pointed to the changes in consciousness that result from the introduction of new technologies and new practices, demonstrating that the later 19th century produced new types of spatial awareness in parallel with technological and social changes.\textsuperscript{8}

\textsuperscript{6} Turrell (1993), Air Mass, p. 62.
\textsuperscript{7} Turrell (1993), ibid, p. 46.
\textsuperscript{8} Schivelbusch (1980), The Railway Journey; Kern (1983), The Culture of Time and Space, 1880-1918; Giedion (1948), op. cit.
Some of these speak to profound changes in our image of ourselves as humans – the sense of interiority and the emergence of the subjective subject open the way for ideas of psychological discomfort and distress – but I would argue also that increased spatial awareness accompanied an expanded range of pleasures and voluptuous spatial sensations, felt within the body. These demanded a new vocabulary to describe their subtleties and to permit us to attend to them.

If we look at ways of pleasurably using the body in the late 19th century, we find much that implies the development and enjoyment of altered sensibilities and abilities that have become part of the modern body. The proliferation of new forms of entertainment that involve new physical sensations can be traced through the increasing number of patent applications for apparatus that would move the body faster and faster and in more and more unfamiliar ways. Steam-powered roundabouts are first recorded in England in the 1860s: but the one described in an account from the Halifax Courier in 1863 ('a roundabout of huge proportions, driven by a steam engine which whirled around with such impetuosity, that the wonder is the daring riders are not shot off like cannon-ball, and driven half into the middle of next month') would have seemed very tame to riders at the end of the century, accustomed now to dipping, spinning and swooping on the numerous mechanical forms of kinetic entertainment with switchback tracks and cranked mechanisms that were patented after the 1880s.

Bicycling and roller-skating were other new techniques for extending the possibilities of human movement. Modern roller skates, which allowed the wearer to turn freely and to skate backwards, were patented by Joseph Plimpton in 1863. As with the bicycle, the introduction of the ball-bearing in the 1880s allowed freer, easier movement, greater speed and subtlety of motion, and made these new sports accessible to more people. Changes in perception and appreciation of kinaesthetic experience were happening in relation to other faculties as well: consider the development of somatic body therapies such as the Alexander Technique, or systems for somatic and kinaesthetic education such as eurhythmics. F.M. Alexander started teaching his technique of body-usage in Australia in the 1890s, at around

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10 A useful simplified access to the United States Patent Office online database has been constructed by Victor Canfield at http://www.personal.psu.edu/faculty/v/a/vac3/rcpathome.html
the same period that Emile Jaques-Dalcroze, originator of eurhythmics, was developing his method of training music students in Geneva to involve the whole body in the experience of music. In addition to the increasing participation of both women and of the non-aristocratic classes in physical sports, increasing connoisseurship of passive forms of amusement involved attentive spectatorship rather than active participation. Apparatus for assisting vision as a part of entertainment is evidenced by the flood of applications for patents of new types of visual aids such as opera glasses.\textsuperscript{11}

These adult forms of play are indicative of changing priorities in the body-sense of the individual, and reflective of the ‘rhetoric of embodiment’, which influenced the perceptual codes of the 19th century. Susan Sidlauskas coins this term to discuss the range of discourses that were concerned with the expressive signification of space in the mid-19th century.\textsuperscript{12} Spatial relationships sensed though and with the body created the foundations for new, interactive modes of spatial perception. Sidlauskas' work deals in particular with the ways that the relationships between body and space came to represent qualities and emotions when they were depicted in paintings, novels and other creative works, but elsewhere at the same time the body's role in the production of experience (for example, the internal experience of seeing) was the subject of both scientific and aesthetic theories.

Two propositions from the period (although not unique to modernity) continue to shape our thoughts today: firstly, that the body itself, with all its muscular sensations and neural activities, is both the source and the seat of our knowledge of the world and secondly, that our perception is not made by the passive processing of sensory information but by an active engagement between ourselves and the world, a reaching out to the world in a participatory process. Hence, although we come to know space through our knowledge of our bodies, such knowledge is itself mutable. Therefore space too may be uncertain, subjective, and contingent on the attention that we may bring to it. The secret chords that are waiting to thrill in the depths of our being call on a more complex model of synaesthesia than the mere substitution of one sense for another. Such empathy with space that is both imaginative and visceral has become a characteristic of modernity. (By ‘modernity’ I am referring to a Western cultural framework dating from the 19th century. The argument can be made that the

\textsuperscript{11} Rees & Wilmore (1996), \textit{British Theatrical Patents}.

\textsuperscript{12} Sidlauskas (2000), \textit{Painting the Interior: Body, Place and Self in Nineteenth Century Painting}, p. 10.
spatial sensibility that I am describing - an awareness of the ‘poetics of space’ - has been part of non-Western culture for thousands of years. The perceptual models that link body and mind that I refer in the second part of the chapter clearly have affinities with non-Western cultural traditions.\)

The processes of this engagement are both complex and two-way. New thoughts demanded new language. The description of the unconscious internal sensory flow that establishes and maintains our bodily and psychological presence and identity, and with it our ontological grounding, was named proprioception by C. S. Sherrington in the 1890s.\footnote{13 Rylance (2000), Victorian Psychology and British Culture 1850 -1880, pp.11-12.}

Speculations as to physiological relationships between the different sense organs, coupled with theories of an empathic relationship between the body and things beyond it underlay the development of, for example, 19th century German aesthetic theory\footnote{14 The genesis of the concept of empathy is discussed in Mallgrave & Ikonomou (1994), Empathy, Form, and Space: Problems in German Aesthetics, 1873-1893.} (though, as I will show in a later chapter, such ideas were present in many other aspects of expression, although not formally articulated in such terms.) In painting, the calling-up of subjective psychological states, such as discomfort, in much late 19th century European painting of domestic or private life was achieved by organising the relationships between figures, objects and space in ways which provoked in their viewer a physical response and bodily empathy. Similar developments in literature can be traced in the imaginative demands made on the readers of the 19th century novel, who learned to draw psychological inferences through descriptions of the gestures, postures and surroundings of the protagonists. There are frequent references in such novels to the shattering and disintegration of previous certainties, often expressed through metaphors of chaotic movement. Hence the worldview of the urban westerner at the turn of the 19/20th centuries is often characterised in its contemporary literature by a dynamic sense of a silent inner dialogue, arising from a stream of experience flowing through a body/mind that is engaged in resisting constant threats of instability.

It is an image that might suggest a clenched, contracted, defensive posture, but as I am suggesting here, it also suggests the possibility of the joyous quality of ilinx, that vertiginous category of play defined by Roger Caillois\footnote{15 See Chapter One at Ch.1 note 27.} that may follow the momentary
destruction of the stability of perception 'and inflict a kind of voluptuous panic upon an otherwise lucid mind.'

The period’s exploration in both art and science of the relationship between the physical mechanisms of perception and the creation of subjective and relative perceptions of space was taking place at a time when the increasing perception of space as a flexible and ambiguous entity was paralleled by increasing flexibility and mobility of both the body and of its image. The perceived physical dimensions of the human body, although no doubt subject to more precise scientific measurement, became ever more elastic as new possibilities of movement changed visual reality and, equally importantly, changed the ways in which attention was given to both space and the body.

Simmel’s frequently quoted words: ‘Man does not end with the limits of his body or the area comprising his immediate activity. Rather is the range of the person constituted by the sum of effects emanating from him temporally and spatially’ serve to introduce the perceived lability of the boundaries of the body. Simmel’s compassionate analysis of modern life, and the complex cultural critique of which his writings form part, focussed on the troubling impact of the speed and excess of the age on mental life. But others acknowledged that the increasing opportunities for enjoying the physical sensations generated within the moving body were expanding the kinaesthetic perceptual vocabulary of the age. Cultural histories of the early 20th century suggest that there was a belief that increased play and athleticism arising out of leisure could restore the layperson’s kinaesthetic sensibility. Nor did one need to share the actual experience in person. The suggestion that the whole of society was being vicariously enhanced by the kinaesthetic experiences of the few is implicit in Hannes Meyer’s enthusiasm for the momentum of modern life:

‘The simultaneity of events enormously extends our concept of ‘space and time,’ it enriches our life. We live faster and therefore longer. We have a keener sense of

16 Simmel (1903), The Metropolis and Mental Life.
17 eg Doris Humphrey, writing on the need for the kinaesthetic sense in the audience for dance, in Brown, Mindlin & Woodford (1998), The Vision of Modern Dance in the Words of its Creators, pp. 61-62.
speed than ever before, and speed records are a direct gain for all. *Gliding, parachute descents and music hall acrobatics refine our desire for balance* [my italics].

In brief then, attention was being given to the kinaesthetic in a different way than previously and the range of sensation with which to empathise was expanded (although of course people’s ability to imagine sensations does not ensure an authenticity of experience). Above all, movement was both seen and felt through the eye, but a shifting eye that was interdependent on a body whose boundaries had become more elastic.

So yes, spatial experience had *become* fascinating, in a sense that now oscillated between its older usage of seizing the attention and freezing it, and its modern connotations of invoking delight. I now turn to the third aspect of my argument; the location of spatial and perceptual experience in the context of ‘entertainments’ that evoke a sense of profound or magical engagement. The words ‘play’ and ‘entertainment’, while calling up cheerful ideas of physical movement, stimulating sensations, and the suspension of a fixed reality in exchange for temporary entrance into another state of mind, also carry (like so many important words) other, independent meanings that throw a curious light on the first; in this case ones of indeterminacy, inbetween-ness and lability. ‘Entertainment’ derives from words meaning ‘holding between’, while ‘play’ can imply a range of possible positions. I suggest that these conditions, which are the characteristics of many spatial arts of today, with their renewed fascination with perceptual instability, the ephemeral and evanescent, the transformable, the multipurpose and the ambiguous, are also characteristic of much that we find magical.

I want now to discuss these ideas further by speculating on possible *inward* sensations induced by three acclaimed entertainments from the decades between the 1890s and the 1920s. I have selected this period as one that bridged the inarticulate spatial dreamings of the 19th century that I have spoken of in Chapter One, and the popular, almost unquestioning, acceptance of ‘space’ as an explicit material for art practices in the 20th

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19 Entertain - 1475, "to keep up, maintain," from M.Fr. *entretenir*, from O.Fr. *entretenir* "hold together, support," from *entre-* “among” (from L. *inter*) + *tenir* "to hold" (http://www.etymonline.com). See also my Introduction, Note 16.
century. It was, most importantly, a vital period in the emergence of the concept of ‘interior design’ as a spatial and experiential practice.

Although the three entertainments would be seen today as belonging to separate categories of performance, they all contained enough ‘magic’ to warrant their inclusion in the literature of stage magic at the time of their popularity. As I have suggested in Chapter One, the appeal of magic shows around the turn of the 19/20th centuries has a parallel with the appeal of spatial illusion and ambiguity in the spatial disciplines of today. Both reveal the spatial fascinations of their period, and an underlying sense that body/space is shifty, elastic, and a suitably malleable material for play. In my reading of the three entertainments, which have in common that they presented impossible extensions and contractions of the body, I suggest that the shifts and extensions of the performing bodies called up sympathetic echoes within the bodies of their audiences that were part of the pleasurable and thrilling sensations that they evoked. Hence the audience was also part of the work, their own physical experience influencing their modes of seeing and contributing to the total experience. Although the routines might seem banal today, I contend that the shifts of perception that they called up in their audiences are at work today in many constructed spaces that are regarded as having qualities of spatial magic.

I will discuss the dance performances of Loïe Fuller dating from the late 1890s; A Match for Anyone, a stage magician’s routine from 1915 that involved magical expansion; and the brief popularity of the Tanagra Theatre before the 1920s (a popular sideshow that created living miniatures). I stress that I am bringing my modern eye to each and that the theories of perception that I draw on are speculative rather than conclusive, and range from the 19th century models discussed above to popular concepts from the late 20th century. The first set of these concepts link the experiences of ‘immersion’ and ‘flow’ with the ‘peak experiences’ achieved through movement, each involving neurological processes and brain chemistry. Here I am consciously blurring concepts such as Mihaly Csikszentmihalyi’s various definitions of flow20 and Abraham Maslow’s studies of peak experiences.21 Ideas from such works have been appropriated and linked in numerous articles in the popular press.

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linking exercise, brain-chemistry and feelings of intense well-being.\textsuperscript{22} The second group of concepts are those that link modes of seeing to wider philosophical standpoints, linking clarity of vision and similar ‘awakened’ perceptions to a sense of unity with the world that carries with it an ethical responsibility to the world. Such thinking underlies, for example, the writings of Laura Sewall,\textsuperscript{23} who describes herself as an ecopsychologist (she holds a Ph.D. in psychology and the neurophysiology of vision) or David Abram,\textsuperscript{24} cultural ecologist and philosopher.

\textbf{Loïe Fuller, the Fairy Electricity}

Loïe Fuller, a previously undistinguished American actress, noticed the effect of light on a gauzy silk skirt that she wore on stage. By watching herself in a mirror, she ‘reached a point where each movement of the body was expressed in the folds of the silk, in a play of colours and draperies that could be mathematically and systematically calculated’.\textsuperscript{25} From these observations, she evolved a series of dances in which her body and robe became the projection screen for a variety of optical effects of her own invention, drawn from her interest in stage techniques, electrical lighting and the properties of materials. Fuller’s innovative role in the development of modern apparatus and techniques of stage lighting has been acknowledged more fully in recent years\textsuperscript{26} but at the time of her early fame it was the unusual visual and emotional impact of her performances that was noted.

She arrived in Paris in 1892, secured an engagement at the Folies-Bergères, and became an immediate success; the usual audience at the Folies was (in her own words) ‘lost amid a crowd composed of scholars, painters, sculptors, writers and ambassadors’.\textsuperscript{27} Among those who acknowledge the effect of seeing her performance on their own creative work were Auguste Rodin, William Butler Yeats, Stephan Mallarmé, Jules Massenet, Camille

\begin{itemize}
\item \textsuperscript{22}See for example the discussion of ‘flow’ and ‘rhythm’ by Clarke & Humberstone (1997), \textit{Researching Women and Sport}, pp.88-89.
\item \textsuperscript{23}Sewell (1999), \textit{Sight and Sensibility : the Ecopsychology of Perception}.
\item \textsuperscript{24}Abram (1996), \textit{The Spell of the Sensuous : Perception and Language in a More-than-human World}.
\item \textsuperscript{25}Fuller (1913), \textit{Fifteen Years of a Dancer’s Life : With Some Account of Her Distinguished Friends}, pp. 3-4.
\item \textsuperscript{26}e.g. West (1996), \textit{The Light Fantastic, 88-92: Hindson (2006), The Female Illusionist - Loï Fuller}, pp. 162-3.
\item \textsuperscript{27}Fuller (1913), \textit{op.cit.}
\end{itemize}
Flammarion, and Anatole France. Within the year anything evocative of her act was named after her. For example, the *Ladies Home Journal* choice of fashionable fabrics for 1893 included ‘the Loïe Fullers, the striking changeables named after the lights and shades thrown by electricity, and the agile American dancer now in Paris…These fabrics are variously known as iridescent, glacé, luminous, electric, rainbow, Loï Fuller, changeable, incandescent, etc., but all mean the same.’

Fuller’s success lasted: she led her own company until her death in 1923. The performances fascinated and influenced figures from the cultural avant-garde of many disciplines: her audience found her performances ‘chaste’ and ‘hypnotic’ as well as thrilling.

But what did they see? Her outline flowed from one fluid form to another, its boundaries stretching and shrinking in ways which obliterated any sense of incongruity with her own less-than-slimy fleshly form. An extended body emanated beyond her own, created by hundreds of metres of flowing silk, supported by wands attached to her arms and frames supported by her head-dresses. Dance historian Sally Sommer describes how the draperies for the dance *Lily* [see illustration] could be extended till they seemed to fill the space:

‘The costume contained 500 yards of gossamer-thin silk and could radiate 10 feet from her body in every direction and be thrown up to the surprising height…of 20 feet. It was close to 100 yards around the hem.’

The manipulation of the fabric was part of Fuller’s choreography, and not the mere wafting and twirling movements of the rather salacious ‘skirt dances’ which were popular at the same period. The rhythms of her silks, starting from her own movements, rippled and spiralled in patterns of internal harmonics whose generation she practised and perfected. Sometimes she and her dress became united as elemental spirits - water, fire, cloud, night, falling bits of sky - at other moments there would be a revelation of a human figure. The coloured lights projected onto her draperies were operated by an army of electricians who rehearsed like other members of her troupe. Her performances were conjured out of the darkness that was the backdrop and frame for her movements. I imagine the effects that she produced as having

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28 www.costumegallery.com/LHJ/Sept_1893

29 A fuller discussion of references and responses to Fuller’s performances by her contemporaries - writers, artists and critics - is given by Kermode (1962), *Loïe Fuller and the Dance Before Diaghilev*.

30 Banes (1998), *Dancing Women; Female Bodies on Stage*, p. 73.
the two-and-a-half dimensionality of fireworks or flames. Interestingly, the poet Georges Rodenbach described her as a fresco\textsuperscript{31} and the devices which she invented would reinforce this alteration of depth by removing her from any recognisable framework which could give a consistent scale to her image, such as the arrangement of underlighting which she patented for producing ‘an illusion… of the person floating or dancing in air’.\textsuperscript{32} She provided the resonance for a new sort of spatial pleasure – the extended body, the boundless body, the body-in-space, astral body; a weightless and powerful body, beyond gender, angelic. In later dances, the visible body had almost disappeared, with the development of dances in which her troupe of dancers moved below a vast ocean of silk, others in which the travelling spotlight picked out only her hands.

Loie Fuller performing the dance Lily c. 1900. The photograph was taken out of doors rather than on stage. Loie Fuller(1915), \textit{Fifteen Years of a Dancer’s Life}

\textsuperscript{31} Part of the poem is given in Kermode (1962), \textit{op. cit.} p. 6.

\textsuperscript{32} Rees & Wilmore (1996), \textit{British Theatrical Patents}, p. 102.
It is important to note that Loïe Fuller's performance was considered appropriate to be the frontispiece for Albert Hopkin's 1898 collection of the techniques of stage illusions and magic routines, in other words, that it was recognised that the effect she created fitted into the category of what was felt to be 'magical' in its time, and that Fuller could be included in the category of professional illusionist.

To speculate about a visual response to Loïe Fuller’s performance, I want first to compare it with an older routine which also involved shape changing, but in which attention, body and space formed a different conjunction. The routine known as Troublewit can be traced back in Europe to at least the 17th century. The Troublewit is a long sheet of paper, specially folded and accordion pleated which the entertainer dexterously manipulates into an endless variety of shapes, origami-like, sometimes fitting it quickly to the body (for example as a hat, ruff, bonnet, cuff, wig or beard) and at other times forming a series of objects, all the while keeping up a patter filled with linking jokes and puns.
Photographs of Professor Hofzinser [see illustration], a celebrated performer of the 1850s, demonstrate the point of this routine; that the fun depended on the repeated alteration of the shape from one finished form to another, a series of perfect moments. The characteristic of Loïe Fuller’s performance, in contrast, was its ebb and flow, always in the process of forming and dissolving, existing at what Deleuze, in writing of Bergson’s concept of the movement-image, has called ‘any-instant-whatever’. The comparison of these two very different moments speaks through their photographs, (which themselves convey a history of the photographic process) for Professor Hofzinser appears to hold himself still in order to allow the Troublewit to have its correct form, whereas Loïe Fuller must be caught in movement to allow her extended garments to convey the image of the lily.

Photographs however are acknowledged to give an inadequate suggestion of Fuller’s act. The underlighting that she frequently used gave her audiences the impression of great height although she was quite short. Mallarmé’s observation that she ‘ecstatically stretched to the extremity of each wing’ evokes the spatial disturbance we feel when a great bird unfolds its wings, a lateral expansion which far exceeds the empathic reach of a human. Although the physical effort of controlling her vast draperies was exhausting for her, the impression made on her audience was not one of a human energy but rather the embodiment of raw powers such as wind, flame, storm, and electricity. Reviewers and diarists, for whom an empathic sense of bodily expansion and weightlessness had conjured up an ethereal being, frequently recounted the shock of seeing the ‘real’ Loïe after a performance - short, plump, damp, and groaning with exhaustion.

Kermode comments astutely that the imagination of the spectator fed on her independently of what she intended. She herself had no interest in the representative accuracy of the forms, whose names were given to the dances by the audience; her own interests, she insisted, were in light and the ‘truth’ of motion. Nonetheless, her moving

37 Fuller (1913), *op cit.*, pp. 66-72.
forms left traces embedded in the memory for later expression into the numerous images which her work inspired, the imagination of the audience reading private emotional profundities into the play of form and light which she created. My own speculations continue the tradition, for I want to propose that the eye watching Loïe Fuller would have had many opportunities spontaneously to experience something like the practice that Arthur Zajonc describes as a ‘yoga of the senses’. 38 Through a process of engagement and disengagement with an object of visual contemplation, the afterimage – ‘a mood or gesture’ - begins to surface within one’s inner attention. The experience also involves finding the right rhythm or cadence for vision. The exercise, which Zajonc refers to Goethe’s methods and to the Buddhist practice of kasina, which involves meditating on the eidetic mental image of an object, reminds me of the description of Rodin’s belief in working only from memory, for only when conjured up in memory did the works ‘acquire the necessary subjective coloration’. 39 Rodin wrote in tribute to Loïe Fuller that his ‘artistic heart was grateful to her’. 40 This way of seeing is of its age and suggests the wider and deeper context that created Art Nouveau.

Felicia McCarren refers to Mallarmé’s observation that such performances, rather than provoking the usual mania for looking, instead offer occasions for reflection - for insight, that is, rather than sight. Mallarmé remarks that the opera glasses that provided ballet aficionados with private consumption of a dancer's images in fact blind the spectator to the dance's greater revelations. Despite the spectacular effect of Loïe Fuller's dance… they invite what Mallarmé calls a 'transparent prolongation' of the gaze through, rather than at, its subject.’ 41, 42

‘Looking through’ suggests a visionary gaze, clairvoyant, seeing other possibilities, an expansive and extending gaze uniting eye and mind. Loïe Fuller’s performances seem to have been able to stimulate the sort of seeing which is the ‘clear vision’ of today’s proponents of the gaze ‘into’ rather than ‘at’ the world, such as environmental philosopher

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40 Fuller (1913), op. cit. p. 127.
42 Stephan Mallarmé, Crayonné au théâtre, in Mondor (1951), Œuvres complètes / Stéphane Mallarmé, p. 313.
David Abram, or visual ecologist Laura Sewall, who propose connections between focussed attention and profound experience.\textsuperscript{43} For some this may form part of larger beliefs that link to their ethical and spiritual relationship to the world. None of these observations need force the unwilling into mystical territory, however, as they can all be seen as examples of reconciliations between older scientific models and newer disciplines such as kinesiology, chiropractic, etc. To change the way of seeing is to change the posture and use of the body, for visual function is linked to the elasticity of the eye. It is a commonplace that vision is blurred after prolonged use of the eyes in a close focal plane. People report clearer vision after spending time in situations where their eyes rest on distant horizons. By a similar mechanism, others report clearer vision (in both senses) after meditation, massage and other body therapies that induce relaxation in the eye. Some visual exercises that promise to sustain the flexibility of the eye and develop visual acuity, such as those developed out of the Bates Method,\textsuperscript{44} incorporate many ideas from ‘holistic’ theories of the body that have a resonance with some of the theories of empathy within physiological processes which are touched on in this chapter. Mainstream opticians reject the Bates/Goodrich model of vision but agree that the physical, if not the mental, exercises are healthy for the eyes.

Such relaxation of the ciliary eye muscles, which occurs naturally when looking into the distance, is frequently associated with spatial design devices which support a meditative, insightful and disembodied gaze by suppressing cues for reading depth, such as by erasing the lines where wall meets ceiling or making surfaces ambiguous by treating them in ways which render them luminous, refulgent, waxy or chalky. Such devices, characteristic of Fuller’s stage inventions, can be seen in the work of architects whose works are often cited as examples of 20th century ‘sacred’ spaces, such as Tadao Ando or Luis Barragán. (Unfortunately the restoration of many Barragán buildings using modern plastic paints has emphasised their colours at the expense of the optical qualities given by traditional Mexican paint recipes which use calcium and a cactus extract as medium, yielding a surface which does not ‘stop’ the eyes in the abrupt way that modern paints do, but instead receives them gently.) Eyes would also have been coaxed into a gentle motion by Fuller’s flowing, swirling

\textsuperscript{43} Sewall (1999), \textit{op. cit.} p. 39.
\textsuperscript{44} See for example Goodrich (1966), \textit{Natural Vision Improvement}, for examples of such exercises.
draperies, for as recent research into the neurological bases of perception has ‘revealed’ and pickpockets and conjurors have always known, our eyes will follow a flowing, curving movement smoothly whereas rectilinear movements make our attention jerk from the start point to the endpoint of the gesture.

‘[T]he vision is never so splendid, so magical, so enrapturing as at the moment when she is about to disappear, to be plunged into nothingness, to be lost in the darkness again,’ wrote one reviewer. Fuller’s use of darkness as a container for light would have also activated other physiological aspects of vision, for darkness flattens space and at the same time stirs the desire to reach out with other senses than sight. James Turrell’s explanation of those of his works which start from darkness - ‘Low light opens the pupil and then feeling comes out of the eye as touch, a sensuous act’ - is one which might raise the hackles of an ophthalmologist but which again acknowledges the sensory act of the viewer as a part of the work and is in sympathy with the ideas of a host of others stretching back over the centuries who have espoused theories of a reciprocal engagement with the world in an explanation of the visual process.

A Match for Anyone

Enough of this dream state! My second entertainment for visual speculation is very different. It is a short conjuring routine, A Match for Anyone [see illustration], constructed around the use of an ‘expanding box’, a staple of stage magic. This English routine dates from 1915, a date whose significance will become clear:

‘The performer [places] an ordinary, unprepared matchbox in the centre of a large table, which preferably has been used for some other effect. Producing, magically or otherwise, a flag 2 feet square, he momentarily covers the matchbox, after which it is seen to have increased to about 18 inches high. The flag then in his hands also increases to 7 or 8 feet, and wide in proportion, mounted on a flagstaff. Jumping on the table, he holds the flag up for a moment so as to once more cover the matchbox,

45 Macknik et al. (2008), Attention and Awareness in Stage Magic: Turning Tricks into Research.
46 Current & Current (1997), Loie Fuller, Goddess of Light, p. 57.
which when the flag is lowered is found to have increased in size to something like 6 feet high. Dropping the flag on the table for moment he walks round the box and sounds it, indicating that it is a solid box, not a mere frame covered with fabric or anything of that nature. Jumping down from the table and again picking up the flag, he announces that he will now produce a ‘Match for Anyone.’ The match box opens and a fine specimen of British fighting man comes forth…

(ie a soldier in smart military uniform who marches off to a burst of stirring martial music and the cheers and applause of the audience.)

‘A Match for Anyone’
Designed by A.S.Cubitt, 1915
Sam Sharpe (1992), *Conjurors’ Mechanical Secrets*

The apparatus is built into the tabletop. The final box unfolds itself and springs up when the performer jumps on the table, brandishing the giant flag to conceal the action. The magic
methods for producing and expanding the flag, introducing a living soldier into a box in mid-air etc, are worked in ‘the usual ways’. (And no, the soldier does not start in the tabletop as well.)

Naturally the trick, well done, would not reveal its mechanisms. The audience would see and hear a rhythmic sequence of repeated events reinforced by repetitions of gesture. Sensations would be produced through the visual surprise, anticipation and delight of the successive jumps in scale, and through the brisk gestures of the performer and the apparatus, accompanied by sharp sounds – double knocks, rat-a-tats and finally the military march. Heart and eye leap simultaneously; there is no introspection here. The routine and apparatus are in the tradition of the cheerful communal spectacle of pantomime with its instantaneous transformation scenes like the ‘either/or’ changes of Troublewit, in contrast to the subjective, insight-provoking ‘neither/nor’ of Fuller’s work.

The historian William McNeill has speculated on the effects of the human emotional response to rhythmic movement. Curious about the unexpected sense of personal well-being that military drill induced in him (‘a strange sense of personal enlargement; a sort of swelling out, becoming bigger than life…. [an] odd, surprising, and apparently visceral response’), he set out to find whether scientific investigations had been undertaken of such responses. The scholarly studies that McNeill researched seemed merely to sketch a possibility of paths of emotional excitement in the sympathetic and para-sympathetic nervous systems involving the production of endorphins. Recent popular science has been readier to speculate about the processes: the sense of wellbeing and enhanced personal potential which he describes is often described in the literature suggesting links between mental health and exercise. McNeill’s particular interest is in the sense of collectivity which he feels is inspired in a group who are simultaneously experiencing the pleasurable effects of rhythmic movement and he goes on to build his argument around this. However, McNeill notes that the seat of bodily response to rhythmic movement is situated far away from our verbal capacities, centring instead in ‘those parts of the nervous system that function subconsciously, maintaining rhythmic heartbeat,

51 McNeill postulates that the euphoric effects of keeping together in time are a factor in human evolution.
digestive peristalsis, and breathing, as well as all the other chemical and physiological balances required for the maintenance of ordinary bodily functions.\footnote{52}

The interplay of physical movement, rhythmic spatial experience and mental life is of course at play in such meditative spaces as cloisters, which work to calm the mind through quieting the body’s motions. The inverse also happens, a different sort of rhythm induced by shock and movement being used to excite the physical senses and heighten a sense of unity and conviviality. I wonder if some of the laughter and delight of \textit{A Match for Anyone} lay in its enforcement of participation in a shared visual rhythm? As our eyes urge us to leap, quantum-like, through states of small, medium and large in sympathy with the matchbox, do we share in the exhilaration of performing our own collective mini-drill? The mismatch between the physical rhythm and the verbal jolt of the pun could also force the hypnotising ‘re-orientation response’ which is ascribed to sudden shifts and disruptions in the modes of attention.

