The Architecture of Failure

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CONTENTS

Was aufgetürmt gen Himmel steht,
Und auch der Mensch, so hold vertraut
Mit all der Schönheit, die er schaut,
Entschwindet und vergeht.

Matthäus von Collin, 'Wehmut'

Introduction

It is a pernicious cliché that architecture is the most optimistic of cultural activities, but like all clichés it is not lacking in truth. It takes a massive commitment to build something, an investment in the future that requires hope and more than a little faith that one's effort is worthwhile. Architecture is a symbol of growth, of longevity and of immortality. Architecture is monuments and memorials; it gives those who build a foothold in the future. Poets, brooders and melancholics do not build; they ponder, staring at fragments. The Saturnine disposition is not one that is suited to the erection of edifices.

But architecture is also the medium of the ruin. Architecture collapses, erodes and decays. It is overwhelmed by nature and the names inscribed into its surfaces become worn away until they are illegible. It is a symbol of the transience of all things. The ruin is the melancholic counterpart to the heavenward reaching of architecture, but at the same time this is often a comforting melancholy, a pleasantly sublime disappearance. We visit ruins rather than living in them, we stabilise our ruins to stop them from decaying too much; they become monuments in themselves.

We are, at the current time, experiencing a new period of *ruinenlust*. But the subject of this passion for ruins is modernism; many of the 20th century's experiments in changing the patterns of politics, aesthetics and life still exist; ever more poignant due to the faded urgency of their expressions of tomorrow. The ruins of modernism are the subject of an ever increasing amount of art and literature, figuring heavily in the work of contemporary artists such as Jane and Louise Wilson, Cyprien Galliard, Tacita Dean, or Jeremy Millar. Shot through with a melancholy which is more antagonistic than that of say, Caspar David Friedrich, the ruins of modernism are fragments of the drive towards a better

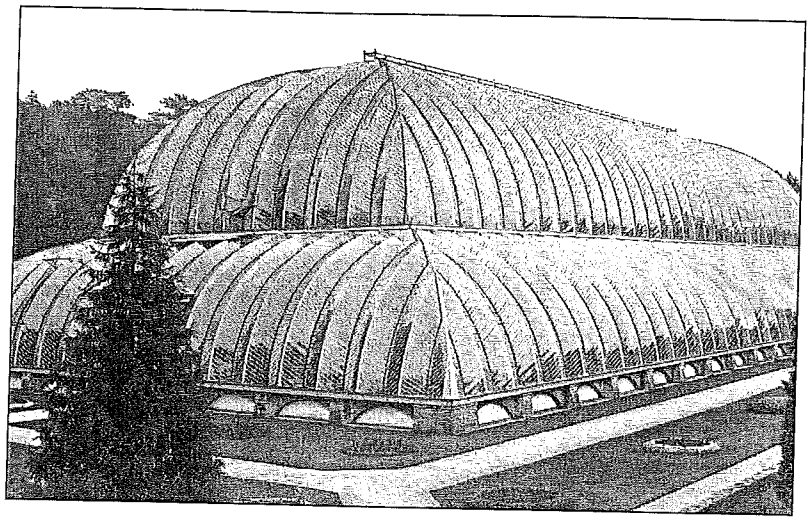
world that did not come to pass. As opposed to the romantic ruin, which was a mapping of the future of our present through the figure of the past *(what you are we once were, what we are you soon will be)*, the modern ruin is the discovery of a lack in the present - a lack corresponding to a potential future that only existed in the past.

