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The Wintergarden

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Abstract

(This paper is part of a larger body of research that has looked at ways in which spaces, places, and spatial experiences have been perceived as 'magical'. The word is used in its purely colloquial sense, with no supernatural connotations.)

Professional conjurors suggest that there are a limited number of basic 'feats' of entertainment magic, in which the things that happen appear to go beyond the boundaries of what is normally possible and are hence felt to be 'magical'. They emphasise that the magic happens in the mind of the audience, and that it works by playing on things that the audience feels to be significant, and worth attending to. In the paper I show how one particular spatial typology, 'the wintergarden', can be interpreted in many ways, and given my own interests, I have chosen to interpret it as an example of spatial magic. Behind spatial magic lies science, but also attention. 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. I look at the ways in which the wintergarden has been reconfigured over the years to match the aspirations of its period for spaces with somewhat magical properties that nevertheless sit within the reach of everyday life.

As a device through which to discuss this, various wintergardens are considered as spatial entertainments and examined in relation to the conjuror's 'feats'. By offering more than was normally possible, each of the wintergardens discussed in the paper reveals ideas or aspirations that had heightened significance for its audience - at that period. The examination of the wintergarden as a concept as well as a typology offers many spatial histories of waxing and waning prestige and glamour. The paper considers a range of wintergardens, from the 19th century to the present day, at their moment of glory - and suggests that the concept continues to be a powerful one which continues to find new forms.

Introduction

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 called up the imagery of fairy-tales of the nineteenth century sort, filled with mechanical nightingales, and gold and silver birds - while references to 'the dome of a fantastic mosque' carried a hint of exotic 'otherness'. It suggested 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 extensive use of costly plate glass in windows and mirrors could create illusive layered reflections. 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 other to create a dreamlike reality in which one could be both here and there, inside and out, in summer yet in winter.

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 nineteenth 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 nineteenth 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.²



Figure 1. The Winter Garden at Somerleyton
(From *The Illustrated London News*, January 10, 1857)

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 conceptual spatial sensations present themselves to the mind as compelling yet ephemeral ideas, rather than as places.

The wintergarden as a feat of magic

At times certain spatial typologies have taken on an allure that goes beyond mere functionality. The wintergarden, for example, 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 gently impossible concept rather than a building, and

one that is provocative to the spatial imagination, its different reconfigurations at different periods offer a history of changing concerns and desires. They show what was absent from the everyday world. As I will show, wintergardens have created many opportunities to move outside of everyday reality. (Capitalization and hyphenation of the words vary from source to source: there are wintergardens, winter gardens, winter-gardens and Winter Gardens. In this paper 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 wintergarden in its purely 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 a demonstration of 'natural magic', or 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 paper 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.³

Professional conjurors suggest that there are a limited number of basic 'feats' of performance magic.⁴ 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),⁵ 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 audience's 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 *orangerie* of eighteenth 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

nineteenth century cities, where it could not only serve scientific horticulture but also provide public recreation by sanctioning gentle exercise in an intemperate climate while pleurably 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 Case⁶, terrarium, or fern case on the windowsill of the Victorian parlour. In gigantic scale, its structural innovations created the archetype for the iron and glass structures that housed the 19th century's Great Exhibitions.

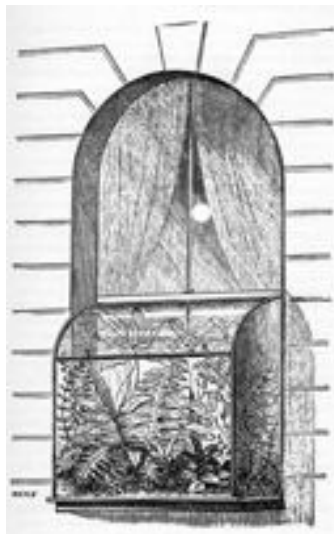


Figure 2. 'Ornamental Fern Case Outside Window'
(D.E. Allen, *The Victorian Fern Craze*, (London: Hutchinson, 1969))

The domestic wintergarden appears in late nineteenth 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.⁷

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 more readily associated with theatres and cinemas, or with shopping centres, than with horticulture. Dion 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. Many other theatres since have carried the same name - there have been three in New York, one in London, one in Toronto, and one in Brisbane.⁸ 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.⁹ However, the glass was installed in special sunrooms in many institutional spaces, such as schools and sanatoria, in the inter-war years¹⁰ (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 nineteenth and the twenty-first centuries. Whereas the demands for heating and lighting made many nineteenth century wintergardens vehicles

for the luxurious display of expenditure, by the twentieth 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 duplicity¹¹ but today in the twenty-first 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. 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 laboratory of the Eden Project in Cornwall, which claims to house the largest conservatory in the world.¹² The complex also contains an ice-skating rink.

Feat No. 2: Productions, or 'from not being to being'

Each of these incarnations could be explored from different viewpoints to reveal the forces that brought it into existence. Such exploration would illuminate the ways in which each incarnation reveals both a physical and a cerebral space: both the built outcome and the space to consider the thrilling web of people, technology, money, desire, influence, and interest that the thing manifests. 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 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 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'.¹³ This web fascinates me, as an historian of spatial magic, but there are many other lenses through which the wintergarden could be examined.