But as Bergson, and later Adolphe Appia attested, certain rhythms force us to join in, telling us ‘You are the work of art.’ Appia was convinced that to incorporate sound and rhythm into the organism was the first step towards the living work of art.\footnote{53} The literature of the development of theatrical design between the 1890s and 1930s frequently refers to ideas about rhythm, the feeling for space, theories of empathy, and parallels between the relation of body to architecture and psyche to gesture: for example in \textit{20th Century Stage Decoration}, a review of the art published in 1929. Interestingly, its authors, Walter Fuerst and Samuel Hume, were still using the German word (Einfühlung) in place of empathy, defining it as an ‘untranslatable term of Lipp’s Aesthetics’.

The concern for space in early 20th century stage design develops the links between imaginative and physical experience that had been postulated in the aesthetic theories of previous decades. Whereas Vischer in 1876 had proposed that an empathic reaction to form took place in the imagination, a projection of the human self into the thing attended to, Wölfflin in 1886 in addition brought into play the idea of an actual muscular sensation being evoked. ‘Instead of an inexplicable “self-projection,” we might perhaps imagine that the optic

\footnote{52 McNeill (1995), \textit{op. cit.}, p. 6.}

\footnote{53 Bablet (1982), \textit{Adolphe Appia 1862-1928 : actor-space-light}, p. 55.}
nerve impulse directly stimulates the motor nerves, which cause specific muscles to contract.\textsuperscript{54}

Similar ideas were developing in the various forms of bodywork that date from the turn of the century. The link between mind and muscle (that to think of an action is to cause a slight contraction in the muscles which would actually produce the contraction in reality) has gradually moved from the realm of speculation to mainstream studies of the science of behaviour, once it became possible to demonstrate it with medical apparatus.\textsuperscript{55} Rhythmic visual and bodily movements are today linked in educational kinesiology, whereby energy flows and neural patterns are considered to be beneficially re-aligned through physical exercises that involve the whole body in eye-movements. Behavioural optometrists claim that benefits to psychological and emotional health will follow the retraining of the sort of faulty visual practices that in some cases impeded reading comprehension or interpersonal communication.

Ideas of empathic embodiment and joyful unity with the world through rhythmic vision underlie the methods of ‘active seeing’ that continue traditions from the 19th century and earlier. One such technique is described in \textit{The Active Eye in Architecture}, a 1970s manifestation of such an approach to giving attention to the world. This is intended to teach a layperson to perceive through the body those forces and rhythms that are expressed in great architectural compositions, by first allowing the eyes to engage deliberately, 'touching' the forms, feeling 'the pressure of space', observing how the eye stops or rushes ahead, and then, using techniques that Trevelyan compares to those of a cinematographer, continuing until 'we ourselves, in the sensitivity of our entire self and body, are part of the structure which moves around us'. For Trevelyan, his first discovery of his technique in the Piazza in Venice was an ecstatic physical experience for both himself and his party:

‘The great bells of the campanile boomed midnight while we were still floating like drunken ghosts in strange dance forms which caused the blocks of architecture to move in huge stately rhythms responsive to our least turn.'\textsuperscript{56}

\textsuperscript{54} Mallgrave & Ikonomou (1994), op. cit., p.155.

\textsuperscript{55} Barlow (1975), \textit{The Alexander Principle}, Chapter 7.

\textsuperscript{56} Trevelyan (1977), \textit{The Active Eye in Architecture}, p. 7.
Seeking to explain in popular terms the role of sight in locking the senses together and influencing both touch and hearing, an optician Aristide Fournet wrote in 1889:

‘The senses love to be together. The extra nerve required to walk along a road in the dark is the dragging of [the] senses that are not used. If you were to throw light, colour, music, and a glass of sherry on the scene, our subject would be much comforted no doubt.’

The pleasurable excitement felt when submitting to an almost choreographed vision that engages both visual and other bodily senses is demonstrated by the popularity of retail projects that utilise it. For example, the use of lenticular film in the windows of a New York store seemed to force the passer-by into a mini-dance. ‘People can’t resist another pass to observe the mutation,’ remarked the owner.

**The Tanagra Theatre**

In contrast to the ‘neither/nor’ of Loïe Fuller’s changing shapes and the ‘either/or’ of the Matchbox’s jumps from state to state, my final entertainment worked on the senses in yet another way. It shocked the senses by miniaturising the body. It introduces two sets of thoughts, one concerning visceral responses to the miniature in itself and the other concerning responses to the prospect of simultaneous realities.

Tanagra Theatres existed in many European cities in the years 1910-1920. The name comes from the figures excavated at Tanagra in the 1890s whose name became synonymous with perfect living miniatures, particularly female. The sideshow illusion consisted of a miniature stage where living actors appeared as real but tiny figures, through an arrangement of plain and concave mirrors. Its development as a sideshow attraction came about as a by-product of research into optical instruments that could better sustain the perception of depth. The use of concave mirrors has a long history in magic but for the

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59 Some history of the Tanagra Theatre is given by Mariane Viefhaus-Mildenberger (1961), *Film und Projektion auf der Bühne*, pp. 27-30. Some notes on the optical arrangement are given by Sam Sharpe (1985), *Conjurors’ Optical Secrets*.
60 von Rohr (1920), *Die Binokularen Instrumente*. 
Tanagra the stronger light of electricity was essential. (I have been tantalised to discover that Loïe Fuller’s papers refer to her involvement with the ‘Tanagra Electric Company’, an unsuccessful venture with a new piece of stage apparatus of which I have not yet managed to find details. Whether or not it was related to the optical devices of the Tanagra Theatres is unclear.)

The wistful attraction of a view into a living miniature world can be felt elsewhere in the period. The English in particular clung to it. J.M. Barrie’s Tinker Bell, with her perfect tiny home set into Peter’s wall, seems to have satisfied an adult fancy as much as a childlike one in its day, when Peter Pan was first staged in 1904. Angela Carter notes that Walter de la Mare’s Memoirs of a Midget, published in 1921, whose tiny heroine lived estranged from a world that could not connect with her emotionally, elicited a ‘cabinet full’ of teeny-tiny gifts from his readers.

Ralph Rugoff links attention to the miniature to bodily experience:

‘Tiny artworks force us to draw closer…and this forward movement parallels a mental process; the more closely we examine minute details, the less we notice the gulf in size that separates us. The act of paying attention is in itself a kind of magnifying glass…this charges our experience of the object, imbuing it with an almost hallucinatory acuity [my italics]...Despite the negligible physicality of tiny work, its effect on us may be surprisingly visceral.’

Indeed, merely visualizing a miniature object with the mind’s eye can evoke the physical sensation of a sharpening of vision, for we can know the miniature only in relation to ourselves. Susan Stewart comments (noting that there are no miniatures in nature):

‘The miniature assumes an anthropomorphic context from the outset…The miniature historically has emphasised a particular configuration of subjectivity: first-person experience; single-point perspective; spatial extension from the individual perceiving viewer; interiority or domesticity in opposition to the public or social sphere of the

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61 The Art Nouveau imagery and genesis of Peter Pan is discussed by stage designer Richard Finkelstein, http://www.rfdesigns.org/pancon.htm
62 Angela Carter’s introduction to de la Mare (1982), Memoirs of a Midget, p. ix.
monumental; the diminutive, the child-like, the pastoral, and the picturesque as ‘alternative’ or ‘alienated’ views.”

The alternative view that the miniature suggests for Stewart leads me to the final viscerality of seeing that I will consider here: the bodily and mental excitement inspired by the vision of the (im)possible. It involves an anecdote:

The architect and designer Frederick Kiesler incorporated a Tanagra device in a stage setting for Karel Capek’s utopian drama, *R.U.R.*, which was staged first in Vienna and then in Berlin in 1922/23. In an interview in *Progressive Architecture* in 1961, he tells this story:

> ‘This *R.U.R.* play was my occasion to use for the first time in a theatre a motion picture [a small cinema projection was also incorporated in the set] instead of a painted backdrop, and also television* in the sense that I had a big, square panel window in the middle of the stage drop which could be opened by remote control. When the director of the human factory in the play pushed a button at his desk, the panel opened and the audience saw two human beings…a foot-and-a-half tall, casually moving and talking, heard through a hidden loudspeaker. It was quite an illusion, because a minute later you saw the same actors appear on stage full size. There was, inevitably, a burst of applause at this moment…I mention it because these new devices to present the interplay of reality and illusion brought many artists to the theatre.

After the second performance…a man pushed his way in [through the stage door]…It was van Doesberg. He… asked, “Where is Kiesler?”... He made a sign, as you do when you call your gang, you know. The gang came in and the gang was Kurt Schwitters, Hans Richter, Moholy-Nagy, El Lissitsky, Werner Graeff and Theo van Doesberg. They…grabbed me without saying a word, lifted me up and took me 6 or 7 blocks to a club where we met Mies van der Rohe and spent the whole night talking about architecture and the future theatre…it seemed to each of us as though we were individuals who had known each other for a long, long time. And this is how I joined the group known as “De Stijl”…’

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64 Stewart (1997), catalogue essay in *At the Threshold of the Visible*, p. 2.
65 It was only television in the sense of suggesting control over remote spaces. No screen is involved in a Tanagra, the images are viewed in a concave mirror.
The story is delightful, but it has one flaw. The Tanagra set-up permits only a very controlled angle of viewing, hence its restriction to a sideshow context. In a theatre it would surely have been impossible for much of the audience to see the tiny figures. Could the burst of applause have been excited by the desire for the visualisation of ‘modern’ space/time by eyes which, as Kierkegaard wishes, ‘forever young and ardent, see the possible’?

The examples that this suggests in the history of 20th century design are countless – consider the 1930’s giving of streamlined forms to static domestic objects, or today’s incorporation of ‘information technology’ of limited functionality into just about any context. The purpose they served when they were originally felt as thrilling was surely a psychic one, of connecting us to an imagined and more vital world.

Stage set by Frederick Kiesler for R.U.R. incorporating a Tanagra device, 1923
The Tanagra image is visible in the rectangular box just right of centre.

20th Century Stage Decoration, Fuerst & Hume (1929)
Conclusion

In his study of the body and spatiality in modern drama, Stanton B. Garner remarks that the audience watching the late plays of Samuel Beckett are disturbed to find themselves simultaneously embodied and disembodied at peak moments, ‘clawed’ by the perceptual dissonances of Beckett’s stage… ‘tangentialized, situated between the places they cannot occupy and those they must’. 67 The unstable embodiment of the audience (worked on by their physiological responses to stimuli such as after-image or half-light, and by their fluctuating grasp of their own positions) forms a ‘third body’ to set against the body of the character and the body of the actor.

At the beginning of this chapter, I suggested that many of today’s emerging spatial disciplines involve a synaesthetic interplay of attention, body and spatial experience. Beckett works upon the fluidity of perception and fluxing sense of embodiment with mastery, ‘consciously manipulating the experiential orientation of audience to stage’. 68 I have tried to imagine the resonances and dissonances that may have been unconscious factors in the experience between performer and audience in three more trivial contexts half a century earlier. I have speculated as to how visceral and imaginative sensations might have interwoven at particular moments to form the sort of disturbance that we call ‘entertainment’. I suggest that the refinement of such disturbances, and the awareness that the audience/inhabitant/perceiver is part of the work, is becoming part of modern spatiality. Moments when we perceive ourselves perceiving, with all the complexity that entails, can be moments of ‘in-sight’ in several senses, involving both looking inwards and looking from within ourselves.

We are linked to our times not only by the ability, but also the desire, to see in particular ways - to align our attention in this way rather than that. ‘Theory’ and ‘speculation’, ‘theatre’ and ‘show’ (all rooted in seeing) link performance, experience and the possibility of choosing how we will see. However, attention, vision and spatial perceptions have their own history. Chapters Three and Four will look at some examples of how these

67 Garner (1994), Bodied Spaces: Phenomenology and Performance in Contemporary Drama, p. 84.
68 Ibid. p. 81.
have played out in the creation of audiences for a range of situations that involved interiors both fictional and actual.
CHAPTER THREE

Carried Away! The Spatial Pleasures of Transportability

This chapter started from material that was originally written for a conference on transportable environments.1 Although, naturally, many papers discussed situations where buildings or shelters could be easily moved, constructed or reconfigured, the range of disciplines and viewpoints at the conference demonstrated that ‘transportability’ is associated with many other things that seem urgent and exciting today. Impermanence, mutability, fragility, ingenuity, and spaces created through action rather than material all came up for discussion. Several papers equated the transportable with the transformable. One keynote speaker, inventor Chuck Hoberman, who spoke of his astonishing transformable structures that unfold and expand instantaneously, was described by another speaker as a ‘master alchemist’ of space. Another paper addressed the ephemeral environments, which might be ‘mental rather than corporeal, imagined rather than built’ which could be created by technologies such as mp3 players that contain fragments of other spaces that we are temporarily away from.2

In my own paper, I too suggested that ‘transportability’ has magical attributes as well as utilitarian ones. The deep roots of its fascination for us are tied up with language, perception, creativity and our sense of ourselves. I then discussed how this fascination was harnessed in magic entertainments of the late 19th and early 20th century, and claimed that the energy - the creative spark - that once made a routine urgent and exciting, has parallels in practices and artefacts in spatial designs that seem somehow to be more than mundanely functional. I suggested that the apparatus and its manipulation might still intrigue today’s practitioners, offering both practical techniques and stimulation to creative thoughts. In the second part of this chapter I develop these ideas further, drawing on work done by designers such as Eileen Gray and Frederick Kiesler in the years between 1920 and 1940, to suggest the bridge between then now. I suggest that the work of these designers harnessed both the

1 Transportable Environments Conference, Ryerson University, Toronto, April 2004.
functional and the conceptual charms of mobility and flexibility to create spaces that continue to capture the imagination.

‘Flexibility and mobility lead to transparency, openness, freedom and spatial dynamism.’

This assertion from the young Marcel Breuer\(^3\) slips past the ear among other design mantras of the early 20th century. It is a statement of hope, rather than of fact, which I want to use to reflect on our human fascination with such dynamic operations as dematerialising, defying gravity, breaking spatial constraints or changing form. These have taken on renewed urgency in the design practices of the 21st century.

With hindsight it is easy to see that the transparency that Breuer desired was more than the simple opposite of opacity. His words seem to speak for a sort of magical thinking, where the naming of one desirable attribute will invoke the next. In their seminal essay ‘Transparency: Literal and Phenomenal’, written in 1955/6, Colin Rowe and Robert Slutzky noted that in the literature of contemporary architecture words like 'transparency', 'space-

\(^3\) Wilk (1981), Marcel Breuer: Furniture and Interiors, p.67.
time', 'simultaneity', 'interpenetration', 'superimposition' and 'ambivalence' were often used as synonyms. By mid-century, the complex conceptual associations of 'transparency' had come to be taken as axiomatic of spatial modernity. Today, 'transportability' and 'flexibility' form part of a similarly charismatich set of ideas that are sometimes assumed, almost without a second thought, to be related. Associated manoeuvres - folding, transforming, inflating, expanding, reconfiguring - are all keywords for entry into a web of creative thought, whether from spatial design, industrial design or fashion: they would form a list of 'synonyms' for today that have taken on thrilling and stimulating connotations that go beyond mere practicality, but have acquired a glamour of their own.

Just as visual transparency can no longer be seen as unequivocally noble (a topic that I return to in Chapter Six, Seeing Nothing), transportability too can have its tricky side. It is one that magicians are experts in since it is an important part of the magician's repertoire. In the second part of this chapter I will discuss some ways in which unsuspected transportability operated as a technique within many of the 'primary feats' - productions, disappearances, transformations, transpositions and so on that I referred to in Chapter One. But remembering that David Devant categorized primary feats as ones that 'arouse a sense of magical experience', rather than as 'types of tricks', I want first to consider some ways in which transportability, with its associated connotations of flexibility and kinaesthetic potential, can be a magical attribute that creates a spatial experience in our inner world.

To clarify straight away what I mean here by 'magical': I am not concerned with the supernatural. I am interested in those fragile human moments when we become aware that we are in a place that is different from the one we normally occupy, where things are connected in a way that is different from what we assumed. Our attention stems from the object itself and extends to a succession of fleeting thoughts and impressions. At the heart of the matter is always some sense of duality: of oscillation, simultaneity, multiplicity, of shifting (either from here to there, or from one form to another, or from one meaning to another) and this oscillation is in some way satisfying, exciting or profound. We too are transported – perhaps our hearts or our thoughts leap – we may feel a kind of shock or thrill.

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4 Rowe and Slutzky (1963), Transparency: Literal and Phenomenal, p. 45.
5 For commentary on the myth of noble transparency see Vidler (2000), Warped Space: Art, architecture, and Anxiety in Modern Culture; also Graham & Hurst (1987), Corporate Arcadias.
and a quickening of vital feeling that may express itself in laughter, or in wonder, or in a sense of delight at the perception of other possibilities. Such feelings and perceptions have become bound up in our contemporary sense of spatiality, and have returned to the foreground in recent spatial design.

There is an essential ambivalence at the very heart of the definition of the transportable, or how else would we know it? We can only grasp it in relation to something else, the image of the ‘non-transportable’ against which we are assessing it. (It is challenging to think of anything that can only exist in a transportable state.) Already we have at least two thoughts to play with. Furthermore, as with many important words, its possible meanings seem to contain both itself and its opposite. At one extreme it may promise to let us carry everything with us, as with the mobile home or the Swiss Army knife, while at another extreme it may suggest that we need carry almost nothing, for we can make a place by stretching the wedding canopy, lighting a match or drawing a line in the sand. An idea can be felt to have moved, just as much as an object. There is a play of thought as we probe the ambiguities of the concept. This Janus-like aspect of transportability need not be felt immediately. When William Empson offers the everyday phrase ‘the light goes out’, it takes a perceptible moment to work through the shift from a mental image of a sudden removal of illumination to the mental image of a lighthouse throwing a beam across a dark sea. We have been attending to ‘the light’ perhaps, but the shift took place in the ‘going out’. Poetry and misdirection can have shared attributes, in that they both may play games of interpretation.

Bound up in the paradox of the protean object, where one thing easily becomes another, or is able to do many different things, is the further excitement of the analogous object, where two disparate things become the same. 'Why is a raven like a writing-desk?' asks the Mad Hatter, but he might well have asked 'when' rather than 'why'. There was a legend that students from my architecture school and from another had once undertaken the same project, the design of a portable darkroom. At the final presentation the hearty students from the rival school produced the prototype of a wonderfully ingenious structure, full of hinges and seals and bits that folded in and out and up and down, designed to fit on the back of a motorbike and all put together in their workshop within the given budget for materials. The group from my school laconically produced a Polaroid camera (then a novelty) and its

6 Empson (1951), The Structure of Complex Words, p. 294.
receipt. The story, though sadly dated, does demonstrate the rich potential of the subject to link language, humour, insight and creativity. Significant concepts pile up one after the other: the original, the reproduction, the miniature, the translated, the analogous. The story itself is satisfying, in both being about something transportable and then suddenly moving the mental image of what that could be. The solution calls to mind Bachelard’s words: ‘We know something when our description of it will allow us to find it again on another occasion.’

But what is it in such things that is able to fascinate us? I have chosen the word with care, referring to its earliest connections to bewitchment. Fascination originally rendered its victim unable to move or resist. In modern usage it carries a sense of being in a state of ‘delighted attraction’. Something is present which is important enough to hold us in a state where we feel connected to it. This goes further than simply seeing it, but holds us on the very threshold of fully understanding it.

I have already suggested that today the word ‘transportable’ has acquired a richness of loadings of meanings and possibilities for design, just as ‘transparency’ once had. It embraces the dualities of Rowe and Slutzky’s synonyms (‘space-time’, ‘simultaneity’, ‘interpenetration’, ‘superimposition’, ‘ambivalence’, etc.) and further invokes the shape-shifting spatial thoughts that tantalise and inspire many designers today, such as ambiguity, mobility, ephemerality or lability. The words, and the ‘equivocal sensations’ that they conjure up (Rowe and Slutzky use this expression to describe the sensations that derive from phenomenal rather than literal transparency)

express our human need for the world to be richly significant - to ‘enjoy the sensation of looking through a first plane of significance to others lying behind it’. This concept of ‘enjoying the sensation’ is crucial. It reinforces the argument that moves the transportable or changeable object away from being an end in itself and into ‘transportability’ as the ability (of the thing or the situation) to transport us, to shift our frame of reference, our point of view, and to permit us, albeit momentarily, to see and feel creatively.

Alfred Schütz, the philosopher and sociologist whose lifework was a concern for the meaningful structure of daily life, offers the idea that each of us experiences reality as many

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8 Rowe and Slutzky (1963), op. cit., p. 43.
9 Ibid. p. 23.
different states, temporarily emigrating from the ‘paramount reality of everyday life’ to enclaves within it, which he called ‘finite provinces of meaning’. Everyday life is the common-sense world, the world on which the laws of science operate. It is the world of ‘normal’ reality that we share most frequently with other people and, most of the time, we think of as most real. Each of the other enclaves or islands has its own specific cognitive style which differs from that of everyday life but is consistent within its own boundaries. Schütz gives as examples of such finite provinces of meaning the world of dreams, of the theatre, of a child’s playing, of a scientist’s engagement in theorizing, of any intense aesthetic or erotic experience. The specific cognitive style of each will have its own specific forms of self-experience, specific forms of suspension of doubt, different forms of consciousness or attentionality, of time perspective, of sociality. We may switch from province to province multiple times in a single event, and provinces may be enclosed one within the other.¹⁰

Imagine then ‘the state of being fascinated’ as a finite province in itself. Perhaps one of its specificities is an enhanced ability to feel the energy of an idea, like a great wave, coming towards us. Another would be the heightened ability to sense two thoughts at the same time and perhaps for a timeless moment to dwell in the wordless gap between them. *Fascination is always speechless*, though it may be followed by a torrent of words or laughter.

Peter Berger, as part of an enquiry into the human experience of laughter,¹¹ speculates that experiencing something as comic is similarly leaping into another finite province of meaning, where, as in the world of dreams or play, different logics apply - the categories of time and space, the relation to oneself and to others - all are different. He notes, following Plessner, that ‘both laughter and weeping place an individual in marginal or border situations. Man’s eccentric position allows man to perceive the world as both constrained and open, as familiar and strange, as meaningful and meaningless...Man is essentially a marginal


¹¹ Berger (1997), *op. cit.*
(And where are we more likely to find the need for a transportable environment than in a marginal place?)

I put forward these ideas from Schütz and from Berger not as explanations but as tentative descriptions or evocations of the state of mind that ‘transportability’ might bring. Of course, not everything that is transportable is fascinating, nor do the same things fascinate everyone. I am not personally excited by portable pensions, but a memory of an Indonesian family gently creating a place to spend a day on the beach by suspending everything they had brought (the baby, the lunch, the water bottle) from a tree, using lengths of fabric that moments before were part of their dress - this touches something in me that resonates pleasurably with spatiality and simultaneity, ingenuity and tenderness. Others may feel the same delight in a jacket that can turn into a tent, or a shelter that can be carried in a pocket.

The concept of ‘play’ tends to introduce paragraphs that turn into pedantry or whimsy. Other people’s idea of what play is rarely match our own. However, a further important idea that I want to put forward is the way in which the many aspects of ‘play’ that are implicit in the transportable (for example, in the engineer’s sense of having space or freedom to move, or the linguist’s play of words, or the performative sense of activating or using) are life-enhancing and bound up with our deepest human purposes. The psychoanalyst Donald Winnicott stresses the creative profundity of play: ‘Creativity is inherent in playing, and perhaps not to be found elsewhere. A child’s play may be to move his head slightly so that in the interplay of the curtain against a line or the wall outside, a line is now one and now two. This can occupy a child (or an adult) for hours’. Elsewhere Winnicott clarifies that by creativity he does not refer to ‘the successful or acclaimed creation’ but rather ‘the meaning that refers to a colouring of the whole attitude to external reality’. ‘It is creative apperception more than anything else that makes an individual feel that life is worth living [my italics].’ I understand this to mean being aware that one's own attention is being engaged, in some way that seems worth attending to.

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12 Ibid., p.47.
13 Winnicott (1986), Home Is Where We Start From: Essays by a Psychoanalyst, p. 64.
For Winnicott, living creatively is a healthy state. There is healthy creativity involved in recognising that one thing may be found in another. He cites a statement by Marion Milner:

‘Moments when the original poet in each of us created the outside world for us, by finding the familiar in the unfamiliar, are perhaps forgotten by most people; or perhaps they are guarded in some secret place of memory because they were too much like visitations of the gods to be mixed with everyday thinking’. 15

The poetic insights of play and of fascination sit outside everyday thinking. We go there, but we cannot stay there.

Part of the work of creation entails finding, or recognising, the familiar in the unfamiliar. There is the idea of rediscovering. In an essay written late in his life, Gregory Bateson suggested ‘Perhaps all exploration of the world of ideas is only a searching for a rediscovery, and perhaps it is such a rediscovery of the latent that defines us “human”, “conscious” and “twice born”’. 16 *We know something when our description of it will allow us to find it again* - whether on another occasion, in another place, or in another form.

This chapter so far has drawn together Schütz’s proposition that our mental life is made of a series of excursions out of the commonsense world and the natural attitude into other self-contained provinces of meaning and back again, and the belief (following Winnicott and Berger) that these excursions are creative and ultimately life-enhancing. We can recognise that the transportable can be literally extra-ordinary (outside of ordinary life) and that our recognition of this can itself be the opportunity for creative apperception and the sense that life is worth living. Our pleasure in ‘transportability’ is bound up in our joy in language, and our ability to create understandings from the sensation of two simultaneous kinds of knowing.

Having planted these thoughts – of dualities, shifts and moments of delighted attraction – and tried to link them to ideas of creativity, vitality, and creative apperception recognised while moving outside of ‘everyday life’, I want now to shift focus to the fascination of the transportable when it was harnessed in one modest genre of entertainment,

that of stage magic and illusion in the late 19th and early 20th century; a time when such shows were most popular. When stage magic was still an important entertainment, fascinating transportations that caused people and objects to appear and disappear, or move inexplicably from here to there, transported the audience too. They carried each person through cascades of ‘finite provinces of meaning’ in which each experienced their own moments of delighted attraction, their own leaps into the wordless gap between conflicting perceptions, followed by dissolves into laughter and a return to the shared world of the crowd.

A less self-conscious discipline than architectural theory is that of conjuring theory. Henry Hay wrote in *The Amateur Magician’s Handbook*:

> The central secret of conjuring (and of art and literature and politics and economics) is a manipulation of interest...What in turn is interest? Interest is a sense of being involved in some process, actual or potential. Interest is not the same as attention...Interest is selective, an expenditure of energy by the interested party...Interest is projected by the interested person, not by the ‘interesting’ object. Next step for the performer to grasp: *Perception too originates with the perceiver, not with the object.*

So it is in the audience’s perception that the act sits. The renowned stage magician David Devant defined magic as: ‘the feeling that we have seen some natural law disturbed’. Bearing in mind my earlier discussion of excursions from the commonsense world to other provinces of meaning where the rules are different, this is nicely provocative. Such experience, magical experience, has the potential to offer us the pleasure of brief excursions that carry us away from everyday life. Such feelings and perceptions have become bound up in our contemporary sense of spatiality, and have returned to the foreground in today’s spatial disciplines, with their renewed interest in spatial perception and experience, rather than in style; the renewed focus on the kinaesthetic, tactile and sensual; and the expansion of the scope of spatial design to include within its realm the study of an event, or a moment of time, or a visceral sensation, whose ultimate significance is created by the inhabitant rather than the designer.

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With this in mind, I would like now to look at some apparatus and routines from the shows. Because these examples relate to audiences and performances from a past time, their context, their patter, and their degree of 'impossibility' in the minds of their audiences may seem alien or quaint today. The old-fashioned apparatus, considered alone, is probably more fascinating to us when we know what it does and what latencies it holds. We would like to play with it ourselves, to press the springs and open the secret drawers. This is a point that I will return to again in the thesis. For the moment however, I will start by describing some of the apparatus and suggesting that the energies within them (I can think of no better word at the moment) still have the potential to inspire design. While at the simplest level this might be by using similar techniques to solve a problem, the deeper analysis of a trick by considering it as a spatial concept, or by considering the desires that it satisfies, may suggest creative parallels, analogies, or even constructive inversions. These may offer ideas of spatial sequences - ways of moving through a space or an event - or ways in which significant space can be created by the inhabitant or by the moment.

Through this part of the text I will compare the tricks to some examples from 20th century spatial designs by Eileen Gray and by Frederick Kiesler. I have chosen works that seem both to have some quality in common with the trick and also have their own magic. Many of the examples from Gray's work are taken from two houses, E.1027 (1927-29) and Tempe à Pailla (1932-34). Gray's work concerns 'interior' in ways that worked in parallel with the Modern Movement yet challenged it, by foregrounding the subjective qualities of experience, and the ways in which these might support or suppress an interior life. Her concern for 'comfort' seems as much a concern for psychological comfort as for physical ease; as for example, in providing ways in which each guest in the small house E.1027 might feel entirely alone if they wished to. In this she reminds me of the way that Luis Barragán insisted that the human need for the psychic functions of beauty, magic and stillness were of equal importance to humanity as its need for functional dwellings.19 'Psycho-function' (as opposed to pseudo-functionalism) was the motivation too for Frederick Kiesler, whose work seems so curiously to have addressed the inarticulate spatial desires of the Victorian illusions, often by forming associations between disparate objects or ideas that make the boundaries of

19 See Barragán's acceptance speech on receipt of the Pritzker Prize in 1980.
thought quiver momentarily. 'All my work,' he explained in a 1947 interview, 'is really a kind of magic - a creating of life and a creating of freedom.'