In one way this book is a contribution to this literature. But unlike most current ruin culture, which takes as its subject the monumental concrete architecture of the social democratic period after World War II, the subjects of this work are the earliest examples of capitalist modernity in architecture: the exhibition palaces of the late 19th century. Much loved but also much misunderstood, these behemoths of iron & glass are forerunners of nearly all the experiments that would come later in the name of modernism. Built in a rush of optimism, we will see that they were mostly pathetic failures. Designed by the most stringently rational minds, they were also confusing, contradictory, obscure and fragmented spaces. They presented compelling images of a better future but also the ruthless harshness of modernity; they were massive buildings that looked so fragile that they might simply blow away at any moment. These contradictions at the very origins of modernism are a powerful counter to a view of architecture as a profoundly positive activity. Furthermore, these ancestors of modernism present a challenge to the narrative of the ruin. Their transience, their fragility and weakness were all qualities that were already present in the buildings from the very beginning; rather than leaving behind a distressed mass of concrete, they have tended to disappear without trace, leaving nothing behind but ephemera. We will see that these buildings were both already ruined, but also never able to become ruins, and we will assess how this self-contradictory condition affects our understanding of architecture as monument and memory. It will be argued that the strange fragility and lack of monumentality of the iron & glass palaces is a quality that contributed to,

even encouraged, their failure, and we will examine the implications this realisation might have for architectural culture.

In light of the new lessons learned in our historical study of these architectural failures we will also examine a number of movements supposedly carrying on the technological tradition of modernism, using the new insights to critique supposedly radical streams of contemporary architecture. The analysis of the iron & glass buildings and their failure will show that far from a continuous legacy of radical modernism, the problems of architecture and its relationship to culture and technology that they posed are still unresolved today; in fact, it will be argued that we are as far away from a revolutionary architecture now as we were at the time the iron & glass buildings emerged.

Iron & Glass



The Great Conservatory at Chatsworth House,
Joseph Paxton & Decimus Burton, 1841

Of all cultural forms, architectural modernism was perhaps the modernism most directly influenced by specific technological developments. Unlike literature, whose technologies of creation and dissemination remained more or less same from the 19th to the 20th centuries, or music, whose late 19th century development in recording technology – phonography – would be embraced most quickly in the field of popular music, modernism in architecture can effectively be traced back to two events – the development of mass-produced cast iron & plate glass. And again, unlike in literature and music, whose modernisms worked primarily with form and technique, architectural modernism became an ideology in which the industrial would play a most important role. One way to understand this condition is that it is due to the fact that of all cultural forms, architecture is the one that requires the largest amounts of capital to produce; not only

the huge masses of material that must be assembled, but also the huge amounts of labour that go into the erection of buildings. If we (not unproblematically) think of architecture as an art form, then it is the art form that is still most directly tied to its patrons, with all the ideological problems that entails. With this in mind, it is understandable that the effects of 19th century technological advances, the new materials and new methods of fabrication, as well as other factors such as rapid urbanisation, and changing political and economic cultures would be felt more deeply in the discipline of architecture than in any other cultural form; and also why modernism in architecture would have such a close and complex relationship to technological advancement.

Although modernist architecture is generally considered to originate in the early 20th century, histories generally point towards the earliest origins of modernism as being the iron & glass revolution in the 19th century; what would later become modernist shibboleths such as honesty in construction, truth to materials, the stripping back of decoration and a commitment to mass-manufacturing and pre-fabrication were all presaged in the engineering achievements of the 19th century, and the 'engineer-geniuses' of the time, such as Gustave Eiffel and Isambard Kingdom Brunel, are better publicly remembered than any architects of their time. Against the historicism of the bourgeois academy, and in contrast to aestheticians merely horrified by the effects of industrialisation (such as A.N.W. Pugin), some 19th century theorists such as Eugene Violet-le-Duc saw in raw engineering a more honest, more rational expression of the problems of a rapidly changing society. The conventional reading of the iron & glass building phenomenon is that it allowed a new architectural method to develop: while it was ignored by the prevailing 'academic' minds, who thought of the structures as 'mere' engineering, the increasing complexity and demands of building typologies led to iron & glass being the medium in which a new kind of space emerged; thus concep-

tually suturing the form to notions of progress. This conceptual symbiosis led to the materials and their methods of application becoming symbolic of their age.