Consider, for example, the public Winter Gardens of the nineteenth century. An historian of technology could demonstrate that these were shaped by innovations in production methods and construction techniques in glass and cast iron;¹⁴ a political economist could point to the effect that lowering the tax on glass in 1845 had on its affordability and availability, which sweep the Winter Garden into an avalanche of other glass artefacts with subsequent repercussions on social histories and spatial practices (consider the spatial and social impact of the portable glass beer bottle in comparison to the earlier barrel and tankard); an architectural historian may (or may not) follow the lineage of twentieth century architecture back to the Winter Garden via the engineering innovations of the buildings that housed the nineteenth century's Great Exhibitions;¹⁵ 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;¹⁶ cultural historians and social scientists might relate public Winter Gardens to the 19th century's obsession with collection and classification, or to medicine's new belief in the benefits of sunlight on both health and morals, or to the expansion of leisure, or to a 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'¹⁷ 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 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 indiscriminating 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.¹⁸ 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'.¹⁹ 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 wintergarden (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-Élysées hardly deserved to be called a wintergarden since it was open in summer too, for Benjamin placed wintergardens among his nineteenth century 'dream houses of the collective'.²⁰

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.²¹ 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, 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 Sharpe²² places *rapid germination* among these 'primary feats of magic'. The magical production of living blooms was a feature in several nineteenth 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 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,²³ 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.²⁴

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.²⁵

Feat No: 5: Disappearances, or 'from being to not being'

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 Tinkerbell, they ceased to exist when no-one believed in them.

The *Art Journal* of 1872 cited an anonymous 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.'²⁶ 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',²⁷ which does sound rather prosaic in comparison.

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.



Figure 3. Giant Snow Globe²⁸, Fritton Lake, Somerleyton Estate - one of the attractions at the winterwonderland 2011.
(There is an extra charge for the photo-opportunity.)
www.frittonlakewinterwonderland.com

Endnotes

¹ W.G. Sebald, *The Rings of Saturn*, trans. Michael Hulse (New York: New Directions, 1998), 33-35.

² The catalogue is quoted by Arthur Hellyer, "Victorian Fantasy Simplified: Gardens of Somerleyton Hall Suffolk", *County Life*, 171, 4424 (1982), 1668-1672.

³ 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).

⁴ See for example Sam Sharpe, *Neomagic: The Art of the Conjuror* (London: G. Johnston, 1932), 41-45.

⁵ David Devant, *Magic made Easy* (London: Castell & Co. Ltd, 1909).

⁶ 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.

⁷ 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.

⁸ My thanks to an anonymous reviewer for pointing out that the Civic Theatre Complex (1929) in Auckland also contained a Wintergarden in its basement.

⁹ Ian Sutherland, "Growth Under Vita Glass", *Journal of Hygiene*, 32, 2, (1932).

¹⁰ John Sadar, "The Healthful Ambience of Vitaglass", *Architectural Research Quarterly*, 12, 3/4 (2008), 269-81.

¹¹ The dichotomies of the corporate atrium are discussed in Dan Graham, "Corporate Arcadias", *Artforum*, (December 1987), 68-74.

¹² www.eden-project.net (accessed December 2011).

¹³ Marx cited in Adrian Vaughan, *Samuel Morton Peto, a Victorian Entrepreneur* (Horsham Surrey: Ian Allen Publishing, 2009), 52.

¹⁴ See for example Michael Wigginton's opening chapter in *Glass in Architecture* (London: Phaidon Press, 1996).

¹⁵ A.G. Meyer in *Eisenbauten* (1907) claimed the greenhouse as 'the origin of all present day architecture in iron and glass', (cited in Walter Benjamin, *The Arcades Project*, trans. Howard Eiland and Kevin McLaughlin, (Cambridge, Mass.: Bellknapp Press, 1999), 158. Other historians disagree, e.g. J. Mordaunt Crook, *The Dilemma of Style: Architectural Ideas from the Picturesque to the Post-Modern* (Chicago: University of Chicago Press, 1987), 105.

¹⁶ See for example Vaughan, *Samuel Morton Peto, a Victorian Entrepreneur*, for details of the financial benefits that flowed to Sir Morton (builder, railway magnate, property developer and Member of Parliament) from his association with Paxton, the Great Exhibition and the subsequent relocation of the Crystal Palace.

¹⁷ Michael Sorkin, "See You in Disneyland", in Susan Feinstein, Scott Campbell, (eds.), *Readings in Urban Theory* (Cambridge, Mass.: Blackwell, 1996), 395.

¹⁸ Stewart Ewen, *All Consuming Images: The Politics of Style in Contemporary Culture* (New York: Basic Books, 1988), 164.

¹⁹ Margaret Smith, (ed.), *Selected Letters of Charlotte Brontë, Volume 2, 1848-1851* (Oxford: Oxford University Press, 2000). Charlotte Bronte visited the Exhibition five times in June 1851.

²⁰ Benjamin, *The Arcades Project*, 423; 405.

²¹ My thanks to Freya Robinson for pointing this out, and drawing my attention to the etymology of 'paradise', literally a 'walled enclosure'.

²² Sharpe, *Neomagic: The Art of the Conjuror*.

²³ Cited in Benjamin, *The Arcades Project*, 541.

²⁴ Wigginton, *Glass in Architecture*, 36.

²⁵ Wigginton, *Glass in Architecture*, 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.

²⁶ S.C.Hall, "The Stately Homes of England: Somerleyton", *The Art Journal*, (1872), 15.

²⁷ Hellyer, "Victorian Fantasy Simplified: Gardens of Somerleyton Hall Suffolk", 1668.

²⁸ Image of Fritton Lake Snow-Globe from www.frittonlakewinterwonderland.com (accessed December 2011).