Gray's work starts from the perception and experience of dynamic elements, whose inter-relationships work on many levels - their practicality, their provisionality, their humour, and the acknowledgement of the moments that they make possible, or that make them possible. The work makes 'interiors' as opposed to 'facades'. Various commentaries on her work, both contemporary reviews and retrospective reassessments, refer to in terms of how it is experienced; the ‘floating phantasmagoria’ on the surfaces of Gray’s lacquered screens, their ‘implied extension’ ‘depth’ and ‘evanescence’, along with her ‘fusion of furniture and space’, her concern for mutability, and the creation of a milieu rather than a composition, elements that each ‘change and transform itself into itself’, even the choreographic consideration of the paths of all the actors (host/guest/servant as well as sun) as they cross the paths of the nomadic furniture.

It intrigues me that similar observations could also be made about the active performance of the components of a fin-de-siècle stage illusion, implying something about the tacit knowledge latent within the conjurors' apparatus and effects, even if their motives were to deceive rather than to reveal. At the simplest level, the methods used to achieve the productions, disappearances, transformations and transpositions can suggest ingenious ways to move things from here to there. From this pragmatic point of view, consider first the transporting abilities of the conjuring apparatus itself. This is often designed to conceal a secret load, either out of sight or beyond our perception in the right circumstances. Custom-made cabinets and other articles of furniture that allowed people or objects to be carried on and off the stage in secret were very common in fin-de-siècle stage acts, as for example in 'After the Flood', in which an empty ark-like box was closed up (the sequence of closing was important) and apparently filled with water, but from which quantities of live animals and 'a beautiful Eastern woman' could then be produced. The audience was expected to read the

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20 Schnall (1947), Design's Bad Boy, p.140.
21 For discussion of Gray’s work I have drawn on sources cited by Caroline Constant (2000), Eileen Gray, and also on extracts from Buisson & McClendon (n.d.), Eileen Gray (1879-1976), as well as the published dialogues between Gray and Baldovici in L'Architecture Vivante (1929).
curving ends, which contained the animals, as if they were simply the shapely decorative ends of a vaguely boat-like vessel.

A similar suggestion of vaguely exotic decorative styling in another routine explains the way that attention would, in theory, not have been given to the apparently delicate canopy of the 'Magic Palanquin' as it was being carried on the shoulders of four slaves. This canopy formed the real hiding place for a reclining oriental beauty who could disappear into it in a flash (assisted by counterweights running through the hollow uprights). Both pieces had to be operated by exact sequences of movements, which must however not be clumsy or draw attention to themselves, but instead must have appeared to be appropriate ones in the context of that furniture. In another context the manoeuvres would have been obvious, and in this the apparatus calls to mind the careful attention to milieu in the routines of the conjuror Robert-Houdin that I will discuss in Chapter Four.
Caroline Constant makes a similar point when she notes that Eileen Gray’s fusion of furniture and space drew more attention to the milieu it created than to its own physical presence. She points to Gray’s reinterpretation of 18th century secretaries (the name refers to the secret compartments that characterise these writing desks), as simple compact furnishings with movable parts that must be manipulated to disclose their purpose. Like their 18th century precedents, Gray’s items were both furniture and equipment.

Other types of conjuring apparatus use topological manipulations to move space from here to there. In a simple trick like a ‘Fall-Apart Dove Vanish’, a pocket of space flips outside of the perceived boundaries of the overall form. The dove or other item that is intended to disappear is placed in a pocket that starts out on the inner face of a receptacle but then ends up on an outside face, out of sight of the audience.

In architectural terms this concept is similar to a volume of internal space that is designed so that it is perceived as being outside the building envelope, often to fascinating effect, though here the inversion must be noticed rather than overlooked. Put into words it is merely pedantic, experienced spatially it can be enchanting. Architectonic examples are too many to number but balconies and bay windows are simple examples. Geoff Warn, of the Perth architectural practice Donaldson and Warn, speaks of a house he designed where a flash of

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23 Ibid. p. 88.
inspiration caused him to think of the house's wardrobes as hanging 'outside' the walls.\textsuperscript{24} Pods and 'parasites' that cling to the exterior surface of unsuspecting office blocks have been reinvented by generations of design students as somehow transgressing the rules of space in a thrilling way. The first glass-walled elevator to run \emph{outside} a building (the Starlift at the El Cortez Hotel in San Diego, which began operation in 1956) caused a similar exquisite rupture of the conventions of spatial boundaries. It attracted 'over two thousand people nightly to ride the elevator' at weekends.\textsuperscript{25} The stir in the public imagination caused by external glass elevators was repeated for several decades each time the first one appeared in cities worldwide. (Even the first sight of one in a film caused a murmur to run through the provincial cinema where I saw \textit{Towering Inferno} in 1974.)

Disruptions of conventional relationships can be potent spatial concepts when they are first experienced. Again, these are poignant only if set against expectations that are prevalent in that place and at that time. Consider Eileen Gray's inversion of the conventional gendered relationships between study and dining room, and boudoir and bedroom when she created her own boudoir-studio in her house \textit{E.1027} (completed in 1929). Further inversion of inside and out placed the studio's daybed on the terrace, furnished the sunbathing pit with bookshelves, and arranged the kitchen so that it could be interior or exterior as desired.\textsuperscript{26}

Another topological manipulation that can be imagined on an inhabitable scale happens in the very old trick called the egg-bag, with its inner bag whose entrance is at the bottom rather than the top. As the bag is turned this way and that, it has a resonance with tricks that use the principle of the Möbius strip, such as \textit{The Afghan Bands}, which dates back to at least 1882, and the impossible (in 3-dimensions) but conceptually intriguing 'Klein Bottle'.\textsuperscript{27} The spatial fascination of wandering further into a building yet finding oneself outside it has inspired several acclaimed architectural compositions, such as the \textit{Möbius House} by Ben Van Berkel and Caroline Bos. The impossible double Möbius strip is the inspiration for the \textit{Klein Bottle House} (McBride Charles Ryan, 2008). Kiesler's mid-century vision of the \textit{Endless House} conceptualised endless permutations that are both more pure and

\begin{itemize}
\item \textsuperscript{24} Personal communication.
\item \textsuperscript{25} Gray, Lee (2005), \textit{Key Moments in Recent History: The Origins of The Exterior Glass Elevator}, p. 109.
\item \textsuperscript{26} Constant (2000), op. cit., pp. 107, 243.
\item \textsuperscript{27} 'Two Möbius Loops together to create a single sided bottle with no boundary. Its inside is its outside. It contains itself.' This Wikipedia definition gives the flavour.
\end{itemize}
more impossible to realise in material form, as endless continuity between space, people, objects and concepts.

Such topological puzzles must be capable of sustaining interest if they are to be more than simply mathematical curiosities. Egg-bag routines, when well-performed, engage the audience because of the way that the hidden object is moved from place to place within the bag, so that there is always somewhere else to go, some other way that the bag can be turned without revealing the contents. Though the 'presence' of the egg, or borrowed wristwatch, is demonstrated when the audience hears the crunch of it breaking; its 'absence' is repeatedly proved by seeing the bag turned this way and that until the moment comes for it to be recovered. Gray similarly intertwined the visible with what is out of sight rather than providing a succession of vistas, to draw the occupant on a promenade architecturale, commenting in her notes on the desire for 'a transition which still keeps the mystery of the object one is going to see, which keeps the pleasure in suspense'.

To this end, Gray also engaged the senses of sound and touch within her immersive choreographies.

Many other tricks used apparatus or equipment that was conceived with an accurate and inventive understanding of the dimensions and capabilities of the human body to carry people on and off the stage. The malleable human body concealed in a surprisingly shallow space is the secret of many tricks that use 'innocent' tables, stairs, etc. Other apparatus that slides, hinges or yields to the pressure of a hand was designed to accommodate a specific performer or assistant and a specific sequence of actions. Such ergonomic relationships between bodies and spaces, or bodies and actions, acknowledge the presence of people. Again, Gray's interior at E.1027 is rich with spaces designed around the interaction between furniture and user, so that things are not only to hand, such as the mosquito net that could be lowered over the guest divan by 'a thin cable, within arm's reach', but almost actively articulate to meet the user's needs, like her famous hinged mirror that orbits from its home base to show the back of the head.

A technique that Sam Sharpe calls 'decrease by division' comes into play when our preconceptions prevent us from realising that a form which appears to be made up from self-

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29 Sharpe (1985), op. cit., p. 15.
contained and separate elements might conceal a single continuous volume, such as a person. In the simple example in this illustration, the *Dressbox Illusion*, each box from a stack was removed one at a time from the table. The audience would assume that the remaining box had the same shallow dimensions, not imagining that a performer might be pressed into the elasticated base of the bottom box, which was actually built into the table.

![The Dressbox Illusion](image)

*The Dressbox Illusion*  
Sharpe (1985), *Conjurors' Optical Secrets*

Such visual tricks that break a larger mass into several smaller parts are common at every scale of design. Gray's hypothetical 'House of an Engineer' (1926) reconceptualises the trick in relation to the ground plane, embedding the elements of house, pool, garden and garage within a spatial continuum, by subtly depressing some spaces into the ground, and floating other volumes over the top. (Constant describes this as Gray's rejection of the way that Le Corbusier used pilotis to achieve control over a site through elevating his main spaces into a discontinuous relationship with it.)

The dates of the emergence of new routines often correlate to changes in available materials. For example, new ways of achieving magical suspensions and levitations followed the development of processes for producing piano wire of greatly improved tensile strength in the 1860s. Developments in the production of metal pipes could allow new apparatus to be concealed within apparently fragile slender objects. Hillel Schwartz claims that the idealised female body of the 19th century aimed for buoyancy, that is, volume without weight, as expressed in the outline of the crinoline, but with the advent of powered flight, modern dance, scientific management and home economics, a new kinaesthetic ideal

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appeared at the century's turn, insisting on a dynamically balanced, centrally controlled body. This is intriguing, for both magical buoyancy and magical balance had a place in the 19th century stage routines. Conjuring apparatus was often designed to make refined use of the properties of materials whose elasticity, malleability, compressibility, or high tensile strength could allow components to collapse, fold up, or suddenly expand by articulating in unusual ways. Tempered steel springs and elastic cords, collapsible wire skeleton frames or inflatable forms dressed with ultra light silk fabrics all contributed particular qualities of buoyancy and lightness to the sort of tricks where something which appeared indisputably enormous in volume would, in a flash, shrink to a miniature version of itself, or vanish altogether.

Levitations and suspensions were particularly characteristic of the end of the century. (As with many types of tricks, similar methods were invented or re-invented in different places.) Many innovative stage routines that appeared at much the same time used the principle of the cantilever to carry forces indirectly in ways that implied impossible denials of gravity. The new levitations used grids and counterweights in variations on the post and beam apparatus that had actually been used in Renaissance theatrical magic\(^3\) but levitations, though always a subject for magical performances, took on new significance in the stage acts of the 1890s. Tricks like Robert-Houdin's earlier *Aerial Suspension* were now old hat as audiences knew that the single pole or other prop left supporting the head of the hypnotised body was hard at work, even if it appeared to be carrying the weight in a way that was counter-intuitive. The acts of the *fin-de-siècle* could only be astonishing if there was demonstrably no visible means of support. Now the illusionist, moving freely all round the stage, could pass a hoop from head to foot around a recumbent floating figure. In some routines, the figure seemed to lose its corporeal mass completely, vanishing as the magician flicked a cloth across it. In others the clearly living body finally returned to the couch from which it had levitated, then stood up and walked away.

\(^3\) McKinven (1995), *Stage Flying 451 BC to Modern Times.*
Robert-Houdin's 'Aerial Suspension' c.1850
Image courtesy Jacques Viognier Collection

David Devant performing the Sylph levitation (in which a cantilever plays a part)
Image courtesy Edwin Dawes Collection
The same techniques that magicians had used in secret in the 1890s to achieve these illusions of floating were re-invented later by furniture designers in pursuit of Marcel Breuer's dream of 'sitting as if on an elastic pillar of air'. Here however the cantilever was on display, the symbol of both the new technology and the new flexible and mobile body.

The same sense of delight in dynamic energy without volume would be evoked for many, including Eileen Gray, by Frederick Kiesler's City in Space, which represented Austrian theatre as well as architecture when it was exhibited at the 1925 Paris Exposition. Kiesler's exhibit 'touched the ground at unbelievable intervals and seemed actually to float in the air'. Beatriz Colomina remarks, '[E]verything in [Kiesler's] architecture floats. The floors go up and down, the structure hangs, and even the furniture, the cabinets, the tables, the lighting

33 Wilk (1981), op. cit.,
34 Schnall (1947), Design's Bad Boy, p. 89.
fixtures, are suspended. Time-Space is a surrealist project.\textsuperscript{35} Corbusier is reported to have asked Fernand Léger, an enthusiast, if Kiesler intended to hang his houses from Zeppelins.\textsuperscript{36} Although Colomina re-attributes this quote to suggest that Corbusier asked the question to Kiesler himself in a dismissive fashion, the article in \textit{Architectural Forum} cites the enquiry as a pertinent one: Kiesler was proposing a perfectly plausible construction technique drawn from civil engineering and Corbusier used some of the same cantilever techniques in his own works. But Kiesler, like Gray, understood the psychic function of infinite space and endless possibilities as well as the technologies that could begin to make them real.

\begin{center}
Image removed
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Frederick Kiesler \textit{Flying Desk}, 1929  
\textit{Annual of American Design 1931}

The history of the bicycle and the history of furniture intertwine in more ways than just the curved handlebars on the Adler bike that are said to have inspired Breuer's chair designs. The properties of ball bearings and india rubber, as well as tubular steel framing, were used to bring qualities of lightness and effortless movement to the performance of each, bringing functionality but, more importantly, a sense of precarious mobility. But stage performers had already grasped the potentials of velocipedes and their technologies for magical transports.

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\textsuperscript{35} Beatriz Colomina (2000), \textit{Space House}, p. 61.  
\textsuperscript{36} Schnall (1947), \textit{op. cit.}, p. 89.
Bicycles in themselves were somewhat magical. 'The idea of flying through the air like a witch on a broomstick' had 'a great fascination', wrote a New York journalist in 1861, commenting on the craze for the velocipede, which many Americans first saw as a stage prop in the acts of the Hanlon-Lees (who will appear again in a later chapter). As well as designing trick bicycles, the Hanlons patented inventions that contributed to the development of the modern bicycle, including an 1868 patent for a bicycle with both wheels the same size. With the aim of making bicycles suitable for the layman and not just acrobats like themselves, they invented adjustable seats, the use of rubber rings on the wheels, more efficient cranks that propelled their bicycles at great speed, and front wheel brakes. The brothers had hoped to run a profitable velocipede business on the side, but although they had to abandon it eventually because of the demands of show-business life, their technical knowledge informed their extraordinary stage routines and allowed some very unusual movements on stage.

Eileen Gray used ball bearings in the bedside table she included in the sleeping alcove in E.1027 (completed in 1929). According to Caroline Constant, Auguste Perret's use in 1925 of ball bearings in a bedside table with three opening sections was 'a first in furniture design'. However Constant makes the point that, unlike Perret, Gray exposed the working elements in her design, and in this she exhibits the sort of pleasure in 'seeing how the magic is worked' that I will speak of further in Chapter Seven.

The cantilever chair, dreamed of by Breuer in 1902, constructed out of gas-pipes by Mart Stam in 1926, re-interpreted by Lily Reich, Charlotte Perriand, Mies van der Rohe, Le Corbusier et al, expressed the desire for transparency, openness, freedom and spatial dynamism - at that time. My personal memory of the cantilever chair - drab green and brown lurching columns of them stacked against the walls in my school assembly hall, only used when the room was needed for exams (we pupils dropped cross-legged to the floor when told to sit) - evokes neither magic or freedom. Gray had already made this point: that future versions of any model will be analogies if they are constructed in the same spirit, not copies in the same style. 'The thing constructed is more important than the way it is constructed,'

37 Constant (2000), op. cit., p. 89.
she said. 'The type should not respond solely to commercial concerns, it must express the psychological reality of an era.'

My parallels now shift from the architectonic to the performative, and to space made for the moment by the attention given to it, creating a state of affairs by the fact of its existence at that time and in that place. Magic routines of the 1910s and 1920s seem to contain more movement than the older acts, and this correlates to the sense of increased speed and dynamism of life in general. Their spaces too became more mobile and fleeting, created by the energy of the inhabitant or performer as much as the physical boundaries of the apparatus. The sense that space is made significant by attention is what I want to bring forward here. I do not mean to imply that the spatial moments I am describing did not exist before the turn of the century, but only that they would not have been thought about in such a way. Further, I am not suggesting that it was the magician who thought in this way, but rather that the mood or atmosphere of the times created the possibility of such thoughts.

Consider then the stage magician as the combination of himself and his apparatus, something like the concept of a bicycle plus its rider forming a single powerful unit. Layers of mobile spaces around him are activated as living prostheses through his performance. Starting closest to the body, formed by the crevices of flesh and the naturally adhesive traits of the skin, are all the little places that come into existence through the flexing of a limb or the slight cupping of the hand.

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The next layer lies within the magician’s clothes, which were also often spatially complex. The black and white of formal evening dress, which became the standard costume, was ostensibly a guarantee of visibility and transparency, but was actually just as purposeful as a technique for optical camouflage as the flowing robes that it had replaced. The stage magician’s costume could carry a plethora of secret spaces, poacher’s pockets, inner cavities with vertical openings, pockets tailored within the sleeves, or in the flaps of the tailcoat. (‘The decline of the waistcoat has affected magic more that the invention of the communications satellites,’ wrote Henry Hay in 1982, looking back on a professional career that had begun in 1923.)

Next come the artificial spaces very near the body, such as within false fingertips, and all the elasticated retractions known as pulls. Again, the active space shifts its location from one spot to another as the trick proceeds.
A jacket prepared for a pull when the handkerchief is removed from the breast pocket
Baker (1941), *Magical Ways and Means*

The spaces of magician and apparatus combined may be used to carry stuff on and off the stage, often in manoeuvres with several stages, as the load is passed from point to point in a chain of moves, a refinement of ‘concealment by division’. Spaces come and go within the apparatus as it is deployed, opened out, expanded and so forth. A piece seen in one way appears quite different when it is turned on its axis. The meaning or apparent purpose of an object may shift as the performer changes his orientation towards it.

A deceptively narrow column, which may increase in depth without the audience noticing
Sharpe (1992), *Conjurors' Mechanical Secrets*

Then there are the transportable spaces of the magician’s gestures, directing our attention here or there, emphasising emptiness with the passage of a hand or the solidity of something with a rap. A movement of the magician’s eyes shifts the balance of our attention. Then we have all the other spaces that surround the performer – the interior sanctuary created by the spotlight, the outer darkness beyond the magic circle of light, the ambiguous and uncertain spaces created in the camouflage of the curtains and backdrops, the spatial mis-readings of
depth, the places that seem to come and go in the shifting veils of darkness. Yet further away are the potential spaces above and below the stage and in the wings, waiting to be activated by traps, wires and hydraulics.

The descriptions and images of a second house that Gray built for herself between 1932 and 1934 suggests to me that she achieved even more sequences of performative spaces here than she had at E.1027. I emphasise again that I do not mean scenarios that were dramatic or theatrical, but rather that they offered spatial moments when attention was given to them. Caroline Constant notes that *Tempe à Pailla* was for Eileen Gray a house for a single woman, subtly layered to sustain her privacy, 'tailored not only to Gray's small frame but also to her solitary way of life' 39 and by this I infer that the designs were deeply personal. Constant's text could be read as a description of a magician's set. New materials were employed to permit adaptability. A bench concealed the cellar steps. Folding steps incorporated into the pantry shelves gave access to storage overhead. Another storage compartment could be lowered by a counterweight in an adjacent room. The same door that hid the winter firewood when it was open in summer hid the terrace stairs when it was closed in winter (reminiscent of Duchamp's 1927 door at 11 Rue Larrey, which could be open and closed at the same time). Drawers rotated laterally, wardrobes expanded to allow access. A narrow passage 'afford[ed] Gray an opportunity to slip outside...her architecture' 40 - like a performer slipping offstage while the audience continues to stare fixedly at the place where it is sure that he must be.

Why in this chapter on the spatial pleasures of transportability have I chosen to speak of Gray's designs for permanent buildings rather than other more obviously 'transportable' designs, such as her *Camping Tent* (1930) or the demountable *Ellipse House* (1936), which was designed to be suitable for homeless shelters or leisure dwellings? Her vacation houses, *E.1027* and *Tempe à Pailla*, evoke for me the deeper pleasures of transportability - the phenomenal as compared to the literal, to return to Slutsky and Rowe's terms. Certainly their technical ingenuity, their attention to the human physiology and their overlapping functions that change in relation to point of view all demonstrate her spatial skilfulness; and the attention to the metaphors of 'le style camping' and her choreographies of the inhabitants'

movements and daily rituals plotted against the path of the sun suggest a rich awareness of internal circulation. But Gray herself insists in her description of *E.1027*, the 'camping' method is provisional, 'a convenient response to an exceptional circumstance' (she makes reference here to the effects of the war, and the hectic 'need for action' that it has implanted in society), and this very small house expresses also the 'normal method' - which provides 'an independent and remote centre, an atmosphere of solitude and contemplation'. For Gray the provision of this is of more importance: 'No, the avant-garde is intoxicated by mechanization. But there is more than mechanization; the world is full of vivid allusions, vivid symmetries that are difficult to discover but nevertheless real.' In her own words: 'This very small house thus has, concentrated in a very small space, all that might be useful for comfort and to help indulge in *joie de vivre*.'

Gray's magical spatial devices allow the inhabitants to think, to notice, to feel, and to bring back into the centre of themselves the creative thoughts that make everyday life worth living.

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Heath Robinson imagines the Modern Dinner Party

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CHAPTER FOUR

Performing Interiors: A Situation Comedy

‘For the comic spirit has a logic of its own, even in its wildest eccentricities. It has a method in its madness. It dreams, I admit, but it conjures up, in its dreams, visions that are at once accepted and understood by the whole of a social group. Can it then fail to throw light for us on the way that human imagination works, and more particularly social, collective, and popular imagination? Begotten of real life and akin to art, should it not also have something of its own to tell us about art and life?’

Henri Bergson, Laughter: An Essay on the Meaning of the Comic (1900)

‘Aside from the glimpses of domestic interiors that they offer us, various linguistic representations of the Victorian interior and its contents allow us to read traces of anxiety, longing, and repulsion that are well worth considering in the context of cultural studies.’

Thad Logan, The Victorian Parlour (2001)

Introduction

Domestic appliances with built-in intelligence are - we are told - soon going to be working with us to keep us safer, stop us wasting energy, keep us company in the old-folks home.¹ They will predict and meet our needs almost before we know we have them. They will greet us with a welcome message and turn out the lights when we leave. But the comfortable dream brings other worrying thoughts with it; from fears of the physical effects of electromagnetic radiation in Hertzian Space, to anxieties about what it will mean to be merely human in an age of intelligent objects. When they first take us beyond what was previously familiar, new technologies are often described as ‘magical’: a guarded term which suggests that, at times, we may not feel quite in control of these uncanny homes. But, as Simon During points out, ‘the magical domain can be radically ‘other’ to ordinary life only

¹ See for example http://www.research.philips.com/ for examples of this Dutch electronics company’s research into ‘ambient intelligence’.
so long as it remains unknowable. As soon as we communicate with or represent the Other, in whatever context, it begins to lose its Otherness. It joins the conceptual machinery of this world. For During, this impels magic towards the triviality and banality that perpetually await it. But this constraint, he continues, ‘also allows magic traditions and modes to be engaged for worldly purposes – to express desires, fears, or critiques, to shape utopias, and to amuse.’

In this chapter I suggest that the representation of the domestic interior as a quasi-magical protagonist that acted out the utopias, fears, and amusements of its time correlates with the history of the depiction of the ‘psychologised interior’ in painting, theatre and literature. I will examine some active interiors drawn from modernity’s entertainments during a period spanning the late eighteenth to the early 20th centuries: the period in which ‘the interior’ took on for the first time its meanings as ‘the inside of a building or room’, its representation as a picture, and as a theatrical set, in addition to its older meaning of ‘the mind’. It was also, as I will show, a period in which it became possible to conceive of the interior as a reflection of a relationship between objects and people - a fluid entity whose inanimate components and living occupants could be perceived as working on and with (and possibly against) each other.

The attention that both artists and scientists turned on the interactions between bodies and their surroundings shaped many cultural productions of the 19th century. As Susan Sidlauskas has shown, the projection of liveliness onto what had previously been assumed to be inanimate objects and irrelevant spaces challenged mid-century ideas about where the self ended and the world began. This uncertainty marks the period when the depiction of interior space became a metaphor for selfhood, a metaphor that in the following decades became more consciously utilised in novels, paintings and theatrical performances, while at the same time it was being theorised through the development of psychological and sociological concepts such as subjectivity and alienation. Intertwinings between the visceral awareness of spatial experience and the articulation of the sense of architectural and sculptural forms as

2 During (2002), Modern Enchantments, p. 39.
4 Grant (2005), Reading the House of Fiction: from Object to Interior 1720-1920, p. 237.
living, active and plastic influenced both aesthetic and psychological theories of empathy between the body and the outside world. John Ruskin had coined the term 'pathetic fallacy' in 1856, considering that the attribution of human capabilities, sensibilities and emotions to inanimate objects was a failure of poetic truth, but the tendency to feel that the world in some way could be 'felt-into' through human sensations was in the air. Theories of empathy were developed in art and in architecture through the contemporary writings of Robert Vischer, Theodor Lipps, August Schmarzow, Heinrich Wölfflin and other German aesthetic theorists in the plastic arts.

Such studies generally address the more profound and serious aspects of experience. What I choose to look at here are some ways in which similar perceptions may have been expressed (or perhaps coped with) in popular entertainments which seem on the surface to be rather trivial: not only in conjuring performances but also children's books, caricatures, animated cartoons and comic stories. These are entertainments certainly, but I want also to bear in mind the sense in which ‘to entertain’ means ‘to hold in the mind’ or ‘to admit into the mind for consideration’. John O’Brien offers a provocative perspective on the role of entertainments with his suggestion that they are often ‘activities through which cultural values are contested, negotiated, and legitimated, and through which those values may become both intelligible to contemporaries and perspicuous to later historians who want to identify and understand them’. The entertainments that I present are all fictional truths, a term that I have appropriated from literary theorist Michael Riffaterre. His proposition is that fiction is artificial, by definition, but paradoxically it ‘must somehow be true to hold the interest of its readers, to tell them about experiences at once imaginary and relevant to their own lives’. I stretch the definition of fiction to include more than literature and look also at fictions that were drawn or performed. In their presentation of fictional images of interiors quickened by forces that were sometimes obedient, sometimes unruly, they also illustrate

6 Ruskin (1856), Modern Painters, Vol. 3.
8 Mallgrave & Ikonomou (1994), Empathy, Form and Space: Problems in German Aesthetics.
10 Riffaterre (1990), Fictional Truth, p. xii.
some of the ambivalence with which the domestic interior came to be regarded, even as it became central to the century's image of itself.

In conclusion I will suggest that two quasi-magical interior scenarios that became stock characters in popular 19th century entertainments continue to have roles today as members of the magic ensemble through which contemporary dreams and anxieties about the home in relation to the world, whether enchanting, ludicrous, pompous or alarming, are offered for consideration.

**Part 1: The Home Comes To Life**

**Zizi, the Affectionate Couch**

Among the furniture at an exhibition of visions of the future home, *Experimenta: House of Tomorrow* (Melbourne: 2003) was *Zizi, the Affectionate Couch*. Zizi's makers describe her as a responsive ottoman upholstered with a fur-like pelt that growls when sat on, purrs when stroked and shudders in delight when massaged. 11 To sit on and with her was a surprisingly pleasurable yet disturbing experience that brought up a flood of thoughts for me. While one set of these were relating the work to half-pleasant memories of growly teddy-bears and a feeling of curious embarrassment, as if caught in public in a moment that should have been more private, another set, more cynical but more witty, were running through a catalogue of fleeting images of anarchic appliances with minds of their own that I associated with pantomimes, comic books and science fiction.

Image removed

*Zizi, the Affectionate Couch*

Zizi seems part of a current trend today, a desire to bestow sentience and agency on the

objects that surround us, with the implication that this will enrich our lives emotionally. At the electronic extreme of this desire sit projects such as Remote Home (2003) or Sensing Beds (2003). Both projects propose, through electronic sensors and new communications media, to allow the furnishings of one home to be inflected by the movements of the inhabitants of another home that may be situated at some distance, perhaps in another city or even another country. Remote Home: One Home Two Cities was an interactive live installation that took place simultaneously in May 2003 at the Science Museum in London and the Raumlabor Gallery in Berlin as part of a collaborative project between Carole Collet, a designer of interactive textiles, and Tobi Schneidler of the Smart Studio, Interactive Institute, Sweden. 12 Elizabeth Goodman and Marion Misilim, the creators of the Sensing Beds, intend the beds to "bridge the physical distance between two people who would normally share a bed but find themselves sleeping apart [by] sensing body position in each bed and using a congruent grid."

In both projects the furniture and fittings appear to be occupied and utilised by ghostly inhabitants whose comings and goings trace out truly parallel lives that, despite never meeting, sustain a human connection between them. At present these electronic interiors exist only in the art gallery and I suspect that they operate best as fictional truths, for as soon as the Sensing Beds or Zizi cease to be characters in the larger interior story that they tell, their imaginative impact will decline. ‘What in the poet is recognisable as a fiction is in civilisation unrecognisable because it has come true,’ writes Elaine Scarry. 13 Would I feel the same about Zizi if she were called merely a ‘vibrating recliner’? 14

In her review, Lisa Gye noted how the visions of new domestic technologies in Experimenta: House of Tomorrow suggested by this and other works in the exhibition fused present desires and fears, technological capabilities and ongoing obsessions with past imaginings of the future, adding that ‘in an age of internet connected refrigerators and microwaves, the line between function and fable is blurry.’

Talking mirrors, intelligent doors, chairs that throw their arms around us and draw us into their soft embrace - these do suggest interiors with which we may have an almost magical engagement. However, the personae of animated objects, like characters in the fairytales that they call to mind, are not


14 Gye (2003), Future Longing.
always gentle, causing the thought of surroundings that embrace us and respond to our presence to bring images that are both tender and terrifying. Zizi was indeed fabulous, in many senses, and she set me wondering about the history of scenarios in which the promise, or threat, of domestic environments with intelligence had brought a similar blend of laughter and apprehension.

**A false track**

Although the technologies were new, there was something hauntingly familiar in the pictures of sentient interiors that such projects brought up. The dominant image that had remained in my mind of Zizi was cartoon-like, with the exaggeratedly animated and incongruously dimensioned iconography of the furniture that I half-remembered from Disney animations of fairytales such as *Snow White* (1937) or *Cinderella* (1950).

*Image removed*

*Cinderella talking to the mice*
RKO Radio Pictures (1950)

My first thought was to look for Zizi's ancestors in fairytales, since it seemed plausible that I would find precedents for domestic interiors with pronounced personalities and independent powers of action in magical stories such as these. I had expected that I would be able to follow the traces of homes filled with animated objects with minds of their own through successive iterations: going backwards from Disney’s moving images to the famous illustrations that were a feature of children’s books in the later 19th century, back again to the original folk tales that our fairytales were derived from, and that these would lead me back to some magical world view that had been suppressed by the Enlightenment and reclaimed by Romanticism. However, when I turned to earlier versions of fairytales, such as the original stories collected for publication by the Brothers Grimm in 1812, I found to my surprise that the chattering cups and saucers, talking kettles, and other lively interior artefacts that I had
expected were not there. Instead, the anthropomorphism that such tales contained was confined to other living entities like animals or plants, or elements of nature such as sun or wind, rivers or clouds. Although many cultures attribute magical characteristics to the things that are important to a society (hence tools, utensils, instruments and weapons are particularly prone to bewitchment) in most traditional stories they remain under the influence of external entities. So, for example, a milk churn that turns the milk sour did so because it had a spell put on it, not because it had itself decided to be malevolent. In the occult genre of traditional tales, objects might fall under the supernatural control of stray spirits such as poltergeists, but the objects themselves did not have agency.

Narratives told from the point of view of an object did enjoy a vogue in the eighteenth century as a device to permit surveillance and social comment, but these objects' powers of expression were a literary, non-magical, conceit. Domestic objects with independent characters, or houses with minds of their own, appeared to be relatively new characters in the 19th century imagination, rather than part of a folk tradition from which a fairytale had evolved. A search through the century’s re-telling and re-illustrating of traditional tales suggested that children’s tales that included domestic items as characters with saucy and autonomous powers of animation and agency did not appear until well into the 19th century. So for example, although Charles Dickens' early works are rich with other fairytale motifs, such as magical signs and numbers, mysterious portents, repetitions, changelings and heroes in disguise, the imagery that he often created in which domestic buildings and furniture are characterised as watchful commentators was not part of the stories such as the Tales from the Arabian Nights that he is known to have loved as a child. However, I am sure that Dickens' descriptions of memorable, characterful interiors did reinforce the imaginative possibility of sentient household objects, by presenting a fictional truth to his readers that was becoming, to repeat Riffaterre's words, ‘at once imaginary and relevant to their own lives.’ Hence Dickens' original imagery has become folkloric in retrospect.

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16 For information on Dickens' childhood reading see, Stone, Harry (1979), Dickens and the Invisible World: Fairy Tales, Fantasy, and Novel-Making.
The stylistic vigour of the 19th century illustrations made by adults for children’s books also contributed to the iconography of the magical interior. For example, the imagery that was later recalled fondly by Ruskin in 1868 as ‘the good old book’ of his childhood came from the 1823 revision of Grimm’s tales (which were largely rewritten by Edgar Taylor) illustrated by George Cruikshank. Similarly, it was the imagery of Gustav Doré’s 1864 engravings for Perrault’s seventeenth-century fairy tales that ‘defined Perrault for generations’. Henry James, born in 1843, who claimed to remember being strongly influenced by these illustrations as a child, was actually 21 when they were published.

It became clear to me that it was not until after animated and opinionated domestic objects had become imaginatively significant in adult fiction that they started to appear in the authored ‘fairytales’ that adults wrote for children (such as The Lively City O’Ligg, 1899, which I discuss later in this chapter) and in the illustrations that accompanied them, from which the Disney images derived in due course. Much of Disney’s interior imagery in the animated fairy tales that I had remembered turned out to be a further infantilising and sweetening of images drawn from 19th century novels, paintings, caricatures and book illustrations, continuing their trajectory from adult representations of interiors, absorbed and nullified into laughter and whimsy in late 19th century children’s literature.

With hindsight this makes sense, given the new importance that the Western bourgeois domestic interior took on during the 19th century, becoming a spatial location and manifestation of thought, image and belief about the self in relation to the world. As earlier settings for terror or romance, such as the castles and monasteries of the first gothic novels, were replaced by interiors of a more modest scale, the domestic interior took on a new expressive role in literature and painting. The eventual introduction of animated domestic objects to 19th century fairytales could therefore be seen as a consequence of their appearance in many of the other fictional interiors of the period.

19 For further information on the pre-20th century sources of Disney’s fairytale imagery, see Girveau (2008), Once Upon A Time, Walt Disney: The Sources of Inspiration for the Disney Studios.
So my search for sentient domestic interiors broadened. I now had to look for the fictions that shaped the fairytales. This took me back to the earlier days of the modern interior, the period in the eighteenth century when rooms were starting to take on the functions and relationships that are familiar today, and the furnishings themselves were changing and acquiring greater personality and mobility.

**Engaging relations with the furniture**

It is appropriate that the designers of the affectionate couch with its curvy little legs chose to name it Zizi, a delightfully exotic name for an anglophone ear. (I am thinking of Zizi Jeanmaire, the French dancer renowned for her energy and beauty.) Contemporary illustrations of the eighteenth century English house, with its chairs and tables lined up against the walls, can seem bare to our eyes. Lighter and more mobile furniture, stemming from the Rococo styles of eighteenth century France, was adopted into England in the later decades of the century. Its curving lines and delicate legs introduced an appearance of animation and an organic flexibility of form and function. *Fauteuils cabriolets* and *courants* suggest armchairs capering and running like goats in contrast to the stodgy old *fauteuil meublant* against the wall. Such furniture could even take on the persona of an entire national stereotype: the English distrust of the sophistication of French styling is evident in John Byng’s fulminations against ‘little skuttling tables [sic]’ which he saw in the Frenchified furnishings at Raby Castle in 1792. Byng liked his library tables to be ‘large, firmly fix'd’.

*A pair of 'little skuttling tables', Louis XV style*
and his dining table to be ‘substantial, and immoveable’. 21 A similar characterisation endures in John Gloag’s 1945 history, *The Englishman’s Chair*. He wrote rather scathingly of the French Rococo style as ‘frothing with gaiety and occasionally exhibiting structural irresponsibility’. 22

The historian Siegfried Giedion loved the mobility and ingenuity of late eighteenth century furniture, finding there the precursors of the specialized and mechanised domestic apparatus that would be invented decades later. He notes the pleasure that the designers of the supple furniture of the period seemed to show in their drawings of pieces with all their movable parts in play; ranks of drawers simultaneously displaying their contents, tambour doors rolling back, mirrors swivelling, secret drawers springing. ‘They wish only to show of what their furniture is capable,’ he writes. 23

Others have not found the artefacts quite so ingenuous. The arrangement and rearrangement of the new furniture formed part of new codes of intimacy, privacy and display in private life. In their earliest forms, as luxurious products for the Parisian elite, such interior settings had enormous social power, as their elegant occupation required physical grace and sophisticated social skills. The furniture ‘simultaneously scripted action and invited manipulation, and could be negotiated effortlessly only through great familiarity, attention, and mastery’. 24

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Mimi Hellman, drawing on the work of Sarah Cohen, has shown how such interactions between object and body suggest the development of the heightened levels of performative awareness and self-visualizing pictorial techniques which such furniture demanded from its users, if they were not to stumble into awkward poses or commit other physical faux pas.

Elsewhere, Carolyn Sargentson discusses the ingenious mechanisms, triggers and springs which had to be activated correctly to reveal the complex layers of secret internal spaces within secrétaires and commodes.²⁵ This furniture also had the power to betray its owners when they were not present, as a misplaced key or fortuitously failing mechanism could lead to the risk and drama of the discovery of clandestine correspondence or other secrets. Such mishaps and revelations became frequent narrative devices.

Both Hellman and Sargentson speak of the furniture and its context as performative and interactive in its engagement. The practice of consumption, Hellman argues, was visual and kinetic; the objects of the Parisian elite were not simply owned but performed [my emphasis].²⁶ In this context, Hellman assigns the performance to the human users (‘doing self with things’ is her reference) but there is also the sense that the furniture itself is performing. The names of the new furnitures – such as the marquise, the duchesse, the veilleuse, the voyeuse – not only personify the furniture but also suggest to me its latent capacity to judge or even humiliate those who were not able to engage with it in a pleasing

way. This furniture can make its users look ridiculous if they do not reach the standards that are set by it. It is the starting point of many narrative relations between human and furniture involving the *event* of furniture, often comic or ironic, and which became established conventions in the entertainments of the next century. As Mario Praz noted drily: Louis XV style furnishing ‘has always enjoyed the favour of refined collectors and the newly rich’. 27

Thomas Gray articulated the characteristic British preference for stolid English comfort over French luxury early; in writing in 1756 to an acquaintance about the welcome he will receive from a mutual friend, he reassures him that: ‘his Great-Chair [will open] its arms to receive you, if not with all the grace, yet with as much good-will, as any Duchesses quilted Peche-Mortel, or Sofa with triple gold-fringe’. 28 The image of either chair holding out its arms, whether as a respectably comfortable matron or an elegant courtesan, emphasises the way that descriptions of furniture in use as animate were starting to become metonyms for situations and relationships.

**The furniture begins to play its part**

Philippa Tristram notes that it was rare for an eighteenth century novelist to describe an interior, unless it deviated markedly from the taste expected of a gentleman, as ‘it would be redundant to describe what every courteous author must assume was already known to his readers’. 29 Such furnishing as was mentioned was listed as objects, in order to locate the action or indicate social status. But once the mental location of purest shelter had shifted to the house, rather than the castle or the church, the actual objects within a home took on a particular importance in 19th-century fiction: shelter in the Bachelardian sense of the location for dreams both of security in the world and of defence against the hostility of the world. That both might be present simultaneously is suggested by the many fictional interiors that now evolved to sustain the entertainment of ideas both of intimate familial security and of secret dread (or, as the *fin-de-siècle* approached, the subversive suspicion that the former might actually be one of the causes of the latter).

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27 Praz (1964), *An Illustrated History of Interior Decoration from Pompeii to Art Nouveau*, p. 152.
28 Gloag (1964), op. cit., p. 143.
As the perception of relationships between people and their surroundings changed, descriptions of domestic interiors thickened, suggesting a growing potential for objects to become performers in the drama. In their earlier and simpler forms, such descriptions of interiors in novels imply a reciprocal mirroring between the setting and the protagonists. For the Veneerings surrounded by their meretricious glitter in Dickens' *Our Mutual Friend* (1864), the character of their interior reflects their own. In Poe’s *Fall of the House of Usher* (1839), the edifice shares a common soul and common fate with the family that bears that name. A more nuanced literary trope that grew in strength throughout the 19th century used indirect descriptions of domestic interiors in interplays between ‘the domestic interior’ and the lived ‘interiority’ of its inhabitants. The mood or atmosphere of a room, as communicated to the reader through the internal dialogue of the inhabitant, would reveal ‘the processes of that other, older version of the interior, the mind’. 30

Charlotte Grant links this move to the novel’s varying relationship to narrative realism and the development of free indirect style, that mode of narration which takes us almost imperceptibly into the mind of the protagonist, blurring first and third-person experiences. Susan Sidlauskas's study traces a parallel evolution in 19th-century painting. 31 I am intrigued, however, by the evolution of imaginary settings as *characters in themselves*. For example, by the 1840s both Dickens, in England and Balzac, in France, were describing the world, inner and outer, of their protagonists through the description of the *behaviour* of the domestic objects that surround them, and not merely their appearance, though this is reinforced by language that suggests their physiognomy. And not only did things have characters in these fictions, they had often *become* characters. Kettles boil over at moments of climax, windows twinkle or glare, doorknockers give warnings. It is striking how strongly both authors were connected with caricaturists (Cruikshank and Grandville are prime examples) and how both at times combined caricature with the fantastic. For example, in Dickens’ 1836 tale of *The Bagman’s Story*, 32 the protagonist is given inside information by an animate chair which reveals itself as having the character of an irascible old man: ' "Come,

31 Sidlauskas (2000), *op.cit.*
32 Dickens (1836) *The Pickwick Papers*
come Tom,” said the old gentleman, “that’s not the way to address solid Spanish mahogany. You couldn’t treat me with less respect if I was veneered.”

‘In the tiniest of hatreds there is a little, live, animal filament.’

The tone became less sentimental and more cynical towards the second half of the century. Now tropes of possessions that turn against us appeared more frequently in humorous writings and images, such as Katherine Walker’s 1864 essay on ‘The Total Depravity of Inanimate Things’, or, from 1879, ‘The Origin of the Step-Ladder’. Its author claims that: ‘Among the whole family of domestic furniture, there is none that compares in subtle malignity with the treacherous and cruel step-ladder’. This sort of characterization appears at the margins of literature - the grotesque tale, or the comic story - and equally, at the margins of other 19th-century cultural sites: in pantomime rather than ‘serious’ theatre, comic print rather than salon painting, and so on. The suggestion that the world was filling with an excess of commodities that were taking on a life of their own and leaving their owners uneasy was the subject of popular entertainment just as much as it was the focus of more ‘elite’ cultural productions.

33 Bachelard (1969), The Poetics of Space, p. 44.
Some domestic possessions were comforting and non-threatening, a refuge from the world, and their personae could be described in sentimental terms. Rosamund Watson, author of *The Art of the House*, retained a soft spot for ‘that obese, kindly-natured couch’.

Others, however, were disloyal, their animal natures untameable, like the items in Maupassant’s story from the 1880s who break out of their neurasthenic owner’s home and head off, trampling him in the process: chairs ‘waddling’, ‘bounding like goats’, foot-stools ‘hopping like rabbits’, sofas ‘dragging themselves along like crocodiles on their short paws’, and other smaller articles gliding away like snails glistening in the moonlight. The humorist Gelett Burgess used almost the same imagery in 1899 in one of his stories in the children’s book *The Lively City O’Ligg*, which he prefaced with a tongue-in-cheek preface for ‘skeptical parents’, explaining the atavistic animation that creates the innate potential for perversity in all domestic objects in mock-scholarly terms that drew on Darwinian evolution and comparative etymology.

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35 Watson (1897), *The Art of the House*, p. 75.
36 Maupassant, c1880. ‘Who Knows?’
It was droll imagery that was picked up and absorbed into the iconography of other fairy-tales of modernity and re-presented in Disney’s cartoon scenography in the 20th century. But it is also imagery that, in presenting the 19th century interior as both animate and capable of slipping out of control, allowed all sorts of dreams, fears and desires to be expressed and turned into the material for acting out relationships between the self and the world through objects. These images in their turn became new fictional truths, working their way into the imaginative life in both elite and popular culture.

**Two characters appear**

For Siegfried Giedion, the bourgeois domestic interior in the 19th century was the setting for decades of struggle between the life and inventiveness of furniture rooted in the
Rococo which broke through again in the patent furniture\textsuperscript{37} of the second half of the century, and the stifling oppression of the more dominant monumental furniture which expressed, for him, the ‘ruling taste’ of the century.\textsuperscript{38} Giedion’s imagery itself is anthropomorphic; the interiors of the ruling taste ‘with their gloomy light, their heavy curtains and carpets, their dark wood, and their horror of the void, breathe[d] a peculiar warmth and disquiet’, ‘unquickened by the blood of true inventiveness’. Patent furniture, on the other hand, ‘tackled problems’ and could actively meet its human masters’ postural needs by quickly changing its flexible and resilient body.\textsuperscript{39}

\textit{An example of patent furniture}
Giedion (1948), \textit{Mechanization Takes Command}

The struggles that Giedion implies between sprightly invention and monumental passivity are demonstrated in the divided histories of springs, which could secretly activate automata, control hidden drawers, and bring resilience to moving vehicles, but also led to the static bloated forms of cushioned inner-sprung sofas and armchairs called \textit{confortables} which tempted their occupants into states of reverie and somnolent fancies.

\textsuperscript{37} By patent furniture, Giedion is referring to the many types of ingenious engineered furniture, often transformable or multifunctional, and able to adapt to different body positions, that were invented in America between 1850 and 1890, and that foreshadowed the logic of some 20th-century Modern Movement furniture.

\textsuperscript{38} Giedion (1948), \textit{op. cit.}, p. 389.

\textsuperscript{39} \textit{ibid.} pp. 389-390.
The quasi-magical interiors called up by these opposing images have become two familiar stereotypes. One is the highly-strung, lively interior which will support its inhabitant/operator but which needs careful handling. The other is the sedating interior behind whose apparent solidity lie other troubling worlds and presences. Both have become stock characters that are still to be found today in entertainments that range from situation comedy to spine-chilling fantasy. In Part Two, I will introduce some 19th-century stage settings that exemplify these two stereotypes. They are all box sets, the three-walled and roofed rooms that were introduced in France and then in England during the 19th century for staging short comedies played out in interior settings. They are all the settings for performances that used stage magic (the term for illusions that use large-scale apparatus and theatrical machinery to perform apparently impossible feats for a seated audience with a fixed point-of-view) so it is important to remember that their motives are not transparent; they should be considered to be stages in disguise as interiors.
Part 2: Situation Comedies

Robert-Houdin's well-trained salon

The first setting is the stage designed by Robert-Houdin for the *Soirées Fantastiques* that he presented at the Palais Royal in Paris between 1845 and 1848. Some historians of conjuring consider Robert-Houdin to be the father of modern magic. He was the first professional conjuror to appear dressed in the same evening dress that the audience wore, rather than costumed as a wizard. He performed feats that caused wonder and delight but made no claim to any supernatural powers. Perhaps he was one of the first to emphasise ‘human’ powers – his writings show that he had studied aspects of attention, perception, memory, the workings of the human eye and the subtleties of human movement – which, combined with his skills in constructing mechanical devices, his interest in the natural sciences and the perfection of his technique in legerdemain, made his performances memorable. Robert-Houdin retired from public performance in 1852 to concentrate on his real passion, his ‘darling study, the application of electricity to mechanism’, which he acknowledged had been the secret behind many of his tricks.\(^{40}\) The house that he built for himself in Blois was filled with electrical devices that at that time seemed quite uncanny, such as self-opening doors and garden benches that unexpectedly started into motion and trundled off to another part of the estate.

His specially built stage for the *Soirées Fantastiques* formed a three-sided room furnished as a private drawing room that opened on to a luxurious reception room where the audience was seated. The stage furnishings of white and gold tables and chairs in the eighteenth-century style had all the appearance of vivacity and lightness that I have mentioned already. Contemporary illustrations show the slender curving cabriole legs of the tables and the clear open spaces beneath and around them, which were the antithesis of the old-fashioned conjuring apparatus of draped tables and solid boxes, chests and cabinets whose trick workings were common knowledge. Robert-Houdin presented himself in the manner that association with such furniture was still intended to imply: aristocratic

connections and superior wit, masked by effortless charm and ease of manner. His audiences were well off (tickets to his shows were expensive) and he spoke to them in a manner that suggested that they too were intelligent, discriminating, modern people who had been invited to the *soirée* as his guests. He presented conjuring as a delightful affirmation of a future of magical abundance. References to the latest ideas in science and philosophy were accompanied by routines during which charming little trinkets were produced from *La Corne d’abondance*, liqueurs and spirits were drawn from an inexhaustible bottle, edible cakes and candies were magically produced to order by intelligent automata, real oranges grew on artificial trees. These delights were distributed to the audience, so that people were left with the glorious impression that mechanization and art combined were capable of producing anything. As Gérard de Nerval wrote in his review for *La Presse*: ‘It is almost creation itself’.41

Robert-Houdin’s stage as reproduced in 1856 with some of his original fittings. Image courtesy Jacques Voignier collection, Paris.

The stage, of course, was completely tricked. Hidden assistants secretly controlled trapdoors,

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pistons and counterweights under the floor from behind the rear wall; electrical batteries linked to wires ran to apparatus suspended from the ceiling. Pistons concealed in the tables activated some of the automata, while others were genuine masterpieces of pure clockwork. Most of the tricks used combinations of techniques, so that the salon was a complex production machine. The fact that the stage had no flies and no apparent connection to any other space beyond it must have reinforced the impression of looking in to an enchanted room whose obedient furnishings sustained effortless magical production and where Robert-Houdin was seen among his props rather than in front of them, performing a gradual choreography partnered by tables, walls, floor and ceiling, his dextrous manoeuvres concealing their secret spaces and mechanisms. 42

**Bringing down the house**

Box-sets, which were designed to create the most complete illusion of reality, were paradoxically all the more suitable for sustaining the fiction of magical productions because, in framing off more completely a separate interior world, they could exclude the possibility of a world beyond the walls from the audience’s mind. To break the barrier between the mental space of the stage and the space beyond was an act that Robert-Houdin carefully avoided in his theatre, in keeping with the conventions of his Rococo furnishings and the graceful gestures that he made around them.

Conversely, other magical entertainments developed in the second part of the century placed themselves in apparently heavy and static settings and then achieved their effect by breaking the boundaries of that space in ways that shocked the senses of their audience into laughter. Unlike Robert-Houdin’s atmosphere of charming abundance, these sets could leave an unsettling emptiness behind them. These, my second stereotype, were the setting for the unforgettable energy of the routines of the Hanlon-Lees.

**Anarchy from the Hanlon-Lees**

42 Robert-Houdin retired from public performance in 1852 to concentrate on his real passion, his ‘darling study, the application of electricity to mechanism’ (Robert-Houdin 1859: 282), which he acknowledged had been the secret behind many of his tricks. The house that he built for himself in Blois was filled with electrical devices that at that time seemed quite uncanny, such as self-opening doors and garden benches that unexpectedly started into motion and trundled off to another part of the estate.
The Hanlon-Lees were a group of English-born brothers who had trained as acrobats since infancy. Their early acts were only displays of astonishing gymnastics, but at one point in their long career they started to combine their extraordinary physical skills with pantomime and stage magic in theatrical productions which shocked and fascinated Parisian audiences in the 1870s. Their performances left a mark that would influence many of the projects of the French avant-garde for decades.

Two of the six Hanlon-Lee Brothers

Twenty years after their arrival in Paris, the French journalist and critic Hugues Le Roux wrote:

'Everyone will remember the welcome which…the Hanlon-Lees received in Paris. It was the first time we had seen English pantomime. The exotic art upset all our ideas of logic, it was in direct opposition to our innate taste for clearness and delicate performances. However, it succeeded, for it evoked the only laughter of which we were at that time capable, a laughter without merriment, convulsive, full of terror.'

Le Roux was referring here to the after-effects on the French psyche of the disastrous Franco-Prussian War 1870-71, but the impact of these acts may have been all the more pronounced because of the trend for extreme scenic realism that dominated English and French theatre by

43 Le Roux (1890), *Acrobats and Mountebanks*, p. 293.
this time. The innovations that had turned the stage from an empty performance area in front of a painted backdrop had by now reached the point where the items in the three-dimensional space occupied by the actors had become the real thing, so that paradoxically the ‘illusion theatre’ was the name given to mainstream theatres where every fact or fancy appeared to be quite real and was substantiated by the use of genuine materials, props and costumes.

‘The Hanlons lead a gendarme on a wild chase filled with baffling pantomimic tricks.’
From a promotional booklet for Le Voyage En Suisse

The Hanlon-Lees' acts have been described as sadistic: ‘ultraviolent revocations of the laws of nature’. The hysterical disjointed humour of their scenarios depended on their virtuosity as acrobats. Their phenomenal flexibility and timing allowed them to throw themselves through stage traps of every sort in ways that suggested that every surface was engaged in battle with them. In their routines, wardrobes swallowed people and spat them out in pieces, chests slammed their lids down on unsuspecting heads and decapitated them, candles took off and set the house on fire, rooms swayed up and down as if drunk. The scenes were often set in interiors that were not quite home-like – hotels, railway sleeping cars, the ballroom of a

ship – which could provide the sense of shattered enclosures admitting exterior chaos. Their pantomime routines, like Robert-Houdin’s before them, needed the solidity of specific enclosed spaces to assist with the practical working of the stage tricks, but also to create the psychological effect. For example, in one famous scene, a satire of high society, a crazed pianist dives headfirst into the piano on which he had earlier been playing and then comes crashing out headfirst just above the pedals. Zola is reported to have admired the way that laughter came a split second before the audience realised the horror of the event that was happening in front of them.  

![Image of a pianist diving headfirst into a piano](image)

‘The violence of the storm pitches the pianist leadlong into the piano.’

Moynet (1893), *Trucs et Décors*

The set and its furnishings had to be felt by the audience to be heavy and solid in construction to render the effect of the illusions even more shocking. On the other hand the scenery had to be perfectly adjusted, not too heavy, not too light, to allow the many stage traps to operate instantly and perfectly. The theatre historian Richard Southern has reconstructed a scene from Moynet's description in *Trucs et Decors*:

‘…There are those incredible, horrible, moments when people shoot in through the scenes horizontally, with a curious k’tr-r-up and land on their hands. There are moments when they just leap at the scenery and vanish. There are moments when they rush at the wall, flap dead against it, and hey presto, bounce away, an entirely different person – in changed colour from head to foot.

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45 Walton (1941), *Entortilationists*, p. 32.
And – there are so many impressions. All this same sort of thing, and yet, as soon as you seem to catch the direction of the flaps that turn, you find, next time, that they turn a different way. It’s no good trying to take notes. It’s all different. You’re swept up again in the vertiginous, miraculously judged, supremely timed, madness. It will go on for ever. We can never catch up.\footnote{Southern (1941), Vision of Leaps, p. 223.}

The hysterical collisions between bodies and objects in these pantomimes were usually triggered by violent energies – explosions, train crashes, storms, or else aggressive or thoughtless human actions. The actions of the human bodies have been rendered soulless, machine-like, immune to pain; the forerunners of Charlie Chaplin in \textit{Modern Times} (1936). Although in some scenes the figures flying through the walls were devils, these devils were not supernatural, but merely a device on which to hang the frenzied action, a ‘satire on man in conflict with his passions’.\footnote{Emile Zola, cited Walton (1941), Entortilationists, p. 33.} Variations on a ‘Haunted Hotel’ scene appeared in several of the Hanlon-Lees’ macabre comedies, but the supernatural element was presented as savagely comic. Here, the antics of the room began when the guest’s boots walked away by themselves, up the wall and into the ceiling before disappearing, followed by faster and faster eruptions of devils in and out of beds, chairs and cupboards.

\textbf{Mischief from Maskelyne & Cooke}

More genteel and conservative romps that did however refer magical animation back to the supernatural were a feature of the playlets being presented by the illusionists Maskelyne & Cooke in England. These parodied the popular infatuation with spiritualism in sketches in which tables turned by themselves and characters were swallowed or produced by mirrors and Protean cabinets. \textit{Mrs Daffodil Downey’s Light and Dark Séance} (1882) is typical.
Here furnishing props created the dimly lit, heavily curtained and somnolent atmosphere of a middle-class Victorian drawing room. This too was a comedy, the point being that the séance was fake, a vehicle for demonstrating stage magic tricks, but the character of the room which it subverted is recognisable as being in Giedion’s detested ‘ruling taste of the century’ with all its disturbing undercurrents of suppressed forces below the surface of propriety, and as such fits into the second stereotypical interior that we have learned to recognise as a character in its own right.

Rebellion among the chattels

The possibilities of disturbing relationships between the animate and the inanimate continued as a trope in popular culture at the turn of the 19th century in the new medium of film. The theme of the ‘Haunted Hotel’ was used in many trick films that used the new medium to recreate the sort of magical playlets, by now rather conventional, that were still
being staged by conjurors such as the Maskelynes and which continued to draw on the old convention of using supernatural forces as the excuse for uncanny animation. More interesting, from the point of view of my argument here and my search for animated objects with minds of their own, is a film like El Hotel Eléctrico by Segundo de Chomón (attributed to 1905). In this, which is surely tackling Giedion’s ‘spirit of invention’, an ultra-modern couple check in to a new, all-electric hotel.\(^\text{48}\)

![An ultra-modern couple at El Hotel Eléctrico, 1905 (film still)](http://www.youtube.com/watch?v=aZFdaqQky2o)

Here, their suitcases unpack themselves into an accommodating bureau, self-propelled razors and hairbrushes confidently groom their trusting heads, a pen writes a letter under the husband’s dictation: all is glorious until (of course) someone throws the wrong switch and the luggage and furniture revert to their wild nature and attack the guests, driving them out of the hotel. In this short film the movements of the animated objects appear to be autonomous; there are no spirit hands operating them. Its whole tone is quite different from contemporary trick films by Méliès, which, although innovative in the history of film, were drawing on techniques that were extensions of trick still photography (such as superimposition and double exposure) to reproduce the genteel magic of the 19th century. The technique that Chomón invented to achieve his films, sustained frame-by-frame stop motion, allowed

\(^{48}\) El Hotel Eléctrico can be viewed online at http://www.youtube.com/watch?v=aZFdaqQky2o
objects to move in ways that makes them look as if they are truly alive and self-propelled. The suitcases stop to scratch themselves on the chair legs as they run into the room, a shirt pauses to shake out its sleeves and rearrange itself before climbing into the bureau drawer, the brushes that polish the guest’s shoes quiver insinuatingly as they stroke his feet, the writing desk does a pirouette as it arrives to take his orders. The gaits and mannerisms that give these objects their characters and temperaments are the movements of the rebellious furnishings that were imagined by Maupassant or by Gelett Burgess. This animation, freed from occult connotations, allows humour to mask a fear of a deeper malevolence from our surroundings, for now it is this world that threatens us.

**Present laughter**

The comic spirit, with its ability to address the complex emotions, desires and anxieties about the things that matter to a society in each epoch, has continued to develop the trope of awkward relations between humans and perverse objects. Hopes that our furniture will be kind to us, and apprehensions that it might refuse us its sympathy, are often expressed today through humorous representations of it as animate, from the slapstick of battles with unwieldy deckchairs to the more subtle intransigence of a wheezing chair seat in the world of Jacques Tati. Sometimes home does not love us at all. Consider this extract from *Ubik* by Philip K. Dick (writing in 1969 about a future that in his chronology would be our present):

'[H]e…vigorously strode to the apt door, turned the knob and pulled on the release bolt. The door refused to open. It said, ‘Five cents, please.’ He searched his pockets. No more coins, nothing. ‘I’ll pay you tomorrow,’ he told the door. Again he tried the knob. Again it remained locked tight. ‘What I pay you,’ he informed it, ‘is in the nature of a gratuity; I don’t have to pay you.’ ‘I think otherwise,’ the door said, ‘Look in the purchase contract you signed when you bought this conapt.’ In his desk drawer he found the contract; since signing it he had found it necessary to refer to the document many times. Sure enough; payment to his door for opening and shutting constituted a mandatory fee. Not a tip. ‘You discover I’m right,’ the door said. It sounded smug.
From the drawer beside the sink Joe Chip got a stainless steel knife; with it he began systematically to unscrew the bolt assembly of his apt’s money-gulping door.

‘I’ll sue you,’ the door said as the first screw fell out.\(^{49}\)

Appliances in Philip K. Dick’s fictional future world are frequently hostile. Joe Chip’s sullen apartment has its own agenda, one that is not predicated on the care and shelter of Joe Chip. The characters that this entertainment admits into the mind for consideration are not cosy ones, but rather the ogres of multi-national corporations feeding off the dark circulation of commodities and services. It is a fictional truth that is still being worked through in the twenty-first century, where the descendents of Robert-Houdin’s magic stage are surely taking shape in the sort of ‘smart house’ where networked sensors and switches will work to sustain a perfect ambience. The description of such houses in the popular press frequently stresses the ease with which all the areas of the fortress can be controlled from one masterful location, such as the owner’s mobile phone. Such language subtly reassures the owners/purchasers, hinting that the ‘intelligence’ resides in them, rather than in the houses, which will (one hopes) remain under the control of their human owners.

\(^{49}\) Philip K Dick. (1969), *Ubik*, p. 44.
The twenty-first century version of the enclosed dwelling place under threat from invisible malevolent energies also exists. What is striking here, however, is the extent to which the area for the battle between the occupant and the world of things has shrunk. The individual body is driven to protect itself against corporate and state powers by using personal shields such as silvered underwear to deflect the radiation from wireless devices, or a silver-plated copper fibre canopy to make an island of safety in the zone around the bed.

'sGain Control of Your Inner Environment'
Personal EMF shielding devices Light Duty Faraday Canopy and Silver Lining Boxer Shorts
EMF Safety Superstore
Image courtesy Less EMF Inc

It is not the artefacts themselves that make us laugh, for the energy efficiency, security and connectivity of the wi-fi home do offer great promise, and the threat of harm from electrosmog is indeed troublesome. Instead, it is the scenarios that these interiors so easily bring to mind that suggest irresistible future episodes in the continuing battle between the dis-enchantment and re-enchantment of the world.

Afterword

In her doctoral research, Lira Nikolovska studied the potential for furniture augmented with electronics to enrich daily life by taking on a mediating role in the 'small

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50 'Electrosmog' (the electromagnetic radiation that seeps from electronic objects), see Dunne & Raby (2001) Design Noir, p. 8.
moments’ of their users’ lives. One of her projects, the *Stealing Table*, was inspired by the idea of the magician’s table, which conceals receptacles beneath its surface. In response to weight sensitive sensors this table would absorb small objects placed on it, but would not react to large or heavy objects. Nikolovska studied the impact this had on the conversations and behaviour of the users in her study. She had deliberately designed the table to have a ‘fictional’ nature by allowing glimpses of the electronic and mechanical components, but the table itself acted in ways that she had not planned for. Half a year after it was made, the behaviour of the kleptomaniac table became unpredictable. The frame weakened due to the frequent transport of the table (it was exhibited as well as formally evaluated in use) and the weight of the hardware components. As a result, the inner frame, the planks of the tabletop and the sensors became misaligned. The planks continued to sense and absorb objects, but also started to open and close spontaneously, surprising and even pinching the users. ‘When least expected, this kleptomaniac with a preference for small objects struck and asserted its own presence.’

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52 Nikolovska (2006), *op. cit.*, p. 61
A widespread re-imagining of the subject in the early decades of the 19th century changed the ways in which human interiority has been represented on the theatrical stage. 'The terra incognita of poetic exploration was no longer the heaven and hell of tradition Christian epic but the inner landscape of the human mind', wrote A.J. Ackerman,\(^1\) noting: 'For audiences since the Romantics a crucial assumption is that the "within" is privileged in Hamlet. Yet the unconscious, like the ghost, appears paradoxically as an absence'.\(^2\) He continues: 'But how is such experience represented in visual terms?...How is the action materially marked off; that is, what does the audience agree to see and what not to see?'.\(^3\)

His question intrigues me. How is absence demonstrated, and how does the audience know which absences carry meaning? For the 19th century conjuror, the demonstration often coincides with and conceals the manoeuvre, for example the blinding flash of light, the sudden noise or movement, or the deceptive flourish of the hand that says 'Look here at what is not here!' all serve to distract yet focus the attention. But how do we learn that what we are not seeing is important? That 'the eye sees only what the mind is prepared to comprehend' (a well-known Henri Bergson quote) operates at levels from the metaphorical to the neurological, but it is often the moment of recognising the ambiguity between seeing and not-seeing, being present and not-being present that provokes the 'insight' that seems to hover at the edge of modern (and here I mean 20th/21st century) magical experience: that in-comprehensible thing that cannot be pinned down in words, which I claim can be found in the techniques of 19th conjuring if considered with a modern eye.

In this chapter, I look at some of the ways in which the enigmatic world between 'being' and 'not being' has been depicted, and how this visual language has been absorbed into

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1 Ackerman (2001), *Visualizing Hamlet's Ghost: The Spirit of Modern Subjectivity*, p. 125
the vocabulary of subjectivity. In doing so I also trace changes in the 'place where the imaginative seeing and the seeing of the external world meet, where it is difficult to distinguish the seeing from within from the seeing from without'. This introduces ideas of 'choosing how to see', that I will develop further in the following chapters.

During the 19th century, even as innovations in lighting and optical devices were making the world more visible, a variety of newly significant non-visible forces were creating new possibilities for the popular spatial imagination. Changing ideas about the transmission of forces across space produced different explanations of space itself, giving it an ambiguous role in 19th century thought. Charging of empty space with the shimmering sense of ‘something else’ allowed emptiness, non-visibility and absence to become, at times, potent and poetic symbols of presence. The imagery of the 'empty chair' (see illustration) or the half-open gate of the Victorian burial plot both suggestively link the here-and-now with vanished pasts and unknowable elsewhere worlds 'beyond the veil'. Such absences - the sort that are somehow pointed to and demonstrated - become uncanny. Who can suppress a sense of unease at the thought of sitting in that chair, which draws the eye back to it again and again?

Image removed

*The Empty Chair*

www.6thmarylandinfantry.org

For a believer, the image may be read as a demonstration of this family's faith that they will be reunited 'by and by'. However a further category of potent forces that came to attention in

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the 19th century could be described as 'preternatural' rather than supernatural, in that, hovering between the natural and the spiritual they existed outside the ordinary course of nature but did not belong to a higher realm. 5 Such psychic phenomena (the adjective dates from the mid-century) hinted that the hidden interiors of the external world were somehow linked to the hidden interiors of the self. The interests of the early members of the British Society for Psychical Research spanned from ghost sightings to thought-transference, and they collaborated with noted psychologists and physiologists in America and in France.

The interplay between the visible and the non-visible was also used in the 19th century in a variety of entertainments, from the fine arts to the music hall, to provoke sensations and emotions, and to create meaning. The forms of exploitation range, quite literally, from the sublime to the ridiculous. This chapter starts with the ridiculous, by discussing why 19th century ghosts floated (rather than walked, as they once did). It concludes by exploring a possible relationship between the staging of a fairly obscure theatrical production and a popular conjuring act in fin-de-siècle Paris. I suggest that both these entertainments were facets of the late 19th century's magical frame, by which I mean both the technologies that made the performances possible, and the inner world of their audiences and their relationship to the mysterious, for quasi-magical spatial manipulations formed part of the nexus between new technologies and new models of space, both mental and physical.

C.S. Peirce's wonderful naming of the phaneron to mean 'all that is present to the mind in any sense or in any way whatsoever, regardless of whether it be fact or figment', 6 pleases me here, since it shares the same etymological roots as 'phantom' (from the Greek phaino; apparent, manifest, shining). (It is a slippery link, but remember that my topic embraces all sorts of sleight-of-hand and misappropriations.) Phanerons, which include both understandings and misunderstandings, are the totality of what appears to the mind; the ways

5 Preternatural: Outside the ordinary course of nature; differing from or surpassing what is natural; unnatural. Supernatural: That is above nature; belonging to a higher realm or system than that of nature; transcending the powers or the ordinary course of nature. Oxford English Dictionary online, June 2011

6 'I propose to use the word Phaneron as a proper name to denote the total content of any one consciousness ... the sum of all we have in mind in any way whatever, regardless of its cognitive value. This is pretty vague: I intentionally leave it so. I will only point out that I do not limit the reference to an instantaneous state of consciousness; for the clause "in any way whatever" takes in memory and all habitual cognition.' (The Basis of Pragmaticism in Phaneroscopy, EP 2:362, 1905) http://www.helsinki.fi/science/commens/terms/phaneron.html
in which phantoms have appeared to the mind since Shakespeare's day introduce the next section.

A short history of imagined ghosts

'Why, when the lights go out and the story telling begins is the most compelling tale (most convincing, most believable) a ghost story? Since most of us have no experience of ghosts in the material world this should be the tale we least easily believe. The answer is that the story instructs its hearers to create an image whose own properties are second nature to the imagination; it instructs its hearers to depict in the mind something thin, dry, filmy, two dimensional and without solidity...It is not hard to imagine a ghost successfully.'

Elaine Scarry, *Dreaming by the Book*

Elaine Scarry’s book is not about ghosts: she merely uses the image to introduce an inquiry into how literature gives us a set of instructions on how to imagine - how the best writing allows us to make mental images which are vivid, active and solid. But why can Scarry say so confidently that the image of a ghost should be muted and faint. How do we know that the ghost on this book cover is what a ghost should look like?

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Reports of the appearance and demeanour of ghosts have changed at different periods. Scarry’s spectre is very much a Victorian ghost. Although the medieval ghost might have had a pale and ghastly countenance, those who saw them usually described them as solid figures that not only retained the appearance of materiality but also had the alarming ability to handle physical matter, even weapons, and who usually had the power of speech, which they often used to denounce those who had harmed them during their earthly life.\(^8\) They might be dressed in the clothes that they would have worn in everyday life, or in bloodstained armour or bandages, or in the white winding sheet in which they had been buried, sometimes complete with signs of decay.\(^9\) Yet by the end of the 19th century, reported ghosts had become insubstantial, transparent, liable to fade and given to wearing black, white or grey, perhaps with a faint luminous glow. They tended to hover around transitional spaces - staircases, passageways, doors and windows - and in general to be wistful rather than vengeful. Generally mute, if they spoke at all it was with a disembodied and hollow tone.

There is of course a difference between ‘real’ spectres as reported by those who claimed to have seen them and the fabricated ghosts of authors and image-makers. The ghosts in this chapter are all of the latter type, those portentous ghosts called up in texts, illustrations, librettos or stage instructions. For convenience, all these cultivated ghosts will be described here as ‘fictional’, though the ghosts discussed come from all categories of the arts and not merely literature. Their depictions both shaped, and were shaped by, the media conventions of their times, which were in turn shaped by the available technologies, and by the scientific and philosophical ideas in circulation.

**The performing ghost**

The ghost appeared on stage long before it took shape in novels. Stage ghosts of the 16th and 17th century, being clearly flesh and blood actors, had conventions by which their


unnatural state could be recognised by the audience, whose co-operation was required in acknowledging their iconography. Verbal cues from the actors were reinforced by visual signals: for example, the wearing of a veil would signify that this performer was ‘invisible’ until the ghost declared its presence and thus became ‘visible’.\textsuperscript{10} Ghosts could enter from below the stage (the underworld) or on an upper balcony to indicate that they belonged to other strata in the cosmological hierarchy. Traps in the floor of the stage permitted instantaneous entries and exits, to reinforce the understanding that a ghost’s period of visibility to living eyes was fleeting. Their task was usually to disclose crimes or seek compliance with promises made during their lifetime, often concerning property.

Some fictional 18th century ghosts took on neo-classical roles, depicting great national ghosts of armies or heroes, such as the Shades of Ossian. These grandiose allegorical apparitions dwelt in painting, and in poetry, as visions in the clouds.

\textit{Ossian Conjures up the Spirits}, François Gerard, 1801

\textsuperscript{10} De Luca (1973), \textit{The Movements of the Ghost in Hamlet}. 
Conversely, the more macabre and titillating spooks of 18th century Gothic novels were earth-bound, reverting to the mediaeval stereotypes of skeletons, black-robed monks and bloodstained murder victims, as well as the familiar white figure with outstretched arms dressed in his winding-sheet. However, ghosts were still visualised as three-dimensional, although formed out of less substantial matter, whether light or dark. Changes in scientific ideas as to the chemistry of matter and advances in optical instruments may have contributed to the increasingly insubstantial quality of apparitions through the 18th century and changed their iconography, but it was not until after the turn of the 19th century that ghosts (both fictional and reported) began commonly to be depicted as not merely insubstantial but positively transparent, as new technologies helped to shape audience expectations of their appearance and behaviour.

Innovations in reproduction techniques had increased the circulation of black and white images to a wider public, which also reinforced the newer iconographies of ghosts and disseminated them through the illustrations that accompanied both ghost stories and reports of the new optical entertainments of the 18th century. Ghosts and spectres had a satisfying resonance for these new entertainments - shadow plays, magic lantern shows, mechanical theatres, and other forms of illusionary experimental stages - as they shared some of the fascinating qualities of the new technologies themselves. They produced elusive, weightless images made from light.

*Magic lantern projection*
Magasin Pittoresque, 1849

The iconography of ghosts on magic lantern slides was still derived from the older chapbooks - skeletal ghouls in shrouds and so on - but the new production machines of the optical entertainments were able to make their ghosts appear, disappear and move in ways which troubled more than just the visual sense of the audience, by causing unaccustomed visceral and spatial disturbances as well. For example, the spectacle called the *Phantasmagoria*, introduced in the late 18th century, was what could be described today as an ‘immersive’ experience. Spectators, seated in darkness, would be startled by the appearance before them of images that appeared bright, almost three-dimensional, yet ungrounded. These images were rear-projected by a magic lantern onto a translucent screen of whose existence the audience was not aware at the start of the show. The projector behind the screen was mounted on wheels, which gave the spectres the ability to retreat to nothingness or to loom, rushing forwards to engulf the spectators.

![Image](image1.png)

**The Phantasmagoria**
Crompton, Franklin & Herbert (1997), *Servants of Light: the Book of the Lantern*

The original Phantasmagorical spectacles were performed to audiences of up to fifty people at a time, but the impression of what had happened remained an individual one, not a
consensus. A contemporary account 12 described how ‘some in the audience thought they could have touched the figures, others had a different notion of their distance.’ Only a few ‘apprehended that they had not advanced beyond the first row of the audience.’ The images, unlike those of familiar magic lantern shows, appeared to hang in blackness ‘without any surrounding circle of illumination’ so that the spectators, ‘having no…visible object of comparison, [were] left to imagine the distance according to their respective fancy.’ When the images decreased in size, the mind was ‘irresistibly led to consider the figures as if they were receding to an immense distance’. These completely unfamiliar effects must surely have shaken the viewers’ sense of their own spatial location and its boundaries.

Robertson’s Phantasmagoria in the Cours des Capucines, Paris 1797
Robertson (1831), Memoires Recreatifs Scientifiques et Anecdotiques

Terry Castle’s well-known essays on the uncanny13 find in these spectral productions of the late 18th and early 19th centuries the basis for her wider argument; that this is the period in which the individual mind became haunted, rather than the world. Ghosts and spirits, rather than being foul fiends from that other world, can be seen instead as the products of this one, avatars of the subjectivity and anxiety of modernity. The point should not be overlooked however that in responding to the Phantasmagoria and similar shows, screams of terror and shrieks of laughter came close together. People paid quite a lot of money to enjoy the

12 This account is cited in Crompton, Franklin & Herbert (1997), Servants of Light: the Book of the Lantern.
‘horrible and pleasing’ spectacles of the early 19th century! This fact aligns with changing attitudes to the whole genre of ghost stories and the increasing tendency to regard them as amusing fictions or clever frauds rather than possible truths. This complex shift is beyond the scope of this thesis; however, as belief in ghosts began to be associated with the beliefs of children, the credulous or the unsophisticated, the ghost as a cause of laughter or delight became more common.

**The thickening air of theatricality**

The technologies that helped to develop these fairly intimate optical entertainments eventually found wider applications in the early 19th century theatre, adding to the established repertoire of traps and screens. They all contributed to the iconography of stage phantoms and spirits, who acquired their techniques of silent visibility in pantomime, ballet or other types of popular spectacle before appearing on the ‘serious’ theatre stage. (Their conventions of silence would have been reinforced by the various prohibitions that restricted performances of ‘serious’ or spoken drama in Britain to the Patent Theatres until the Theatres Act of 1843, while similar monopolies constrained spoken drama in France.) Technical innovations in stage lighting and stage apparatus supported a string of entertainments that evoked a sense of profound or magical engagement by dematerialising scenes of dreams and memories, or creating fairy pictures and mythical landscapes through the use of transparent gauzes and scrims. In ballet, the airy white froth of *La Sylphide* (1832) led to ‘a great abuse of white gauze, tulle and tarlatan’ as the Romantic ballet became airborne, its bodies floating ‘like a shifting, flaky mass of milky haze’. Changing lights from invisible sources brought *atmosphere* to the stage.

Stage ghosts too were becoming more airy. They might be revealed by the melting of ‘solid’ backdrops painted on scrim; this could give the ghost an insubstantial faintness. The eerie gliding movement created by an 1852 invention, the Corsican trap, allowed its ghost to

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14 From the anonymous account cited in Crompton, Franklin & Herbert (1997), *op. cit.*

15 Gauze or scrim effects rely on the fact that the fabric acts like a semitransparent mirror under different lighting conditions. Lighted only from behind, the gauze becomes transparent, while lighted from the front it becomes relatively opaque. Hence painted backdrops can appear to melt away, revealing the scene beyond.

16 Levinson (1930), *Marie Taglioni*, p.43; p.40.
drift sideways as it rose from the stage like a gaseous exhalation from the earth. A new sort of magic air was being revealed, which filled the stage and spilled out around its audience. This fluid metaphor is deliberate, for it introduces another influence on the shaping of the 19th century ghost – that of ether. The mysterious materiality of air itself underlay much language and thought in the 19th century. It provided a liminal space which was beyond everyday sight, but which was no longer either wholly sacred or wholly profane.

Nineteenth century air had magical properties. It carried messages, was full of invisible forces; it flowed and breathed. Thin air had been a literary metaphor for centuries, but now there was thick air: not just fogs and miasmas - the combined breath and exhalation of all living entities, from plants to cities - but also air thick with magnetic forces, electric currents, invisible waves and ungraspable particles of light. Changing ideas about the transmission of forces across space produced different explanations of what space itself was. To paraphrase Alice Jenkins, theories of ether, a mysterious and much debated substance that pervaded all space and acted as a medium for transmitting natural forces, inflected ‘both poetic diction and specialist – and competing – scientific disciplinary usages’.17 The resulting borrowing of metaphor and confusion of concepts between the arts and the sciences gave ether a role in 19th century thought which may be imagined as being analogous to the role of black holes for many of us today; awesomely potent, touching on the mysteries of creation and existence, and bringing new terminology to common usage within a broader culture, yet remaining beyond the average person’s full understanding or grasp.

Entertaining ghosts

The new medium of photography appeared to allow the sensitive surface of a photographic plate to capture things that were not visible to ordinary eyes, created by mysterious forces which might be explained as emanations of the location, the participants, or even the medium itself, whether this referred to the chemistry of the photographic process or to some mysterious ability of higher human minds. (The use of the term to mean ‘a person who conveys spiritual messages’ is first recorded in 1853.) Spirit photographs further reinforced the imagery of spirits as luminous thickenings of the air.

17 Jenkins (2007), Space And The 'March Of Mind': Literature and the Physical Sciences in Britain, 1815-1850, pp. 179-183.
But thick and ambiguous air is also a wonderful prop for a conjuror, and just the medium from which to draw out a ghost. The history of fraudulent ghost productions has of course been filled with spirits conjured up by the concealed use of natural magic – the laws of optics by which, for example, a cloudy shape can be revealed floating in front of a concave polished surface, or a wavering image be projected on to clouds or smoke. These work well for producing pseudo-supernatural ghosts with indistinct outlines: ghosts for general effect rather than identifiable features. Better lenses and mirrors can permit sharper images. But optical trickery needed to wait for the newer technologies of plate glass and oxy-hydrogen light, or limelight, to bring the most technically perfect ghost to the stage.

It was the trend to bring magic performance into the fold of ‘rational entertainment’ that, almost accidentally, led to the next big development in the appearance of performing ghosts. The illusion that became known as Pepper’s Ghost first appeared as a spectacular demonstration at the popular Polytechnic Institution in London. Here new technologies were on display, offered as both entertainment and instruction in the marvels of science. They made the world more visible, in many senses, by revealing industrial processes, distant landscapes, or glimpses of microscopic worlds within worlds.

The Ghost appeared as part of a short dramatisation ‘inspired’ by a Dickens story, The Haunted Man, which was initially staged merely in order to demonstrate the optical principle involved in the illusion; that is, the ability of a sheet of polished glass to act as a semi-transparent mirror under specific lighting conditions. The illusion was first exhibited on Christmas Eve 1862 and was such a success with the crowds that more elaborate scripts were written for it, and larger and more complex arrangements of the apparatus were developed, conjuring up melodramatic spectres who seemed to move on stage among, and even through, the flesh and blood actors.

The modifications that Professor Pepper made to Henry Dircks’ original invention shifted the technique from a rather cumbersome optical curiosity that would have needed a specially built venue to display it, into a system that could be accommodated in existing theatres. Pepper’s first innovation was to angle the sheet of glass that formed the semi-transparent mirror, so that the actor playing the ghost was hidden below the level of the stage. (Dircks’ proposal would have raised the audience so that they looked down at the image produced by an upright mirror.) However, in order for the ghost to appear to stand upright on
the visible stage, the real actor in the pit in front and below the stage had to lean at an angle dictated by the angle of the glass and the laws of reflection. In the first demonstrations of the new illusion, the ghostly figure was restricted to sitting on the stage and waving its arms, as the modest level of the stage in the Polytechnic's smaller lecture theatre only permitted the real actor to sit cross-legged whilst leaning back against a tilted board. But the great achievement of the illusion was that it allowed the spectre to materialise as if it was being produced from empty air itself. As a virtual image overlaid on real space, it could become more or less transparent as desired, and since it was not actually there on the real stage, solid objects would appear to pass through it. The ghost had finally achieved visible immateriality and demonstrable transparency without the need for a screen of gauze or smoke to receive it.

The second contribution that Pepper brought to the ensemble was to spotlight the ghost with intense white oxy-hydrogen light, which was still uncommon at a time when theatres were lit with gaslight. With the walls of the pit lined with black velvet, only the light-coloured figure of the ghost would be visible in the reflected image. An air of dimness in the figure verified its insubstantiality. The Ghost itself was silent, since the set-up made it impossible for the actor to speak in unison with the onstage actors, opening the way for conventions of eerie sound effects and disembodied voices to accompany its appearance.

The set up for Pepper's Ghost, demonstrating the necessary relation between the tilted actor and the upright 'Ghost'. Steinmeyer (2003) Hiding the Elephant

The next innovations made the spectre mobile. In the patented version, which was staged at the larger theatre at the Polytechnic, the tilted board, the performer and the oxy-hydrogen
spotlight that illuminated them, were all mounted on a track. This allowed a ghost to float across the stage, writhing or shifting its feet to give an appropriately uncanny gait. Later modifications used different arrangements of glass, track, additional reflectors, black velvet and transparent gauze to allow stage ghosts to hover, to drift up and down, to fade away gently or leave a ghostly aftershock, such as a hand lingering in the air. For a period the illusion found a place in theatrical pantomimes and melodramas, but the difficulties of staging it kept it tied to its cameo role as an obvious special effect.

Illustrations of Pepper's Ghost on stage, being attacked with a sword and with a gun. The original version, on the right, is from Marion (1871), Wonders of Optics.

Illustrations of Pepper's Ghost on stage were frequently reproduced and adjusted to suit the context. These, in which one ghost is being attacked with a sword and another with a gun, date from around 1870. The images are interesting for many reasons. Firstly, they are wrong. The illustrators haven’t really grasped how the illusion works. Secondly, even if the components were correctly aligned and illuminated, the image seen by a viewer at this theoretical vantage point in the wings is an impossible one; he would see neither the ghost on the stage or in the glass. But perhaps most interestingly they illustrate another problem – the ludicrous nature of the ghosts in the illustrations. This ghost is the symbol of a ghost, a pantomime character. By the time that Pepper’s ghost made it to the professional stage, the white ghost with the sheet over its head and other such clichés were already figures of fun, restricted to melodrama and pantomime, and often greeted with laughter, for fully visible stage ghosts with exaggeratedly uncanny movements soon became simply entertaining. As

18 Rees & Wilmore (1996), British Theatrical Patents.
19 For a fuller description of the creation and reception of Pepper’s Ghost, see Steinmeyer (2003), Hiding the Elephant.
early as 1864, T. W. Robertson was lamenting that ‘in these present days of scenic display…no poor ghost can walk undisturbed by scientific satellites, lime-lights, mirrors and the like...’\textsuperscript{20} The audiences at the 1870s revival of \textit{The Corsican Brothers} enjoyed that ghost so much that they sang along with the ghost theme.

\begin{center}
\textit{Image removed}
\end{center}

\textit{Sheet music for 'The Ghost Melody' from The Corsican Brothers}

University of Kent, Special Theatre Collections

Pepper’s perfect realisation of a ghost was too much trouble for the straight theatre to be bothered with once the novelty had worn off and the working of the illusion was public knowledge, though of course, knowing how it worked didn’t prevent it being enjoyable; after a decade in theatres and music halls the illusion found a place for many more years in funfairs and in short magic plays whose ghosts were merely spectacular and amusing optical entertainments. But although Pepper’s ghost did not enter the routines of most conjurors, it led to a development that did become the basis of many great optical conjuring illusions of the later 19th century. The alternative version used the same optical principles in an inversion that could not be spoken about in the same way. Rather than reflecting a ghostly presence, this arrangement reflected nothing out of the ordinary. It manifested emptiness, reflected absence, demonstrated that there was nothing at all there.

\textsuperscript{20} Pemberton (1893), \textit{The Life and Writings of T. W. Robertson}, p. 126.
Jim Steinmeyer, a modern designer of conjuring apparatus, has described the second ensemble as creating for 19th century magicians ‘an optical formula for invisibility’.\(^{21}\)

![The Talking Head illusion](image)

Hopkins (1898), *Magic: Stage Illusions, Special Effects and Trick Photography*

Basically, mirrors are arranged to reflect a continuation of normality - perhaps something as dull and undifferentiated as the pattern of the carpet or a blank wall. Innocent observers, unaware of the presence of the mirrors, do not realise that the space they are looking through is actually a virtual image of emptiness laid over the true space behind. And of course behind the mirrors is the thing that must not be seen - the 'vanished' object or the hidden assistant - concealed in a wedge of space that is rendered invisible by appearing to be transparent. The edges of the mirrors, which otherwise would give the trick away, must be incorporated in the overall setting, so that their junctions are masked by plausible horizontals and verticals, such as the legs of a table, the grid of floor tiles, the rectilinear framework of a cabinet or a box. The illusion of emptiness is created by the apparent extension of normal perspective through and beyond the invisible volume. As a result, an audience can be oblivious to people or objects that are actually present on the stage. As Steinmeyer points out, it is this reflection of nothing (or at least, nothing that appears to be worthy of attention) that is the principle behind those mysteries that are 'all done with mirrors'.

\(^{21}\) Steinmeyer (2003), op. cit. p.77. Steinmeyer attributes the first articulation of the general principle of using a mirror to hide something to Joseph Maurice in 1865, in one of many patents that followed the Ghost illusion in 1863. The first specific description of its application was in Tobin and Pepper’s 1865 *Protean Cabinet*. Tobin and Stodare patented the *Sphinx* illusion later the same year. For an outline of the developments in optical conjuring illusions through the patents that were filed for them, see also Rees and Wilmore (1996), *British Theatrical Patents*. 

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They need careful lighting, but unlike illusions where spectres were conjured up out of darkness, they can create illusions in which light and emptiness can be incredibly and emphatically present, bound up in a disingenuous manipulation of the relentless Renaissance linear perspective that places the vanishing point at infinity. One acclaimed early version was called *The Sphinx*. In this routine, the conjuror carried a small box to a bare table. The box was opened to reveal that it contained a living human head, which opened its eyes and carried on a conversation with the conjuror despite its lack of corporeal existence from the neck down. All the while the audience could clearly see the bare floor below the table stretching back to the rear curtain. When the box was closed and re-opened, it revealed only dust, the disembodied head having now compounded its impossibility by disappearing into the empty air.

In another larger and more complex illusion known as *The Walker Illusion* or *The Blue Room*, it was again the brightness and the 3-dimensional emptiness of the space that struck one observer:

‘This is the best illusion I have ever seen…. [Objects] evolved out of empty space, afterwards changed into other shapes, and finally vanished altogether in full sight of the audience and under a brilliant gaslight…On an empty chair a human being was gradually evolved, who would, after coming to the footlights and performing his part in the sketch, return to the chair and gradually disappear. The chair was picked up and examined.’

The interplay between real and virtual images constructed and reinforced the sensation that boundaries between worlds had been dissolved. To audiences accustomed to the fadings and dissolvings of the images thrown in darkness by a magic lantern, it was the substantiality and fleshiness of the performers when they were visible that left them dumbstruck, not their ghostliness. In the routines that were invented to display the illusion, the characters often drank from real glasses of wine, lit cigars that could be smelt, or left some object behind them when they departed, leaving an emptiness that was charged with their absence.

22 Also known as *Metempsychosis*, it was developed by Pepper and Walker and patented in 1879. It includes elements from both the *Ghost* and the *Sphinx* illusions.

The theatre of the mind: haunting the audience

'The other day upon the stair
I met a man who wasn't there.
He wasn't there again today.
I wish, I wish he'd go away.'

William Hughes Mearns, 1899

Throughout the century, new models of private mental life replaced the older concept offered by the camera obscura (in which the dispassionate machinery of the eye projected the exterior world on to a screen in the chamber of the mind). Theatrical technologies offered new, more performative, metaphors for mental processes, which complemented explanations of the interior self. For the critic Hippolyte Taine, the unseen spaces of the stage suggested the inarticulate spaces of the individual mind. His 1870 spatial metaphor of consciousness stretched beyond the set to the entire assemblage of the theatre, embracing also the wings and the audience:

'We can therefore compare the human mind to a theatre of indefinite depth, whose limelight is very narrow, but whose stage grows wider and wider beyond the footlights. In front of these lights, there is only room for one actor at a time. He comes on stage, gesticulates for a moment, and then leaves; another appears, then another, and so on… In the wings and far-off background is a multitude of obscure forms which a sudden summons sometimes brings on-stage or even up in front of the footlights and unknown evolutions incessantly take place in this teeming crowd of actors of all orders to produce the images which, one after another, parade before our eyes.' 24

Even the visible ghosts in the story which Pepper’s first mechanism had dramatised decades earlier were crude intrusions into Dickens’ original text, for the dark and shadowy phantom presence in the original story was not a revenant but rather the alter ego of the protagonist; it was an expression of his internal psychological conflict and the representation of his own gloomy thoughts. The haunted man was haunted by himself.

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For the 'serious' theatre of the later 19th century, dramatic ghosts were increasingly portrayed as 'inner visions'. But this notion, as Ackerman points out, is 'paradoxically anti-theatrical, an experience that is mental and private, not publicly verifiable'.  

It led to a range of new ways of using absence, vagueness or suggestion to bring ghosts to the stage. By the closing years of the century, the experimental Symbolist theatre was choosing to gesture towards what could not be spoken by laying its emphasis beyond what was clearly visible, rather than on what was overtly being offered to the conscious mind, for the fin-de-siècle mind would be more truly touched by the manipulation of its own interior ghosts, especially if these were unexplained, unspoken and unresolved. Symbolist theatre drew on abstract atmospheres and enigmatic movements to stage elliptical and hermetic narratives whose ambiguous, indirect meanings carried significance for their avant-garde audiences. The audience's own moments of insight would themselves then become the medium through which more profound meaning would be revealed. In Maeterlinck’s L’Intruse (1891), for example, the audience gradually realises that during the quiet action of the play, the one, uninvited, intangible, invisible is passing through offstage rooms whose doors are never opened, and whose inhabitants never appear. The invisible figure of death moves behind and beneath both the stage and the characters’ ‘troubling little phrases of sad, familiar dialogue’, making its presence felt by their indirect allusions to sounds and movements offstage.

The surface of the interior

The Symbolist sets were intentionally designed and lit in ways that often made the living actors seem to emerge from and vanish into their inanimate settings. Sometimes a gauze scrim between the actors and the audience was used to flatten and foreshorten the space of the stage and further blur the distinction between actor and setting. The advertising posters for the plays paralleled these techniques for creating indeterminate images through

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26 Fort (1941), Mes Memoires, cited in Cogeval (2003), Edouard Vuillard, p. 112.
pictorial devices that blurred the relationship between figure and ground and created ambiguous visual perceptions.\(^{28}\)

It is well-known that the authors and designers of Symbolist theatre drew on the atmosphere of the séances and spirit photographs of Spiritualism to create their theatrical dream-spaces. It is important, however, to remember that professional stage magicians and professional 'spirit mediums' have an entwined, though antagonistic, history. Stage conjurors, who were equally skilled manipulators of human perception, used similar techniques to produce mysterious effects \textit{but offered them as light entertainment.}

The artist Edouard Vuillard was among those who created sets, posters and programs for the Symbolist theatre in Paris, including the sets for \textit{L’Intruse}. His interior paintings of that decade, when his involvement with theatre was at its height, used the techniques of his theatre sets to hint at emotional complexities beyond the physical planes of the interior, as for example here in \textit{Interior, Mother and Sister of the Artist}.

\begin{center}
\textit{Image removed}
\end{center}

\begin{center}
\textit{Interior, Mother and Sister of the Artist}, Edouard Vuillard, c.1893
\end{center}

So what has conjuring got to do with Vuillard, the artist of densely patterned flattened spaces where bodies appear from the background in troubling ways? Guy Cogeval, author of Vuillard's \textit{catalogue raisonnée}, noted that 'Vuillard, keen supporter of the most abstruse theatrical presentations of the period...also loved nothing better than to haunt the city’s café-concerts and popular shows, from which he conceived images of \textit{magnificent indecipherability} [my italics].\(^{29}\)

\begin{flushright}
\footnotesize\textit{28} Keshavjee (2009), \textit{L’Art Inconscient: Imaging the Unconscious in Symbolist Art for the Théâtre d’art}, pp. 65-76. \\
\footnotesize\textit{29} Cogeval (2003), \textit{op cit.}, p. 118.
\end{flushright}
With Vuillard’s pleasure in popular shows in mind, I offer this speculative suggestion concerning a small painting created by him around 1895. The structure of the flattened, patterned space is for a moment hard to grasp, but when the image resolves and deepens, it shows a theatre stage seen from the pit, past the extravagant hats of the audience. On stage are two figures: one (a conjuror?) is to the right, while on a rostrum at the back of the stage a woman in a red dress appears to be stepping forward. The finale? But of what?

Image removed

*The Illusionist's Act*, Edouard Vuillard, c.1895

Earlier documents titled the painting merely as *At the Theatre*, but when his research confirmed that the work did indeed refer to a conjuror's act, Guy Cogeval speculated that the act that appears to have just ended in the retitled painting might have been one of the ‘woman-sawn-in-half’ variety. However this sort of act did not enter the repertoire of stage magicians until the 1920s. I suggest instead that Vuillard had watched a different act: one that
used the 'optical formula for invisibility' previously mentioned. This was the secret behind many of the illusions introduced during the 1890s, such as the following routine called *Queen of the Flowers*, which was created by the well-known magician Harry Kellar. It was performed in Paris as well as in London and elsewhere during the decade.

Here the set was a little open pavilion made up of a flat roof supported on four poles. Its raised floor was suspended about a foot above the level of the stage, above a row of lights at stage level. It was empty except for a mass of flowers and bushes *indiscriminately thrown together* (these innocent words will become important) against the background. The magician used a flow of amusing patter to casually draw the audience's attention, among other things, to the fact that they could always see everything that there was to see in the empty pavilion, even when he brought a little semicircular stand in front of the middle section of it, and closed the curtain that hung from the rail at the top of the stand, because those at each side of the theatre could still see behind the curtain, right through the pavilion to its back wall. But in a flash the curtain would be whipped away and a beautiful lady surrounded by flowers would be seen standing on the little platform!

![Queen of the Flowers illusion](image)

The *Queen of the Flowers* illusion, as seen by the audience, and the illusion explained.

*Hopkins (1898), Magic: Stage Illusions and Scientific Diversions*

The secret lay in the double-sided mirrors running from the poles to the background, each reflecting the indefinite arrangement of flowers painted on the back scene. The mirrors both formed and hid the passageway through which the performer stepped from behind the scenes to her position behind the curtain of the semicircular stand, which is *just in front* of the
summerhouse. The trick is described rather primly and illustrated in monotone, in Albert Hopkins’ 1898 compendium *Magic: Stage Illusions and Scientific Diversions*. But surely its reality would have been a cheerful and lighthearted performance, full of colour and brightness, whose conclusion would have come with a magical jolt?

For pragmatic reasons, classic acts are often staged and lit in ways that confuse the audience's ability to read depth. In an illusion like the *Queen of the Flowers*, the visual field of the audience members, who have been deliberately dazzled by the lights oddly placed just in front of the raised floor of the summerhouse (Hopkin's illustration here is incorrect, probably deliberately) has been flattened, making it even more disorienting when their eyes jump to the figure that appears to have stepped out from the empty and dimensionless world within the pavilion into the three dimensional world of the theatre. Considered in the light of Mrs Haweis’s comment (in Chapter One) on the way that figures in the foreground appear more clearly delineated, when set against a rich but indefinite background, and keeping in mind also the hypnotising re-orientation response that is attributed to sudden shifts and disruptions in the modes of attention (Chapter Two), it is easy to imagine the thrill of perception that would have occurred when the conjuror's tone changed from a continuous running patter to a sudden command to 'Look!'

I am sure that this conjuring act would have been provocative to an artist with Vuillard's visual sensibilities, particularly at this time when his creative eye and mind were especially alert for the sorts of ambiguous perception that caused the boundaries between inanimate and animate, or between two- and three-dimensional to oscillate, as his journal entries reveal. Thus, for example, in his journal of October 1894, Vuillard was noting the surprising visual sensation of seeing his mother - a living person in a blue and white patterned robe - enter his perceptual field as he lay in bed one morning looking at the 'vivid atmosphere' created by all the disparate objects in his field of vision. I suggest that the popular conjuring act, which told its own inconsequential story while producing its living character from a confused and flattened screen of thick, bright, coloured air would have

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30 Vuillard's concern with the mutability of self-hood is discussed in Sidlauskas (2000) and Easton (1989), in relation to the theories of mind that influenced avant-garde thought in fin-de-siècle France. See also Debora Silverman (1989).

resonated with Vuillard’s modes of thought and seeing at that time. For at least one member of that audience, the act may have been - in its own way - a provocative demonstration and confirmation of the uncertain boundaries between bodies and the spaces that hold them.

However my next chapter pulls back from the hypersensitive world of the fin-de-siècle artist to suggest that 'transparency' and 'invisibility' remain slippery concepts. In recent years 'seeing nothing', and being brought to the awareness that one is seeing nothing, have been used to evoke the sublime. The chapter will remind us that the manipulation of experiences of 'seeing nothing' is still part of conjuring.
CHAPTER SIX

Seeing Nothing

Prologue

Transparency is a slippery concept.

Two definitions\(^1\) of ‘transparent’:

1. Clear, easily seen through or understood, easily discerned, frank, open.

2. In computing, etc: Of a program or process: not revealing its presence to the general user.

Such ambiguities are grist to the mill of the conjuror.

Thick and thin air

Magic shows used to attract enthusiastic audiences to theatres and music halls. The simultaneous decline in their popularity and the expansion of cinema are well documented.\(^2\) Trick photography, and later the movie camera, were able to recreate visual illusions by manipulating time, and the editing process made the magician’s techniques redundant. Magical performances themselves had no magic when captured on film, which by itself could fill the air with illusive thickenings and gatherings of matter.

But one part of the spatial disturbance – the magic that is lost by film – still lingers very close to us, for its cultural significance extends far before and beyond its manipulation in Victorian magic shows. It is the brief ecstatic (and possibly erroneous) sensation of lucidity that we feel when something draws our attention to thin air.


\(^2\) The most comprehensive survey is still Barnouw (1981), The Magician and the Cinema.
Imagery of thick and thin air is deep in the Western mind. Thick air lies nearer to the earth, filled with vapours and miasmas. It is here that spectres exist, in a fog of suggestion and unspecified crimes. Thick air is deceptive and suggestive; it holds germs and spreads infection. The air of cinemas is thick. (In the polio-fearing cinema of my childhood a commissionaire stalked the aisle, spraying us with a Flit gun during the performances.) Thick air is active, and promotes dissimulation.

Thin air on the other hand is free from earthly matter. Thin air is where emptiness is; the perception of absolute transparency, with no trace of the milky beam of the cinema projector or the opacity of the screen that is needed to catch the image. Here we are not ‘seeing ghosts’ but ‘seeing nothing’.

I’m not talking about ‘not seeing’, as when one fails to notice some shadowy or camouflaged entity, nor about staring into velvet blackness, nor about the field behind the eyes in which our mental images may hang, nor yet about the visual hallucinations that can rise up when visual cues are cut off, as with the Ganzfeld. I am talking about the moments when, looking at something that is empty, we are aware that we are seeing an emptiness that is bounded by objects. It is a sensation that emphasizes the more-than-2-dimensionality of the world. It resonates in 17th century Dutch interior paintings, for example, or in the stereo-photographs that became so popular around the middle of the 19th century.

**Transparent emptiness**

What is it like to see nothing? Not a fog, or a blur, or a shadowy form but clear, see-through, nothing?

A few years ago I set up a version of the *Sphinx* illusion (mentioned in the previous chapter) at home in order to film it. In the illusion, the assistant is kneeling under the table, with his/her head through a concealed opening. Mirrors set between the legs of the table are hiding the body of the assistant from view. The performer and the disembodied head carry on a conversation, after which the head vanishes. My version was the simplest of all, using one mirror. Its effect on me was surprising and unexpected. Even when the occupant was not in place, and no head was on the table, the space between the legs of the table took on a quality of heightened reality – it was brighter, more lucid, more *empty* than seemed natural.
imagine that part of this quality was due to the sparkling cleanliness of the mirror’s surface, which is essential for the trick to work because any mark on the glass reveals the plane of the mirror. Part was due also to the demands of the lighting, for in order for vision to flow without a check the real and virtual spaces must appear to be in a natural balance of illumination. This can look unbalanced through the lens of a camera, which picks up the mirrors as bright spots that suck the light of the room into them, or as dark voids. Stage magicians often surround mirror tricks with shimmering materials that seem to contain their own fields of light and darkness to distract attention from these inconsistencies in the web of reality that they present. I, working by trial and error, adjusted the lighting so that the effect was working for the camera, and then found that I had created a cube of hyper-clarity. It sat in my room like a prism of crystalline air, marginally brighter and more real than the reality around it.

The effect was disturbing. The volume of vacant space seemed to be set outside of everyday time and filled with the plenitude of emptiness. It was so compelling that several times I would reach to it and be slightly surprised to re-discover that it wasn’t really there, but just a trick of the mirror reflecting the emptiness around it. It had the liquid clarity of the sensations that are called up by certain phrases - ‘The Lark in the Clear Air’, perhaps – effortless, endless, ungraspable, constantly happening but never moving. It was not a fleeting sensation, it was there every time I glanced at it, and each time it left me with the sense that my eyes had been pleasantly released from some unnoticed state of tension.

It was beautiful. It was a trick. It was beautiful. It was a trick.

Too sublime

In 1865, the Sphinx was received by its audience as an exquisitely baffling and disturbing illusion. This was not because of the fiction of the bodiless head - nobody thought for one moment that a horrendous medical experiment had taken place. Rather than being sensational in a lurid sense, it aroused exquisite feelings of hesitation, uncertainty and fascination: a struggle to grasp something at the edge of comprehension, a brush with infinity
or with the 4th dimension. Reviews spoke of the silence that followed the act, before the applause.³

No illusion could sustain at such a pitch of emotional tension for long; later versions became comedic and self-parodying. The Sphinx ended up in the funhouse. By the end of the century it was ‘probably the most common of all the illusions which depend upon mirrors’.⁴ Other mirror illusions that worked on the same basic principle became incorporated in acts that had their audiences in fits of laughter, as wilder and wilder transformations, vanishings and appearances were achieved.⁵

**Watching a magic show**

In contrast, there can be something stultifying about sitting through an old-style magic show in a small theatre today. Most tricks are based on the laws of physics though they may appear to demonstrate the conquering of such laws, so the magician’s routine is at its heart a string of demonstrations, like a contortionist’s act. The tricks have no location other than the stage. The curious props arrive, are exploited, and returned to the wings and to oblivion.

As I have said previously, the classic acts are often carried out in front of a curtain or backdrop whose indeterminate surface may be participating in the act by concealing something behind it, camouflaging objects in front of it, or confusing our sense of depth by its pattern and texture. It marks the back wall of its own reality, the world in which this logic applies. The space of the conjuror’s stage appears shallow, like a low-relief or a frieze. The conjuror and assistant face front while gesturing sideward, spreading their act out in front of us like a screen for the eyes of the audience to scan laterally, rather than probing into the occluded depths. In such a context, the moment when we are called on to look deep into a bright emptiness brings a startling shift of orientation. The eye skids forward, unstopped, momentarily piercing the thick folds of our immediate field of vision and escaping beyond, as

³ Steinmeyer (2003), *Hiding the Elephant*, p. 84.
⁴ (Hopkins (1898), *Magic: Stage Illusions, Special Effects and Trick Photography*, p. 69.
⁵ These were the type of magical skits that George Méliès was presenting on stage in the 1890s.
the conjuror invites us to look into the proffered empty cabinet and see nothing. The moment is brief, but the ecstatic sensation hangs in the memory like an afterimage.\(^6\)

It is a moment when we are quite vulnerable to manipulation.

**The conjuror appears to fade**

The persona once created by an old-fashioned illusionist no longer seems relevant for today. We haven’t much interest in conspiring in pretending that we are watching a demonstration of unnatural powers. We acknowledge that the performer is dextrous and ingenious, but we don’t really want to watch routines. Today we would prefer to be left alone to play with the apparatus and the sensations by ourselves, rather than being distracted by all that patter.

What are the differences between then and now? One is that what was once kept secret - the method, the apparatus, the technology - is now brought forward and examined. A trick that might once have been considered to work by deceiving the senses is now recast as a way in which we may perceive ourselves perceiving, which at this moment in history is considered to be a profound experience. Consequently, a surprising amount of the physics and the 'philosophical toys' that once underpinned the illusionist’s work have shifted into the relative silences of the art gallery, a point that will be considered further in the next chapter.

However, in the category of 'seeing nothing', several recent, thoughtful, proposals for contemporary memorials have used the experience of emptiness to touch on the sublime (in the Kantian sense) by reflecting, or reflecting on, emptiness itself. I am thinking here of specific works in which the exposure of concealment, extraction and erasure must inevitably, given their context, be interpreted as references to the magnitude of what has been lost, as the moment of initial perception opens the observer to an oscillating flood of complex thoughts. The risk, acknowledged by the artists, is that their redemptive limpid beauty may paradoxically be obscuring the ugly and terrible things that should not be hidden. For example, some proposals for Holocaust memorials have been accused of being almost too

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\(^6\) I connect this to the moment in Mexico when I looked into the empty vessel and saw infinity.
beautiful conceptually; bringing closure to wounds that perhaps should never be allowed to heal. These works are big things, in every sense, and no laughing matter.

Between the extremes of the old conjuror’s secretive trickiness and the grandiose beauty that can make some of the new sublime overbearing, sit brief enchantments and smaller epiphanies in everyday moments. The small mirror, hung just high enough so that it never reflects the person, might give something to be going on with - a glimpse of empty air.

7 Specifically, proposals by practitioners such as Dan Graham, Rachael Whiteread or Daniel Libeskind for Holocaust memorials. The dilemma is discussed in Young (2000), At Memory’s Edge.
CHAPTER SEVEN

Learning How To See: Fictional Truths

'Things are because we see them, and what we see, and how we see it, depends on the Arts that have influenced us. To look at a thing is very different from seeing a thing.' 1

I will start this final section by looking again at the three assumptions that have run through the chapters so far, the threads from which this story has been woven. They are: that habits of perception shape the way that attention that is given to spatial experience, and that changes in both can be seen across time; that an expanding repertoire of spatial manipulations in modernity is creating a language through which things may be communicated that are felt to be significant but which are difficult to put into words; and that these may take the form of 'entertainments' but the ways in which they are 'entertaining' may also allow glimpses of the concerns and desires of their contemporary audiences. I have suggested that these threads are perceptible in the ways in which natural magic has been used to create significant spatial experiences. The 19th century stage conjurors used natural magic to create 'impossible' fascinating spatial experiences that delighted their audiences. I have looked for situations in which significant spatial experience has been created in other contexts, beyond stage magic, but in which similar phenomena have been harnessed to produce different effects and affects.

It is implicit in this story that if these things change across time and culture, then they are somehow learned, whether we are conscious of our learning or not. Once attention turns to them, however, they may also be nurtured and cultivated. Things interest us and we return our interest to them, until perhaps a moment comes when enough people agree as to what they are interested in for that thing (that idea, that desire, that object, that feeling, that way of seeing) to become something that allows us to speak to one another, in whatever medium we can. We make something out of the world and then we try to put it back into the world. Within this thesis, I have referred to this as 'entertainment', while emphasising that

1 Wilde (1891), The Decay of Lying
entertainments may be artworks, novels, jokes, scientific discourses, sermons - they are fictions that arouse some sort of engagement by playing on the varied physical, intellectual or imaginative registers of our cognition. This final pair of chapters will consider situations in which seeing has been learned or cultivated, first literally and then in a more metaphoric sense.

So far, my thesis has concentrated on the period 1850-1930, but I have referred from time to time to the way that spatial manoeuvres involving natural magic have re-emerged during the late 20th century in new contexts, and suggested that the spatial experiences that they offer are being attended to in rather different ways today. Chapter Seven will conclude by describing three spatial pieces as examples of works in which a considerable number of late-20th century audiences have read some sort of significant truth, (even though this may not have been anything that the artist intended to put there). Each of the works employs natural phenomena that in a previous century might have been used to raise a laugh, or a pleasant sense of impossibility. In the late 20th century, they have (again not always with the artist's consent) been described as 'sublime' or 'spiritual'. The transition, from 19th century music-hall to 21st century art gallery and beyond, further illustrates the development of a new vocabulary that is attaching meaning to spatial experiences.

**Fictional truths**

It is curious that the visual phenomena that can be created when reflections in glass are overlaid on reality were not written about, in fiction or in fact, until after Pepper's *Ghost illusion* had become familiar. Even after the 1860s, popularising explanations of the lighting arrangements that turn a sheet of glass into a mirror usually compared the phenomenon to the effect that occurs in the window of a railway carriage at night, rather than to something that would have been familiar at home. It is as if, by nightfall, domestic interiors were always curtained. Surely it could not simply be that the sort of person who would write down either a literary description or a scientific explanation was not the sort of person whose job it was to light the lamp and draw the curtains? This seems farfetched. Was there no lonely poet in a garret with a candle? Did the experience of seeing a lamp-lit interior mirrored in the dark glass of an uncurtained window never happen to any member of the literate classes?
According to Pepper himself (though admittedly an unreliable source), very few could understand how the ghost was produced:

"[E]ven the distinguished philosopher, Michael Faraday, when I took him behind the scenes, said, with his usual love of truth: "Do you know, Mr. Pepper, I really don't understand it." I then took his hand, and put it on one of the huge glass plates, when he said, "Ah! Now I comprehend it.""^2

Superimposed reflections seem like something that Dickens should have relished, even before Pepper adapted the Dickens short story, but as yet I have not found any literary references that pre-date the description of the theatrical illusion. Did people really fail to notice before then how glass could lay multiple images across their field of vision; or did they simply fail to find them worth seeing until something - some entertainment - showed them that they were there to be seen, by suggesting how they might be seen?

Photography has helped to change the way superimposed reflections were perceived. Accidental or deliberate double exposure of the negative, or strange effects created by the print medium, created unusual images (which were sometimes exploited by charlatans to create ghostly images that appeared to validate spiritualist theories). A different sort of photographic superimposition, however, was an outcome of the fact that the human eye and the camera attend to things in different ways. Those of us who have ever been surprised or disappointed by our own photographs will be familiar with the unexpected superimpositions that are created when the focus of the camera fixes on the surface of the glass instead of on the shop window display that we were expecting to capture. This effect is rarely, if ever, mentioned in 19th century descriptions of the modern city, yet by the early 20th century such perceptions had not only entered the field of attention but had turned them into potential sites for significance. Manipulations of virtual images that lay ambiguously over reality and called both into question became a modernist trope in fiction and in early film for describing subjective or complex experiences, and have continued to be so. Here for example is a passage from Nabokov’s fictional autobiography, Look at the Harlequins. It is set in the house in which the narrator and his first wife lived during the 1920s:

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^2 Pepper (1890), The True History of the Ghost, and All About Metempsychosis, p. 35
'The French window of my studio in Villa Iris gave on to the same red-tiled balcony as my wife’s bedroom did, and could be set half-open at such an angle as to provide two different views melting into one another. It caught obliquely, through the monastic archway leading from room to room, part of her bed and of her hair, a shoulder – which otherwise I could not see from the old-fashioned lectern at which I wrote; but the glass also held, at arm’s length as it were, the green reality of the garden with a peregrination of cypresses along its sidewall. So half in bed and half in the pale hot sky, she would recline, writing a letter that was crucified on my second-best chessboard. I knew that if I asked, the answer would be “Oh, to an old schoolmate,” or “To Ivor,” or “To old Miss Kupalov,” and I also knew that in one way or another the letter would reach the post office at the end of the plane-tree avenue without my seeing the name on the envelope. And still I let her write as she comfortably floated in the life belt of her pillow, above the cypresses and the garden wall, while all the time I gauged – grimly, recklessly – to what depths of dark pigment the tentacled ache would go.'

Perhaps it takes a Nabokov to bring such images to the surface of attention and make them more generally visible, just as Whistler made London fog visible, according to Oscar Wilde. By the mid-20th century, imagery of reflections in plate glass windows had become a definitive symbol of the reality/unreality and, often, the alienation of city life by bringing images that contradicted or mocked each other together in one frame. As a general rule in daily life we still don’t register them until the camera forces them on us. Most of us do not need to see reflections, indeed we find life easier without them, hence polaroid lenses and non-reflective glass help us to see ‘clearly’. We could, of course, instruct our eyes to see them, perhaps setting ourselves to notice them as a visual exercise, but for most of the time we are much more likely to see them in a mediated context, either prosaically if they happen to be the defect in our photo, or poetically, if they create some sort of narrative within the frame.

It is a rare delight when we spot one for ourselves, but the ones that most of us see are probably those that have been brought to our attention by others, as a narrative device. Jacques Tati, for example, the director of the film *Playtime* (1967), that glorious observation

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3 Nabokov (1975), *Look at the Harlequins*, p. 54.
4 Tati, J. (Director), (1967). *Playtime*. France: Jolly Film.
on modern life which is full of serendipitous overlays, was a brilliant exploiter of reflections. *Playtime* contains wonderful and joyful scenes, such as the one in which a brief reflection glimpsed in a swinging glass door is all that a tourist in Paris sees of the Eiffel Tower, or the sequence - underscored by the music of a funfair - in which the reflection of the bus taking the group to the airport is swung up into the sky and down again by a pivoting window. I like to think that Tati's earlier training in his family's picture-framing business had sharpened his ability to see in this way in his everyday life, and to notice the sort of reflections that he later constructed and emphasised in the frame of his cinematography.\(^5\) In the context of Chapter Five, however, it is satisfying to know that Tati also had personal knowledge of the way that the stage Ghost was produced by overlaying reflections. As a young actor in his first appearance in a professional film, *Sylvie et le fantôme* (1945), Jacques Tati had played the role of the silent phantom. The effect was created by a double stage, in the same way that the theatrical ghost was, except that this time there was no need to hide the second stage out of sight from the camera crew during the filming. Even so, it was an awkward and uncomfortable arrangement, soon superceded by newer cinematic techniques.\(^6\) In *Playtime*, however, the audience is in on the joke, for Tati shows us how the trick is worked, even while he is making his gently subversive comments. He refreshes our vision both literally and metaphorically.

With these two examples in mind (Nabokov's written evocation, and Tati's cinematic demonstration of moments when something is articulated by drawing attention to something that was there to be seen, but which had not previously been framed in that way), consider next three spatial artworks from the later 20th century whose physical construction would be perfectly comprehensible to 19th century entertainment magicians. However, although they

\(^5\) Jacques Tati connects with this thesis in other ways as well. His knowledge of stage magic is evident his unachieved screenplay *The Illusionist*, and in his final theatrical production *Jour de Fête à l'Olympia* (1961) which, like Kiesler's *R.U.R.* set (referred to in Chapter Two), blended reality and illusion by having live performers appear in the auditorium as though they had been conjured up from the cinema screen.

\(^6\) Bellos (1999), *Jacques Tati: His Life and Art*, p. 92. The film's director Autant-Lara described the difficulties: 'It was an insane idea! One hundred and three takes with special effects, and we had absolutely no gear! We used an optical glass, just like when in a railway carriage you can see in the window both the scenery on the other side and a reflection of the people inside. You look at the set through the optical glass, and on the left, placed at exactly ninety degrees to it, the same identical set covered in black velours. Imagine the size of the whole thing! Two sets instead of one! And it was all shut in, it was like an oven in there! The slightest movements of old Tati had to be mapped out on both sets...we were stuck in the studio for four months...'}
would quickly recognise the optical properties of the materials from which the works are constructed, they might be perplexed both by the 20th century artists’ intentions and their 20th century audiences' responses (which are not necessarily identical).

First, *Ghost*, (1997), a piece by Anish Kapoor which caught my attention in an exhibition titled *Between Cinema and a Hard Place*, at the Tate Modern in the year 2000. The work is a substantial block of pinkish stone, as tall as a person, reminiscent of a standing stone or menhir. In one face there is a deep, vertical hollow of absolute darkness. Within the darkness of this space, not attached to any surface, floats a misty spindle of light, which wavers and fluctuates as the observer tries to comprehend what he or she is seeing.

The physical explanation of this piece is that the inner cavity, which is coated with absolute black pigment, has been shaped and polished to form an elliptical concave mirror whose focal point is behind the front face of the column. The ‘ghost’ is the real (as opposed to virtual) image formed by the concave mirror. The viewer’s own elongated and blurred image, which hangs upside down at its centre, moves with the viewer, creating an odd sensation that a living entity is hovering in the hollow.

It is the same catoptric principle that was behind the Tanagra Theatres (from Chapter Two), or a range of tricks which are variations on an old routine called *The Bottle Imp*. In each case, however, the artist or the performer has nudged the audience to 'look' - to expect to see something. Kapoor arranges things so that we stand in front of the piece and, possibly, become aware that it is our own image wavering there. Yet an inverted virtual image can be seen hanging upside-down within any empty wine glass that is held in the correct position in relation to a brightly lit object. David Devant described the need for the *fin-de-siècle* magician to direct the audience's attention gently:

...the audience must be shown when to look, where to look and when to applaud. If left to discover these things for themselves, spectators may almost certainly be expected to fail in the discovery...The art of magic essentially depends for its success [after

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7 (Homi Bhabha writes of seeing this piece in the stoneyard, where the moving clouds lightened and darkened the atmosphere so that the ghost briefly was there, and then was not. I would like to have seen that.) Bhabha (2012), *Anish Kapoor: Making Emptiness*
subduing certain critical and observant faculties of the audience] in the process of
suggestion, whereby his audiences are led to adopt the particular attitude of mind he
wishes them to assume...  

Today the label of 'artwork' can prepare the audience to see. The work of the artist, of course,
is to make more of the phenomena than the demonstration of mere optical curiosities. Not
everybody is convinced: the critic Peter Plagens, for example, speaking specifically about
Kapoor's widely popular 1998 retrospective at the Hayward Gallery, London, complains
because this artist’s words offer him no hint as to 'why the effects add up to anything more
than momentary entertainment'. He finds Kapoor's work since 1993 'science-fair corny' and
'perceptual peekaboo's (sic) better suited to an exploratorium than an art gallery'.

Second, *Between That Seen*, (1991), a *Ganzfeld* work by James Turrell re-created
for an exhibition *Space Odysseys: Sensation and Immersion*, which was presented in
Melbourne and in Sydney in 2001. It is one of Turrell's 'aperture' works. Here, visitors enter a
large, empty, darkened room. On one wall there is a softly glowing rectangle of light,
something like a small cinema screen, which becomes more visible as the eyes adjust to the
darkness. As the visitors come closer to it, there is some hesitation as to what is being seen,
then, perhaps to feel with the hand what the eye can not grasp, one person reaches out to
touch the surface of the rectangle. There is a gasp, then whispered excitement, as visitors
realise that the rectangle is not a screen but an opening into a boundless space filled with
luminous fog. People are very quiet. They move softly and reverentially. Some stay looking
into the space for a long time, drawn to an intense and wondering awareness of their own
perceiving.

The *effect* (to use the terminology of conjuring) has been produced by constructing
the second volume of space beyond the aperture so that no edges or corners are visible to
allow the eye to focus and establish depth, and controlling the lighting and surface finishes so
as to obliterate any clues that could give the eyes a place on which to fix. It is a
dimensionless space. The fog, and all the other physical sensations that the viewers feel – the
cold, the smell of the air, the thickness of the light – are products of their own perceptual

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8 Devant (1911), *Our Magic*, p. 83.
Turrell has used visual perceptual phenomena in a series of increasingly sophisticated works since the early 1970s. His apertures work in ways that the magicians might have grasped if they had not been fixated on the need to keep the audience away from the apparatus in order to prevent them from discovering how the magic was worked. Hence, although their apertures were constructed with the same careful attention to their edges, this was used to beguile seated audiences into perceiving a deep space as a flat plane. But Turrell has nothing to hide: he would like us to be more aware of sight, rather than less.

Third, *Two Running Violet V Forms*, (1983), a site specific piece by Robert Irwin commissioned by the University of California, San Diego. Here Irwin has used blue-violet, plastic-coated wire-mesh fencing mounted on tall poles to create two fence-like structures that zig-zag in two V-shapes at a high level through an existing grove of eucalyptus trees. These had been planted in a spacious grid pattern on the site many years earlier. To people walking through the grove, the sections of the fences will sometimes appear to have a dramatic violet-blue form, while at other moments they take on an almost insignificant, insubstantial quality, and these alter with the interplay of the time of day, the changing light and the observer's viewpoint and movement.

*Two Running Violet V Forms*, Robert Irwin, (1993)
Stuart Collection, University of California, San Diego
The work draws on Irwin's awareness of the ways that theatrical scrim (or indeed any light-reflecting mesh-like material) can appear relatively transparent or opaque depending on the light conditions on either side of it. I have not seen this work of Irwin's in person, but the same effect is there to be seen in any weld-mesh fence anywhere (especially where a rusted portion sits next to a brightly galvanised portion). Irwin has created the conditions in which the phenomenon does something gently wonderful, and so has brought it to our attention.

Galvanised weld-mesh fence, Melbourne, 2010

The artists offer the work, but cannot control the way that the pieces will strike on the sensuous intellect. They cannot prevent sensation from meeting thought, though both Turrell and Irwin writings suggest that they hope to prolong the moment before thought takes over, while Kapoor says that he finds personal meanings in the work while he is in the process of making it. Yet each of these artworks has been described by some commentators as 'uncanny', which is another word, like 'magic', that seems to carry an undefined meaning that each speaker expects their listeners to share. For the author of the UC San Diego’s website, 'the gentle introduction of industrialized geometry [in Irwin's work] recalls the unnatural grid which organized the grove, and suggests a fantastic or uncanny intrusion into the forest.' In describing Kapoor's piece, the Tate Modern’s curatorial text claims that: ‘The experience is uncanny, like finding the entry point to another world. As with much of Kapoor’s work, it

10 One of the stock tools of stagecraft, see Chapter Five, note 15.
12 Stuart Collection: Robert Irwin: http://stuartcollection.ucsd.edu/artists/irwin.shtml
engages both the physical responses of the body and the inner world of the spirit.' Turrell's aperture works, described as 'so uncanny' that participants are compelled to check their visual perceptions through touch have also been described as portals into other worlds.

It is not the artists who claim otherworldly or transcendent connotations for their works, although Kapoor acknowledges that many people find something spiritual in his work, and seems willing to let the inference persist, in spite of his insistence that he has 'nothing to say'. Turrell repeats that he is non-religious, in spite of the many commentators who have attributed his Quaker upbringing as an influence. Instead, he has said that he wants each person to share his own initial artistic excitement when they discover the work:

'Obviously, the work is not beyond ourselves, because we have - I have, in this case - conjured it up. A spiritual presence isn't something you put into your work, but art is something special because art is human beings trying to do something for other human beings that is superspecial.'

Robert Irwin rejects the conversations about 'enlightenment' as a response to his work outright, saying he is interested in his ability to perceive what is going on around him. He spoke of the spaces he created in several art galleries through scrim, light and line during the 1970s:

'A lot of people just say, “Oh it’s an empty room.” The question then, of course, is emptied of what? What I’m really trying to do with these things is to draw their attention to, my attention to looking at and seeing all of those things that have been going on all along but which have previously been too incidental or too meaningless to really seriously enter into our visual structure, our picture of the world.'

My reason for bringing these three works together has not been to engage with the critical analyses of the works or to suggest that these artists’ practices are closely related, but simply to note that in the late 20th century, these particular works, each of which manipulates

15 Speaking in an interview with Alan Yentob, BBC TV 18/11/2009.
16 Adcock (1990), James Turrell: The Art of Light and Space, p 212.
17 Wechsler (1982), Robert Irwin: Seeing is Forgetting the Name of the Thing One Sees, p.183.
optical, material and psychological phenomena to create something that seems for a moment to disturb everyday reality, were capable of generating a sensation that I have described as fascination for many of those who were able to see them. Turrell calls it 'wordless thought'.

My point here, and I do not intend this to be at all cynical, is that the many different ways of finding significance in such effects will eventually say something about the 'interests' of the audience in the late 20th century, and the intellectual and imaginative resources, both individual and collective, that we bring to the creative process. The magic happens in the mind of the audience, and works by playing on things that the audience feels to be significant, and worth attending to.

In the next chapter will I show how one particular spatial typology, 'the wintergarden', can also be seen in many ways, and not simply through the eyes. It offers a fiction that I will consider as an example of spatial magic.

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18 ‘It is not not thinking, but is not thinking in words.’ James Turrell in a n interview with Oliver Wick, cited in Butterfield (1993), p.81
CHAPTER EIGHT

Choosing How to See: The Wintergarden

In 1844 Sir Samuel Morton Peto, a fabulously wealthy railway magnate, bought Somerleyton Hall, in Suffolk, and had the original Jacobean house and gardens remodelled and extended at immense expense. In his hauntingly nostalgic text (fiction? memoir?) The Rings of Saturn, W.G. Sebald describes the major renovations that were made to Somerleyton Hall as being notable in their day for the scarcely perceptible transitions that they created between interior and exterior.¹ Alluding to descriptions in unspecified 'society periodicals', Sebald describes, in an incantatory list of free-floating images, the ways in which the exterior was reproduced on the interior through subtle shifts from real to virtual created by glass and mirrors, or by the way that the forms of living foliage in the gardens were echoed in the wallpapers and hangings within.

Whether truth or fiction, Sebald's evocative paragraph held my attention, for it contained so many images that resonated with the material that I had been researching. Its phrases called up the imagery of fairy-tales of the 19th century sort – mechanical nightingales, gold and silver birds - while references to 'the dome of a fantastic mosque' carried a hint of the sort of exotic 'otherness' that was often the mise-en-scène for magic acts. Above all, the text created the impression that the way in which these images were folded one upon the other caused the actual and the imagined spaces to combine with one another to create a dreamlike reality in which one could be both here and there, inside and out, in summer yet in winter. It called up the transformation scenes in pantomimes when the furnishings of the interior would melt away and turn the stage into a garden, or the ways that the new plate glass in windows and mirrors created the layered reflections that were beginning to appear in both the 19th century city and the 19th century stage illusions that I was studying.

Sebald’s text is subtly worded so that it leaves a sense that such interwoven impressions were perceptible to every visitor, and that they did truly speak of them in the terms that he uses. But my own attempts to find Somerleyton in 19th century journals and newspapers in the way that Sebald describes it have offered me mostly the usual unctuous Victorian acclamations of its tasteful display of wealth and propriety. It seemed to me that the spatial magic lay more in the text that Sebald had spun out of the impressions left on him by the available material, rather than in any sensitive perceptions by the laudatory 19th century society columnists.  

Sifting through the verbiage of such articles reveals some of the fragments from which Sebald may have composed his Somerleyton. One point that they all reinforce is that the highlight of Somerleyton was the unforgettable Winter Garden, which was described in the sale catalogue that had to be prepared for the sale of Somerleyton Hall when Sir Morton’s financial empire, built on borrowed money, finally crashed. It was ‘a magnificent structure unsurpassed by anything of its kind in Europe. A crystal building in the Renaissance style with mosque dome.’ We also learn from the catalogue that the central cupola was lit by a circle of sixty-three gas jets [at that date still a rarity in a private home], whose light was reflected downwards by silvered reflectors on to a central fountain, which itself was reflected in a large mirror set in a white and gold frame.  

For reasons that will become clear, the Winter Garden seemed to me to have been the likely catalyst for Sebald’s alchemical prose. ‘There were winter gardens...’ intones Sebald, in one of the long hypnotic sentences through which he conjures up the world of his imagined Somerleyton, so different to the one described by others. His interwoven imagery (‘the lawns like green velvet, the baize on the billiard-room table’) suggests a multiplicity of spatial enchantments, whether the single prestigious structure illustrated in the society journals, or the thoughts called up in the reader's mind by Sebald's own sensibility to the subtle flux of interior and exterior at every scale throughout the house and grounds. Such ephemeral spatial sensations present themselves to the mind as thoughts, rather than as places, and perhaps

2 One adulatory description of Somerleyton appeared in the Illustrated London News of January 10, 1857, the year when Peto’s financial affairs began to shake and he wrote to his wife of the possibility of having to sell the house, which suggests it may have been a public relations exercise.

3 The catalogue is quoted by Arthur Hellyer (1982), Victorian Fantasy Simplified: Gardens of Somerleyton Hall Suffolk.
there were as many different potential wintergardens at Somerleyton as there were observers (or readers) to notice them, for as my non-supernatural magicians have already pointed out, magical effects occur in the mind of the audience: hence they need to be noticed and they need to be significant for that audience.

![Image of Winter Garden at Somerleyton Hall](image)

**The Winter Garden at Somerleyton Hall**
*The Illustrated London News, January 10, 1857*

**The wintergarden as a feat of magic**

I have known from the beginning of this project that there is a link between the idea of 'the wintergarden' and the concerns of the thesis, for a wintergarden is more than 'a conservatory in which flowers are grown in winter', as Collins English Dictionary puts it. A wintergarden is an oxymoron, a contradiction in terms. Particularly in the Northern Hemisphere, where 'winter' stands for coldness, darkness, and death and 'garden' stands for life, warmth and growth, there is an implicit cognitive disjunction between the two words. When the wintergarden is considered as a place where a disturbance of natural laws appears to be offering more than is normally possible, in a way that seems important for that observer...
at that time, then the wintergarden exemplifies the sort of spatial magic that I have been studying.

In this penultimate chapter, I will shift the emphasis away from stage routines, and look instead at the ways in which this particular spatial typology has been reconfigured over the years to match the aspirations of its period for spaces with magical properties that nevertheless sit within the reach of everyday life. Just as certain magic routines may succeed at certain times because they touch on something that is significant to their audiences at that moment, at times certain spatial typologies may also take on an allure that goes beyond mere functionality. Like a magic routine, they are able to blend current understandings of science, technology and/or art to create something that has heightened significance for their audience - at that period. The examination of each wintergarden, situated in its own time, as a concept rather than as a typology, reveals that many spatial histories are woven among the web of technology, desire, and interest that have given it so many different forms. Changing blends of technology, ideas and perceptual modes throughout the centuries have made the wintergarden a true spatial entertainment, in the sense in which I have used the word previously, and following Richard Dyer’s observation that: ‘Entertainment works with the desires that circulate in a given society at a given time, neither wholly constructing those desires nor merely reflecting desires produced elsewhere.”

The capitalization and hyphenation of the words vary from source to source: there are wintergardens, winter gardens, winter-gardens and Winter Gardens. In this chapter I will use the term 'Winter Garden' when referring to specific buildings and 'wintergarden' when referring to the ambiguous concepts in which 'winter' and 'garden', or their synonyms, have been coupled together in ways that seem to charge them with a special energy or charm. One connection, however, between a Winter Garden in its horticultural sense of 'a conservatory in which flowers are grown in winter' and other magical realms is that, although its workings may be explained by science, they are not explained away, because this apparently 'unnatural' garden under glass in fact is another demonstration of natural magic, those phenomena drawn from the sciences, and it is indeed rather wonderful that plants can be coaxed to grow out of season or out of their natural habitat. For the purposes of this chapter, however, a more important connection is that in many other configurations in which horticulture is of minor

importance, the wintergarden has taken on connotations of 'prestige' and 'glamour', which of course are words from the lexicon of magic.\textsuperscript{5}

Chapter One introduced the limited number of basic 'feats' of performance magic from which professional conjurors create their entertainments.\textsuperscript{6} These may be largely summed up as: transformations, productions, transpositions, 'the feeling that natural science laws have been disobeyed' (David Devant's famous definition of magic),\textsuperscript{7} and disappearances. These basic feats must be re-enacted in new routines if performances are to retain their urgency and not become obsolete. Consider then the wintergarden as a magical performance, one whose reception changes as the audiences' tastes, technical knowledge and interests change, and which must continually reinvent itself to remain relevant to the mood of the time.

**Feat No. 1: Transformations, or 'from being in this way to being in that'**

The wintergarden’s protean nature has given it many forms. It has changed its shape, scale and purpose, but still retains its ability to create enclosed alternative worlds, although these are by no means always innocent or delightful. The private *orangery* of 18th century European nobility morphed into the status-giving glass-roofed Winter Garden of the private Victorian country house, but also became the Conservatory, Palm House, Hot House or Temperate House in the public municipal gardens of many 19th century cities, where it could not only serve scientific horticulture but also provide public recreation by sanctioning gentle exercise in an intemperate climate while pleasurably servicing genteel and improving cultural interests, such as botanizing. The great exterior had become an interior. In its miniature form, the self-sustaining atmosphere of the wintergarden became the amateur naturalist’s Wardian Case\textsuperscript{8}, terrarium, or fern case on the windowsill of the Victorian parlour. In gigantic scale, its

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\textsuperscript{5} A 'prestige' is an older term for a conjuring trick; a 'glamour' is an enchantment or spell. (*Oxford English Dictionary*, 2nd edition online, March 2012).

\textsuperscript{6} See for example Sharpe (1932), *Neomagic: The Art of the Conjurer*, pp. 41-45.

\textsuperscript{7} Devant (1909), *Magic Made Easy*.

\textsuperscript{8} Wardian Case: a closely glazed case in which plants can grow with very little need for watering, as most of the moisture in the case recirculates. The atmosphere inside the case is purified by the plants. The principle was not invented by the naturalist Nathaniel Ward, but his experiments with it were popularised by J.C. Loudon in the *Gardener's Magazine* in 1834.
structural innovations created the archetype for the iron and glass structures that housed the 19th century's Great Exhibitions.

The domestic wintergarden appears in late 19th century paintings as an enclosed and somnolent twilight space of reverie and contemplation, whereas in novels it is often the site for flirtations and proposals. Behaviours that are very close to the interior of the self may be made public in these fictional interiors, as if by tacit agreement it was more acceptable to show a portrait of a woman asleep in her conservatory than in her drawing room.9

Public wintergardens (now capitalized, and often named simply 'The Winter Gardens') became features of Northern European seaside resorts, especially towards the end of the century, when what had previously been private showpieces became the settings for public entertainment, with tearooms, string quartets and even dance bands among the aviaries and potted palms. For many today, the name 'Winter Garden' (whether as one word or two, singular or plural) is associated with theatres and cinemas rather than horticulture. Dion

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9 See for example James Tissot's use of conservatory settings for many of his studies of women, alone or together, including paintings and sketches of his mistress Mrs. Kathleen Newton.
Boucicault, the Irish impresario and king of melodrama, gave the name to an older New York theatre when he had real and artificial plants installed in the auditorium during its remodelling in 1859. (Like Professor Pepper, Boucicault's first production here was also based on a Dickens story, this time a 'fairy play' based on *The Cricket on the Hearth*). Several other theatres since have carried the same name (there have been three in New York, one in London, one in Toronto, one in Brisbane, and one in Auckland). In the 20th century the horticultural associations atrophied further, so that the name became widely and perhaps predominantly associated with entertainment complexes containing indoor bowling greens, concert halls, ice-rinks, cinemas and cafeterias. Today many shopping centres throughout the world bear the name, providing a further type of enclosed alternative world.

Elsewhere in the 20th century the wintergarden kept its magical connotations of subtly nourishing the life-force, but adopted a new *scientific* persona to suit a more serious mood. 'Vita' glass, for example, was a wonderful medium for 20th century magic. Glass, which supported the hygienic aspirations of the light-filled spaces of early Modernism, could be even better if it was 'Vita' Glass, which allowed more ultraviolet radiation to pass through it, so promising to transmit those properties of sunlight that were considered health-giving, rather than block them as other glass did. Vita Glass was promoted in the 1920s and into the 1930s in the way that vitamin supplements can be promoted today, by taking a little scientific truth and massaging it so that it seemed to be implying a great deal more. Rather than merely killing germs and so improving the general standard of hygiene and hence health of citizens in former slums (which was demonstrably provable), the manufacturers implied that the light that passed through Vita Glass would actively promote *superior* health. 'Scientific' diagrams in advertising material suggested that animals gained weight faster and children grew taller and heavier when reared under it. A plaintive voice from one serious investigator posed the question of why supernormal growth should be assumed to be superior, even if it were actually happening, which his own experiments had not found to be the case. 'One fails to see what advantage the overgrown animal (or child) has over its "normal" brother. It may be that normal growth is optimal growth', he wrote. However, the glass was installed in special

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10 Among other serendipitous resonances: Walter Benjamin mentions a first winter-garden laid out in 1788 in the garden of the Palais Royal, which was later the site of Robert-Houdin's magic theatre.

11 Sutherland (1932), *Growth Under Vita Glass*.
sunrooms in many institutional spaces, such as schools and sanitaria, in the inter-war years.\textsuperscript{12} (One such room still existed in the boarding department of my British school. Although it was not known to us as a space for promoting health or (horrors!) gaining weight, this room, which was simply called ‘the Vitaglass’, retained the sense of being outside the normal rules of school life and so was the room of choice for mildly transgressive behaviour.)

The environmental control embodied by the wintergarden has been received in subtly different ways between the 19th and the 21st centuries. Whereas the demands for heating and lighting made many 19th century wintergardens vehicles for the luxurious display of expenditure, by the 20th century the costs of such consumption were unacceptable in private ownership but more acceptable if borne by bodies such as multinational corporations. The tree-filled atria of corporate office towers and the fantastic interior landscaping of international hotel lobbies of the 1960s, 1970s and 1980s still represented, to some, environmental vandalism coupled with corporate greed and duplicity\textsuperscript{13} but today in the 21st century wintergardens have been recast in heroic mould as high-tech environmental control devices that create an internal lung in newly eco-conscious high-rise towers. The architects of Q1 in Queensland and the Eureka Tower in Melbourne, both of which claim to be the tallest building in Australia, cite wintergardens as part of their cutting-edge environmental control components.\textsuperscript{14} More recently a fashionable buzz around bio-art, ecology, ethics, food production and design has led to the appearance of terrariums both in art galleries and in restaurants. The many masks worn by the wintergarden allow it to be presented equally as the fantastic and grotesque space where shopping centres and theme parks collide, and as the ecologically virtuous scientific laboratory of the Eden Project in Cornwall, which claims to house the largest conservatory in the world.\textsuperscript{15} The complex also contains an ice-skating rink.

\textsuperscript{12} Sadar (2008), \textit{The Healthful Ambience of Vitaglass}.
\textsuperscript{13} The dichotomies of the corporate atrium are discussed in Dan Graham & Robin Hurst (1987), \textit{Corporate Arcadias}, pp. 68-74.
\textsuperscript{15} www.eden-project.net (accessed December 2011).
Feat No. 2: Productions, or 'from not being to being'

Each of these incarnations could be explored within its own 'technological frame' to reveal the forces that brought it into existence and illuminate the ways in which each contains both a physical space (the built outcome) and a cerebral space, in which, depending on one's own interests and point of view, to entertain the ideas that the thing offers.

Consider Somerleyton, for example, whose wintergardens and Winter Garden reflected the fabulous and chimerical wealth of Sir Morton Peto, the sleights of hand by which he raised his fortune, the fortuitous fact that he built his empire through railways and filled his new house with glass and mirrors where the interiors of Somerleyton and the exterior merged like the illusive reflections in a train window, that his fortune rose up and vanished (harming his creditors but not him), that the next owner had made his fortune from the (magic) carpets and velvets that created the stereotypical claustrophobic late-Victorian interior and which further informed Sebald's interwoven imagery ('the lawns like green velvet, the baize on the billiard-room table'). One could ponder the fact that although Karl Marx used the term 'phantasmagoria' to denigrate the alienating circling of commodities that built Peto's fortune, yet he considered contemporary capitalists like Peto to represent 'the highest type of civilisation before Communism'.16 This web of people, technology, money and desire interests me, as an historian of spatial magic, and from it I could try to create my own fictional and magical Somerleyton, to spin a story that folds time and space together to spin a story that is almost true, but there are many other lenses through which the wintergarden could be examined. Each of them could create a history in itself.

For example, take the public Winter Gardens of the 19th century. An historian of technology could demonstrate that Winter Gardens were shaped by innovations in production methods and construction techniques in glass and cast iron.17 A political economist could point to the effect that lowering the tax on glass in 1845 had on its affordability and availability, which could sweep the economist's Winter Garden into an avalanche of other glass artefacts which had subsequent repercussions on social histories and spatial practices (consider the spatial and social impact of the portable glass beer bottle in comparison to the

17 See for example the opening chapter in Wigginton (1997), Glass in Architecture.
earlier barrel and tankard). An architectural historian might (or might not) follow the lineage of 20th century architecture back to the Winter Garden via the engineering innovations of the buildings that housed the 19th century’s Great Exhibitions. An urban theorist could muse on the ways in which the design and location of these 'must-have' public buildings in 19th century cities were influenced for personal profit by the machinations of powerful industrialists and property developers, and discuss the financial benefits that flowed to Sir Morton Peto (builder, railway magnate, property developer and Member of Parliament) from his association with Joseph Paxton, his sponsorship of the 1851 Great Exhibition (at no actual cost to himself) and the subsequent relocation of the Crystal Palace to its new site in South London (to Paxton and Peto's mutual profit). Cultural historians and social scientists might relate public Winter Gardens to medicine's new belief in the benefits of sunlight on both health and morals, or to the expansion of leisure, or to the nineteenth century's obsession with collection and classification, or to its fascination with travel and the exotic.

**Feat No. 3: Transpositions, or 'from being here to being there'**

Leisure, travel and the exotic take us to the factors that made the seaside entertainment centres called Winter Gardens so appropriate as a transporting component of seaside summer holidays, apart from their obvious appeal in the face of unpredictable British weather. They were sited on the very margin of the land, often even on a pier stretching out to sea. Their Oriental styling could take holidaymakers far away from their everyday environment without actually travelling abroad, while their ballrooms and theatres made further excursions from the everyday. This sort of wintergarden plays a tiny part in a negative trajectory in which Michael Sorkin links the 1851 Great Exhibition, ‘the first great utopia of global capital’ to the mass tourism, relentless circulation, and universal placelessness of theme parks like Disneyland. Sorkin’s skilful and entertaining essay has a dark tone. The seaside Winter Garden’s role in his trajectory was to promote the idea of simulated travel, its

18 A.G. Meyer in *Eisenbauten* (1907) claimed the greenhouse as 'the origin of all present day architecture in iron and glass', (cited in Benjamin (1999), *The Arcades Project*, p. 158. Other historians disagree, e.g. J. Mordaunt Crook (*The Dilemma of Style: Architectural Ideas from the Picturesque to the Post-Modern*, p.105).

19 See for example Adrian Vaughan (2009), *Samuel Morton Peto, a Victorian Entrepreneur*.

20 *The Lancet* (February 22 1845) 'hail[ed] with joy the abolition of the duty on glass...Light is as necessary to the perfect growth of the human frame as air and food...filth and darkness go hand in hand.'

modest saving grace was the inaccessibility of the places it evoked, and its eventual redundancy was the result of the spread of the railways that made actual exotic travel possible but started a downwards slide towards the creation of Disneyland's vast undiscriminating audience for simulated experiences in a postmodern world.

Sorkin cites Charlotte Brontë's description of the hushed silence of the crowds that she saw when she visited the Crystal Palace in 1851 as seemingly 'ruled and subdued by some invisible influence', and uses her words as early evidence of the mindless passivity that would be induced by mass leisure. However, here he is taking Brontë's words from a passage where they are cited by Stewart Ewen, who also interprets her words negatively, as implying that 'the masses' were tamed (his word) into self-discipline by the visual impact of the Crystal Palace.22 But neither theorist quotes Brontë's letter in full, and her words can be read in a different way; that the silence of the crowd was just one among the many magical effects that impressed themselves on her and made the totality of the place 'strange, new and impossible to describe'.23 The otherworldly quietness of thirty thousand living people moving among a world of glittering objects in one vast space could well have been a powerful and beautiful thing to experience, and one that would linger in the memory because of the scale of its contradiction. Contradictions are integral qualities in a wintergarden, and implicit in the name itself.

Charlotte Brontë's words also alert us to the shift in sensory perception that a wintergarden may trigger. The moment of entering an actual Winter Garden (in its incarnation as a place in which to enjoy plants made exotic by being out of geographical location or out of season) works on the physical senses by enforcing a slowing of pace as we are overcome by the alteration in the warmth and moisture of the air, the unaccustomed acoustics, the rediscovery of half-remembered scents. We wake into a dream. 'When the sphere of planning creates such entanglements of closed room and airy nature, then it serves in this way to meet the deep human need for daydreaming', Walter Benjamin wrote, responding to Woldemar Seyffarth's slightly querulous observation that the Jardin d'Hiver on the Champs-Elysées hardly deserved to be called a wintergarden since it was open in summer 22 Ewen (1988), All Consuming Images: The Politics of Style in Contemporary Culture, p.164.
too, for Benjamin placed wintergardens among his 19th century 'dream houses of the collective'.

And then there was the magical material, glass. Worlds held in glass are other spaces, with a particular enchantment. It makes perfect sense that terrariums are sold in Melbourne in the same shop that sells magic tricks and optical toys. Glass allows us to be in one world and look at another - it situates us between temporalities. It may have been the thought of the vast scope of the world contained within the Great Exhibition at the Crystal Palace that tripped its visitors into reverie, but the miniaturised form of the crystal ball, the Claude Glass, the snow globe, the vitrine, or the bell jar also create spaces that we may enter mentally. They exemplify the way in which a wintergarden can be a separate, self-contained world of meaning - a Schützian 'finite province' - with its own laws and rules of time and space that, although different from everyday reality, are not so different that they are merely fantastic.

**Feat No 4: 'Natural science laws disobeyed'**

Of course, the power to control the seasons, to promote magical germination and rapid growth, and so turn a barren landscape into a living oasis were all part of much older magical regimes that were supplanted by modern science and relegated to fairy-tales, pantomimes and other delightful amusements such as conjuring. Sam Sharpe places rapid germination among these 'primary feats of magic'. The magical production of living blooms was a feature in several 19th century conjuring routines. For example, in Robert-Houdin's famous 'Marvellous Orange Tree' various highly symbolic elements (a lady's handkerchief, an egg, a lemon, and an orange) were all made to vanish one into the other, leaving a magic dust that he would then burn below a small, bare tree, which responded to the flame by producing first flowers, then real and edible oranges, and then a final orange inside which was the original handkerchief. In the wintergarden, however, the glass itself can do the work of the conjuror, and not only by defeating season or climate. Glass has always had an element of magic, both in its creation and in its properties. Through fire and strong handling, opaque

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25 My thanks to Freya Robinson for pointing this out, and drawing my attention to the etymology of 'paradise', literally a 'walled enclosure'.
26 Sharpe (1932), *Neomagic: The Art of the Conjuror*. 
particles of sand that in themselves are almost worthless become a transparent, precious thing. Glass is redolent with the contradictions that make the world interesting (and that facilitate illusions), for although the literal transparency of glass makes solid walls that can be seen through and lenses that bring the world to the private view of the eye, it also dazzles as it shimmers. In different words, 'glass...deprives the wall of its significance', for 'the entire space of the room [can] be dissolved in lustre'. So wrote A.G. Meyer, drawing a comparison between the walls of the Crystal Palace and the shimmering metal plates that, he says, covered the walls of ancient Mycenaean chambers,\(^{27}\) and which call to mind the conjuror's use of light to hide things.

There does often seem to be some sort of ‘trick’ to these glass worlds, which seem counterintuitive to the uninitiated. Once again, some natural law appears to have been disturbed, when in fact it is working exactly as it should and thus, for example, allowing a plant to live in a closed Wardian Case where an animal would suffocate. In those early glass conservatories with beautiful curving domes, like the small Palm House at Bicton (c.1820 - 1840), or the enormous Palm House at Kew (1845-8), structural laws may seem to be flouted, but the glass is acting as a stressed skin and it is the glazing itself that keeps the structure stable. Mark Wigginton’s description of the Bicton house evokes the magic:

> The structure, and what was hitherto known as ‘architecture’, is nowhere to be seen. Extremely slender columns support equally insubstantial arches of iron, and the whole support is effectively invisible.\(^{28}\)

Wigginton’s beautiful description of the great Palm House at Kew is moving:

> From a distance, particularly on a slightly misty morning, it appears as a delicate formal cloud settled mysteriously into the trees; closer to it can be a reflective machine, or a transparent and almost non-existent bubble...[it] is arguably the most beautiful glass structure in the world.\(^{29}\)

\(^{27}\) Cited in Benjamin, op. cit., p.541.
\(^{28}\) Wigginton (1997), Glass in Architecture, p. 36.
\(^{29}\) Ibid., p. 38. The majority of later 19th century iron and glass structures, however, adopted Paxton's ridge and furrow glazing, for a variety of reasons both to do with control of light (for horticultural purposes) and with pragmatics of construction and procurement.
Feat No: 5: Disappearances, or 'from being to not being'

In this thesis I have tried to show that behind 'spatial magic' lies science, but also attention. I have sought extra-ordinary but non-supernatural spatial experiences, and considered the mental space in which these arise. I have implied that this mental space is shaped by the context in which those who imagine it are living. It is affected by the changing technologies of its times and the culture ('that to which it gives its attention') of the society that observes it.

In this chapter I have tried to show how 'the wintergarden' can be interpreted in many ways, and given my own interests, I have chosen to interpret it as an example of the way that spatial magic may wax and wane. Some of the wintergardens that I have described are prosaic, meretricious, deceitful, and they lend themselves to metaphors that express more complex emotions, from optimism to pessimism. One quality of a wintergarden is that it is a place that no-one ever stays for long; it is essentially 'outside' of everyday life in spite of its interiority, a place from which to come and go, rather than inhabit. Like entertainment magic, wintergardens have a brief life. Many of the original wintergardens today are nostalgic ones - places in decay, or in memory - derelict seaside pavilions, demolished theatres, and so on.

The wilted pot plant in the corner of the office and the half-dead, or plastic, palm tree in the shopping centre share an air of time out of joint. Like Tinkerbelle, they ceased to exist when no-one believed in them.

Although the effusive piece in the Illustrated London News of 1857 described the extensive ornamental renovations of Somerleyton Hall as 'something fairy-like', and the Art Journal of 1872 cited an anonymous 'recent writer' as describing the way that the Somerleyton estate featured 'as if evoked by a magician's wand, a range of fantastic palaces of glass, their many sheeny domes and pinnacles sparkling like diamond facets in the noonday sun', to a twentieth-century eye the charm had faded. The Somerleyton Winter Garden was pulled down in 1914-15 to save expense, and was replaced, according to Country Life (1982) by an 'attractive sunken garden with beds for flowers in season, and a central circular pool filled with hardy waterlilies', which does sound rather prosaic in comparison.

30 Hall (1872), The Stately Homes of England: Somerleyton, p.15.
Although the Winter Garden at Somerleyton Hall no longer exists, the house and gardens are still there and are now available for hire for conferences, conventions, weddings and the rest. There are picnic areas and playgrounds in the gardens. In 2011 the Somerleyton Estate opened a 'winterwonderland' theme park in Fritton Lake, with Santa’s Grotto and Toy Factory, Ice Rink, Alpine Food Court, Santa’s Woodland Trail, Road Train, Children’s Shows and Christmas Themed Adventure Playground. Whilst the Somerleyton Estate has an admirable track record as a prize-winning tourist attraction, it does follow Sorkin's more gloomy trajectory. The publicity material for the 'winterwonderland' uses snow-filled scenes that seem sadly implausible for the local Lowestoft climate. However, on reflection, it replaces a damp and chilly English winter with a magical one, and to my consolation, a giant snow-globe has been constructed in the heart of it.

_Giant Snow Globe, Fritton Lake, Somerleyton Estate_
One of the attractions at the winterwonderland 2011
(There is an extra charge for the photo-opportunity)  
www.fritttonlakewinterwonderland.com
CHAPTER NINE

Conclusion: Realigning the Attention

‘It is hard to read through a book on the principles of magic without glancing at the cover periodically to make sure it isn’t a book on human interface design.’ ¹

This was written by a leading designer of interfaces between humans and computers, who suggests that the works of performance magic theorists like Dariel Fitzkee or Henning Nelms have ideas to offer to any professional in his field. A surprising number of other disciplines have also found uses for the knowledge embedded in the techniques of conjuring. Apart from demonstrating simple physics and chemistry in junior school textbooks, entertainment magic has been proposed as a tool for helping medical students become better practitioners,² as source material for philosophical and theological studies³ and, of course, as a resource for studies into the processes of perception. For example, acknowledging that performance magic is a rich and largely untapped source of insight into perception and awareness, a recent scientific paper in Nature has discussed the potential that there will be for neuroscience when the artistic intuition that conjurors have developed throughout the centuries is explored in the laboratory.⁴ The authors (who have collaborated with three of the best-known professional magicians working today) suggest that ‘the possibilities of using magic as a source of cognitive illusions to help isolate the neural circuits that underlie specific cognitive functions are endless.’⁵ They propose that brain-imaging techniques will add a neuroscientific perspective to previous psychology experiments that have been designed around the visual

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² e.g. Northwestern University's Feinberg School of Medicine offers a Magic and Medicine seminar to improve the doctor-patient relationship,
³ Dr. Lawrence Hass, Professor of Humanities, offered courses in philosophy and in the history, theory, and performance of magic in the Theory and Art of Magic program at Muhlenberg College, Pennsylvania for 11 years. Since 2010 the program has moved to Austin College, Texas.
⁴ Macknik, King, Randi, Robbins, Teller, Thompson and Martinez-Conde (2008), Attention and awareness in stage magic: turning tricks into research.
⁵ Ibid. p. 877.
and other illusions practiced by performers. The same authors have also published a book for a general audience that hypothesises the possible cognitive pathways related to specific routines.\(^6\) However, their approach in both publications is ‘to reveal your brain for the liar it is’, by showing how magicians’ arts are founded on the principle of using the mind’s own intrinsic properties against itself.

To emphasise the fact that the illusion that the audience has seen has been duplicitous, these authors offer parallels with pickpockets and confidence tricksters. For example, a distraction technique common to both pickpockets and performers relies on the fact that human eyes will follow a curving motion smoothly along the full length of its curve, whereas in a linear motion the eyes will jump from start to finish. Thieves use this to manipulate the strength of their mark’s attentional focus, either by making curvilinear moves with one hand to hold (and possibly misdirect) their victim’s attention while their eyes follow the motion, or by making quick linear moves which shift the victim's attention off the work of the hands and instead from one spatial location to the other. Magicians use the same techniques.\(^7\)

The scientific study of conjuring has, to date, concentrated largely on the perceptual errors into which the gullible human observer has fallen. The irritation of both the magic show and the psychology experiment is that they pull us back to a certain sort of ‘truth’ when the trick is exposed, but the truth of what we have felt may be much more important. The inner reflexivity of perception is not at the forefront here. As with a conjuring trick, exposing the sensation for analysis usually causes the magic to vanish. However, if the conjuring is somehow ‘real’ and not a trick, then interesting things happen. In what ways can conjuring be ‘real’ and yet not supernatural? It is at this point that the popularity of 19th century conjuring becomes central to my project. Both the 19th century performer and the audience understood the ‘illusion’ to have been a trick in which they had agreed to participate, yet the audience found it enthralling. My concern in many of the chapters has been to consider the authentic

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7 The neuroscientists’ interest in this knowledge is in working out which of their various hypotheses about the cognitive mechanisms involved are correct, but the parallel that springs to my mind is in the way a curved wall or vaulted ceiling draws the eyes to it, and equally how our eyes, and indeed our bodies, are inclined to wander in such spaces. This does not automatically make all curved walls powerful, but it does offer a way of explaining why it has been so effective in many situations where the design seems to lift us ever so slightly out of our bodies.
sensation of what had happened as the important thing that remained behind, referring back to my reference in Chapter One to illusions also involving hopes and desires, fears and prohibitions. An audience now existed that was able to respond in this way, whose attitude to the world that they inhabited was one that looked both inward and outward, testing external reality against their own internal one.

My thesis has implied that this is the same audience who today are called 'inhabitants', 'occupants', or 'users' in the discourse about spatial design. Their role in the reception of the work can be (and ideally would be) to 'recognise the act of seeing, of receiving, as a participation in the creative process no less essential than the artist’s own', as Frederick Kiesler hoped, 8 and the conjurors understood. I have suggested that this offers a place from which to look back to the history of my discipline, which describes itself as 'an idea-led profession, concerned with the relationships between people and the surrounding environment': 9 I have used the term 'interior design' to talk about this discipline, although, as I have explained, this title is not completely satisfactory.

To expand on this: I emphasise that I was educated as an architect, and that I still consider what I do to be architecture, but architectural history often prefers exteriors to interiors and buildings to encounters, and is more concerned with the singular intentions of the designer than with the innumerable moments of existence of which my sort of architecture consists. I stress that my intention throughout the project has not been to turn 19th century magic tricks into solutions to 21st century design problems, but rather, to use the thoughts that the tricks have brought up as the stimulus for observations about the ways in which 'interiors' - their histories, their construction, their existence - may be considered. The magic tricks have been merely a device round which to spin a web of speculation, by suggesting that when the encounter between the 19th century magician’s active stage and the seated (though not impassive) audience is seen as a sort of interior experience that reflected the spatial concepts held by both at that time, it reveals resonances between the developing subtlety of spatial experience that these demonstrated and the history of my own spatial discipline. In both, the manipulation of spatial experience has become a medium through which something more can be said. It also suggests the development of a richer vocabulary

of spatial experience and the possibility for different modes of appreciation. To discuss this, I will first reflect, briefly, on the material in the previous chapters.

The introduction described the personal sense of visual, visceral and intellectual spatial pleasure that I felt in seeing my first magic show. Of course, I have realized during the course of the thesis that I was ready at that moment to see the work in terms of my own (but at that point unarticulated) sense of 'what mattered', even while I was looking for the same sense of pleasure in the work of others. I found it both in my own reading of various magical routines and in the work of many people who are considered to have been in the avant-garde around the turn of the century. It is true that I found it because I was looking for it - to the child with a hammer everything is a nail - but nevertheless the idea of seeing these works within their 'technological frame' opened pathways into social and material history for me, and I hope for others also.

The first chapters of the thesis examined the idea that today's conception of space itself as something that is active and malleable, whose qualities are capable of being created or annihilated by manoeuvres that do not involve simply adjusting the dimensions of its bounding envelope, was the result of new ways of thinking that evolved throughout the 19th century. I have shown that in addition to the expanded vocabulary for speaking and thinking about bodily physicality that derived from increased athleticism and new forms of transport, this different sort of spatiality derived, in part, from a new culture of observing emotional responses to objects and spaces - a sort of spatial introspection that gave opportunities for demonstrations of nuanced sensibilities, often through literature or painting - but it also reflected a new interest in the ways that physiological factors could affect responses. For example, the Arts & Crafts understanding of the way that a small window, if properly placed, could admit more light in a way that was more pleasurable to the eye than a larger window, was a combination of empirical observation and measurement mixed with a more subjective appreciation or valorisation of certain qualities (in this case, the beauty of light, with the absence of glare). However the qualities that are considered to be important, and worth attending to, change through time and across cultures and subcultures. In discussing how both the psychological and the physiological come together in spatial performance and experience, I used the idea of ‘spatial entertainments’ as a sweeping term to describe the complex thoughts that such experience brings up. ‘Entertainment’, in the sense that the word is used
here, is not a synonym for amusement, but rather, it is the outcome of the sensuous intellect, where sensation meets thought in some way that seems significant at that moment.

By offering a variety of ways to think about some significant entanglements between things and people that were created through manipulation, anecdote and play a century and more ago, this project has allowed me to consider the event of inhabitation today in terms of performance and experience, while following the trajectory of interior architecture from its 19th century emergence into today’s discipline concerned with inhabitation, rather than composition or style. In sketching a history of interiors as spatial performances, I argued that interiors - their components and their relationships – come into full existence by being received and experienced by the people who live them, and of course the parallel with stage magic here is that this too needed its audience to be complete.

The spaces that the magic tricks brought into existence and then dissolved again were seen and felt and thought; my point here is that the ways in which they were seen, felt and thought changed greatly over the period of my study, and that these changes are relevant to the history of architecture and design. Although stage magic had lost its spatial urgency after the turn of the 20th century and become more concerned with the sort of feats of physical endurance and dexterity that I have not discussed,\textsuperscript{10} the magical spatial concerns of the late 19th century – floating, dematerialising, contracting and expanding, and so on – became the concerns of a new sort of practitioner, whose practice concerned the experience of inhabitation rather than the symbolic, monumental, or expressive functions of architecture. These are the sort of practitioners who today are considered to be important figures in the history of interior architecture and design. My study has explored a period that preceded theirs, not to suggest a clear connection between conjurors and these practitioners but to set up a frame of thought from which their work might be examined if both are considered as 'spatial entertainments' in which possibilities were tested and, if not challenged to breaking point, at least pleasurably stretched.

This has allowed me to consider the role of interest and attention, and hence significance, when spatial experiences are described as ‘magical’, in the colloquial sense in which the word is used today. Although this sounds like an impoverished use of language,

\textsuperscript{10} Such as the routines practised by escape artists such as Houdini, semi-sadistic acts like Sawing the Lady in Half, and card tricks.
'magical' is quite a precise, if indefinable, term. The 'entertainments' that were felt as magical may have been short-lived, but at the moment of their acclamation or notoriety they aroused that thrilling 'feeling that something wonderful is happening', even if only for a small audience. This offers insight into the context that made them important at that moment: the impermanence and vitality within Loïe Fuller's *fin-de-siècle* moving forms, the pleasure in elasticity and athleticism that attached connotations of speed and freedom to Breuer's chair, the exciting simultaneities of space and time in Kiesler's staging of *R.U.R.* They were all, in their own way, seen as magical - more than was normally possible - in their time, and might explain the emotional pull that Zizi, the affectionate but needy couch, has for the 21st century.

Through the different chapters of the thesis, I have shown how the attention of the audiences has changed, as much as the routines of the performers. Many of the techniques that once caused laughter or mystification have moved from the stage to the art gallery during the past century, and in the transition, the presentation has shifted from concealing the processes to offering the phenomena themselves for consideration as the focus of the work, acknowledging now that the audience are not passive consumers but part of the practice, so long as they are prepared to attend to it. This may invite and reward a different sort of attention from the everyday. This again calls on the audiences' readiness, ability, or desire, to 'see' and receive the work, which has been the topic of the final chapters.

**Aftermath**

I set out to look at the roles of experience and performance in the 19th century audience's pleasure in an old-fashioned entertainment, in support of my theory that this has relevance to the sorts of spatial practices that are addressed by interior design today, but added, almost as an afterthought, that part of the larger question would be to identify for myself what or where this discipline might be in the 21st century.

Perhaps inevitably, this has forced me to consider my own practice as an educator, and my own spatial practices of inhabitation. In what ways do the concepts of experience and performance enhance the discipline? Can they help us to be a better audience? How can we become better practitioners?
One conclusion, which may come as an anti-climax rather than a grand finale, is that interior designers (and all designers) benefit from a liberal education containing a nice balance of science and art, where history and theory are examined within their technological frame, and where we are encouraged to look from our discipline rather than at it. Tertiary entrance students whose prior schooling and education has offered them more than a vague suite of 'studio arts' and so-called 'visual communication' have more tools to think with. We are impoverished if we are alarmed by science, shocked by the suggestion that our own experience has already given us genuine knowledge and that it can give us more if we open ourselves to it, unable to recognise theory unless it looks dense and has footnotes, yet dazzled and scared by it when it does, and irritated rather than intrigued when we discover that other people have had similar ideas to ours but have come to different conclusions.

It is not simplistic to accept that the practical knowledge in stage magic could be helpful to a designer of spaces for humans, since it requires technical knowledge about materials, an understanding of sight lines, an awareness of ergonomics and so on. It also requires an awareness of physiological responses: how the eyes respond to darkness or brightness, for example, and how these things play out in choreographing the attention both physically and emotionally. However, this is a not a call for Psychology 101 or studies of optical illusions in the curriculum! We know enough about these things by simply living in the world, and the individuals who are interested in the mechanisms can find out more for themselves, noting however that sound, smell and hapticity, which were all factors in the conjurors' routines, are also major components in the experience of inhabitation.

More complex practices of performance and experience deal with a different set of ideas. Here the sort of design knowledge that enriches everyday life parts company with design knowledge that helps confidence tricksters to cheat people. When speaking of what it means 'to see' in non-Cartesian terms, Merleau-Ponty refers to ‘vision’s entanglement in and distance from the visible’. Interiors involve both the prepositional relations of the spaces and things around us, and the opaque space of our personal 'innerness'. This is both the vulnerability and the excitement of the discipline, and the thing that must always prevent me, or anyone else, from saying 'that's what it is', and drawing the line at the end of the chapter. One recurrent condition that fascinates students, and which they often choose to investigate when they select their own projects, is in the thresholds between interior and exterior. Their
projects become richer if, rather than saying where these thresholds are, they explore possibilities for what the threshold might offer. Sooner or later it becomes clear that their propositions are implicitly engaged with the fluctuating thresholds between the self and the world, as well as between inside and outside. Once again, the more tools that they have to think with, in and between these incompatible frames of reference, the further they can go.

The practice calls for incongruent bodies of knowledge, where disparity is often the source of creativity, empathy and insight, just as it can be the source of both humour and poetry. But the outcomes are often not solutions to design problems, so there is then the question of where this practice sits: what has this practice equipped them to do?

'Whenever a subject thinks about an object, his reflection is in the form of a project.'

When design is asked to provide 'real world solutions to real world problems', there is somehow the implication that the real world, and everyday life, is not the place for the moments of spatial experience that I have called entertainments, in the sense that they bring ideas into the mind for consideration. An alternative (the un-real world?), and one that is influencing much recent undergraduate work, is to create spatial experiences as installations. Being seen as a product of an art practice then validates the existence of these works. The ones that are more popular with the public, and the majority of the students, are usually those that create affective experiences; the more 'difficult' create an interior (or an anti-interior) as a vehicle for critical comment: what artist and writer Gean Moreno has called 'tactical interiors'.

I think both types have great value, and that an education that enabled an artist to do either of them well would be a very fine one, for it would need to draw on all sorts of knowledge. The Sensing Beds and the RemoteHome from Chapter Four belong in this category. They are indeed entertainments. But when they leave the corral of art, their place in the 'real' world is too often merely as spectacular props for the world of retail.

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11 I have misappropriated this sentence from Gaston Bachelard, in McAllester Jones (1991), Gaston Bachelard: Subversive Humanist: Texts and Readings.

Where or how can we (designers or audiences) practice without engaging only with art practice, critical or otherwise, or becoming complicit in a whirl of consumption? Surely reality can be better than that? Perhaps it is already better than that?

Within the thesis, the moments of experience that have particularly interested me were ones in which there was a sense of delight that bordered on revelation. Since it often goes beyond words, it is a complex thing to discuss and communicate, but I hope my readers have been convinced that delight is of deep human importance. Dean Hawkes\(^{13}\) has coined the phrase ‘environmental imagination’ to discuss the synthesis of technics and poetics in the interiors created by a range of practitioners, from John Soane to Peter Zumthor, in which performance has been the organising principle, not in terms of energy ratings or efficiency, but in terms of the delight that subtle modulations of the environmental elements of interiors can offer to their occupants. It is an approach that demands a greater vocabulary for inhabitation, once qualities, for example ‘warmth’ or ‘chill’ or ‘lustre’ or ‘dimness’ or ‘ingenuity’, are considered as protagonists to be engaged with and relished. It also suggests an active engagement with many things, and the ability to think many things at the same time, rather than a passive consumption and an absolute judgement. Inhabitation becomes subtler when there is an idiosyncratic connoisseurship of qualities. It offers a joy in the 'how' of things - what things do, as much as how things look, while acknowledging that the 'doing' - the performance - may be serving psychic ends as well as practical ones. Again I emphasise that the performance has nothing to do with theatricality. The only parallel that I do wish to draw from more recent theatrical practice is with its acknowledgement of the audience’s part in the piece, especially when the separation between stage and audience is undone, as it is for example in street theatre or a multi-focussed situation like a carnival. Approaches such as, for example, Richard Schechner’s ‘selective inattention’ acknowledge that people choose what to see: 'Spectators come and go, pay attention or don’t, select what parts of the performance to follow.'\(^{14}\)

However, beyond the thesis, I am concerned with perceptions that, more than simply being 'delightful', at some deeper level make everyday life seem worth living. These of course are different from person to person, and cannot be dictated by the designer. However,


it does seem that one role for education should be to enable both designer and client (for want of a better word) to think and feel in a larger range of ways about the things that happen as we move between our personal 'finite provinces of meaning' to the 'shared reality' of everyday life. (And remember, the lifework of Alfred Schütz, from whom these terms have come, was a concern for the meaningful structure of everyday life.)

Rather than trying to force overwhelmed attention (as happens in the sort of 'themed experiences' that some retail designers are now creating) I would like to suggest ways in which other sorts of attention might be gently cultivated. These hint at new responsibilities, for the audience as well as the designer, but surely are worth supporting, for within the idea of an interior as a lived thing, it is possible to identify an encouraging difference in the ways that things and people might come together to be ‘an interior’ today. If the value of the subjective entanglement of performance and experience is assessed against a different standard, it could offer ways for designers to be generous (or even to remove themselves from the scene completely). It would value those design acts that are not part of the commodification and consumption that can make some aspects of design seem wasteful or superficial. Let me explain why.

Luis Barragán (another practitioner of performance and experience) once said that his architecture was inspired by two words: the word magic and the word surprise: 'I want to be surprised as I walk down any street or stroll through any plaza.' My understanding of this, from his works, is not that he wanted architecture that was constantly springing surprises on him, but rather that he nurtured his own ability to feel surprise, and to notice the moments when the play of things around him came together in ways that brought him delight.

In Chapter Three I referred to Donald Winnicott’s belief that 'it is creative apperception more than anything else that makes an individual feel that life is worth living.' Winnicott contrasts this to 'a relation to external reality which is one of compliance, the world and its details being recognised but only as something to be fitted in with or demanding adaptation.' This state of compliance, 'as if caught up in the creativity of someone else, or a machine', carries with it a sense of futility for the individual. He continues: 'In some way or

16 Winnicott, (1971), Playing and Reality, pp.87-88.
another our theory includes a belief that living creatively is a healthy state, and that compliance is a sick basis for life.’ I have tried in the thesis to stay away from references to theatre studies because I am not discussing such deliberate acts of performance, but at this point the more active language of theatre does become necessary, though I repeat that I am not referring to excessively dramatic moments. When ‘the actor’ or ‘the protagonist’ or ‘the audience’ replace the detached coolness of design terminologies such as ‘the inhabitant’ or ‘the occupant’ or ‘the user’, the shift emphasises the subjectivity and contingency of point-of-view, for who now is ‘the audience’? It brings to mind Michel de Certeau’s well-known contrast between the god-like view of the planner looking down on the city from the air and the different, personal, knowledge that belongs to the individuals walking in the streets below. This language allows for the individual response rather than the general, and for the idiosyncratic response of the engaged participant rather than the one anticipated by the authoring designer holding the pencil or the mouse. It allows for eccentricity, and for the contingency of the moment. Choosing how and what to see has become part of the performance frame. There is no compulsion to be transported to another’s insight, or to fret because it has greater value than one's own, when we are free to relish our own moments of awareness.

I am encouraged by the things that the design profession can then offer to the engagement that seem to have everything to do with interior practices and not a great deal to do with style or marketing. By supporting different ways of looking, receiving, and interacting, rather than by bringing more stylish ‘stuff’ into the world, and by accepting interiors as being fluid entanglements between animate and inanimate that may exist in moments in time, or in such actions as the daily cycles of tidying and disordering, or in the way some thoughtful (or thoughtless) modulation changes things – opening a window, drawing a blind, breaking a mirror, entering a room, pulling up a chair - interior designers are able to acknowledge and value such things as moments of individual pleasure, or of humble satisfaction of personal needs, and to be perceptive of moments of distress. Many of the recent examples that move me at the moment come from non-commercial areas, such as new hospital designs that attend to the relation between healing and design; others are ones that observe and subtly tweak an existing situation to adjust repressive hierarchies. These things

17 de Certeau (1984), The Practice of Everyday Life, Chapter VII.
are not ones that can be photographed, and they are not yet likely to be universally acclaimed. They ask for insight, generosity and modesty from the practitioner, who may have to accept that, like the conjuror, the means and skills by which their work has been achieved will go unobserved or un-complimented.

As entertainments however, (in my serious sense) they may move us almost to tears. One that lingers in my mind shows the concern with which Anna Müller, then a very young designer, considered the interiors of St Vincent’s Public Hospital, in Melbourne.\textsuperscript{18} She had had her own family experience of the degradation and depression that long-term patients in hospitals may suffer. Her design, which considered the well-being of the patient and visitors as well as staff, has not only won several architectural awards, but is genuinely praised by those who have used it as patients or visitors. A visitor has been overheard (by me) to mutter; ‘If this is where my taxes are going I don’t mind paying them.’ Among the details that photographs do not capture is the carpet, whose highest priority in its specification was this property: it must look good but it must be possible for a person to vomit or bleed on this carpet and for the mess to be cleaned away easily, leaving no stain or smell, so that nobody - patient, visitor, nurse, cleaner - is humiliated by the event. In its own quiet way, this carpet meets the criteria of magic: it has done more than usually seems possible. This may seem a banal observation, verging on bathos, and yet it is Müller's personal practice of natural magic, the arrangement of life for maximum emotional and practical power.

Perhaps that carpet was a cerebral pleasure and a delight to me alone: I do not know if Anna Müller sees it in the same way. But to acknowledge that we are free to choose how to see is an approach that might help us all to take personal pleasure in living creatively, following Winnicott's hint, and enjoy our ability to move between 'seeing in this way' to 'seeing in that', to swing between the pragmatic and the profound and to see in different ways at the same time. In my case a taste for physics and for history, for literature and for anecdote have been helpful but each of us will have our own way. I am not a lonely pioneer in this, indeed I am supporting many of the practices that are already present within interior design scholarship, such as the thoughtful observation of the ways that the interior is represented through writing or drawing that comes from places outside the conventional sources, and

which reveal the inadequacy of architectural language or conventions alone to communicate the interior as a lived event. These ways of 'telling' what is happening are spatial entertainments also, fictions and truths simultaneously (though again, collecting them for study needs the habit of looking in places beyond design magazines). But I can already feel the opposite argument rising up inside me, scorning this namby-pamby Pollyanna approach. I reply to myself that I am not advocating that we should simply exhort ourselves to look on the bright side so that we no longer mind things so much, but that reality already offers all sorts of other ways of seeing to us, the audience, as we inhabit our moments and our spaces. Different habits of looking could encourage a richer vocabulary of experience, for just as the ear or the palate can be developed, so too can the other senses through which we understand or apprehend our surroundings. We can practice flexibility of sight and sensation to enrich the pleasure of seeing, thinking, reflecting; taking pleasure in paradoxes, even finding weaknesses or suggesting improvements. It is not that there is a single correct way, but that there could be so many more than the current vocabulary of spatial experience encourages us to discuss.

I do not intend to conclude with a manifesto about design education, for that would be the very thing that I am arguing against. To quote Winnicott again: 'We might not hold this view elsewhere and in another age.' For the moment, I only repeat that we may find the world more rewarding if we are offered, or acquire, the tools that help us to see one thing in terms of another and to notice fleeting connections between irreconcilable thoughts.

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