Iron & glass buildings first started to be built soon before the start of the 19th century, mostly by gardeners rather than architects or engineers. These mainly consisted of lean-to roofs, functioning as *orangeries* for private residences. Constructed of sash bars and supported against masonry walls, these were simple structures, considered entirely as vignettes within the sequence of rooms and spaces of the houses to which they were attached.[1] Up until the middle of the century ferro-vitreous architectural technology developed with the construction of larger and larger winter gardens and greenhouses, and the working out of problems such as vaulted iron roofs or the construction of bridges. When cast-iron technology first emerged it was trapped in the patterns of stone and wood; the Iron Bridge (1781-) in Shropshire is an almost direct translation of timber construction into the new material.

There are two main families of ferro-vitreous building – those of a 'mixed' construction, in which an iron & glass roof structure was constructed within a standard masonry building, and those which we might call 'pure' construction, where apart from the foundations, the building has no masonry aspect. It should be acknowledged that there were varying degrees between these two positions; structurally there is no such thing as a 'pure' iron & glass building, the distinction is an aesthetic one. 'Pure' construction reveals the iron & glass, 'mixed' construction conceals it from the exterior view. As well as this aesthetic distinction, there are, basically speaking, five different types of ferro-vitreous architecture: railway stations, arcades, department stores, winter gardens, and exhibition palaces. All of these are typologies whose construction only became possible with the introduction of iron & glass; they all represent genuinely *new* forms of space, forms that are all linked by their *transience*.[2]

The grand *railway stations* were mostly built during the craze of speculative railway building that occurred in the latter half of the 19th century, and are perhaps the most commonly surviving of all the ferro-vitreous buildings. The railway boom is perhaps the technological advance that most changed the way 19th century space was experienced; it brought to the world unprecedented velocity, distance and size. The extruded railway sheds were among the most impressive examples of engineering of their time, but were without exception hidden behind a building constructed in an acceptable architectural mode. They represented solutions to new problems that could not be solved within the constraints of an academic architectural style, but it was considered inappropriate for them to exist on their own, especially within an urban context. Those contemporary critics not immediately repulsed by industrial architecture spoke of the success with which the 'Architecture' of the building expressed or resolved the 'Engineering' part, regarding the tension between the quantifiable and the ineffable.[3] But these were not equally weighted terms; by separating the two registers of meaning in the building, efforts were made to protect the *knowledge* of the architect – as the engineer had nothing to do but solve the problem as it was presented to them, their 'solution' could never be Architecture, which had the more difficult task of *expressing* what it did; of communicating its purpose by making a statement within an already established language, to which access was restricted. This insoluble tension between the ideal polarities of function and communication, and the way in which professional anxieties are drawn within it is something we shall return to again in this study.

Arcades were even more concealed than the railway stations. Basic roofs covering small shopping streets, these were amongst the earliest ferro-vitreous structures built, and were common in the cities of Old-Europe. At first spaces inhabited by the early bourgeoisie, they would often later become the haunts of prosti-

tutes and vagabonds. Although in many cities they are entirely lost, there are still places in which the more salubrious of the arcades have survived; usually when they were of larger or grander scale, for example the Galleria Vittorio Emanuele II (1867-) in Milan or the arcades of Leeds. In Walter Benjamin's work *The Arcades Project*, the arcades are lenses through which the birth of modern capitalist culture is examined. Arcades were the perfect haunts of the *flâneur*, that transient wanderer of the city whose disinterested gaze foresaw the passive modern consumer. For Benjamin, the arcades are manifestations of the *phantasmagorias* of modernity, neither interior nor exterior spaces. The arcades may have been the original spaces in which the exchange value of the commodity came to prominence, but for Benjamin they also are the locus of fragments of latent potential; a utopian spark which he often identifies as residing in the germinal iron construction of their roofs.[4] Benjamin was writing in the context of the disappearance of most of the Paris arcades; he was making the case for a radical reappraisal of what even in the 1930s was a lost culture; indeed, those arcades that still exist are imbued with a sense of being adrift out of time, dwarfed by the spaces and cultures that they inaugurated.

The *department stores* were the grand offspring of the arcades; products of a blossoming bourgeoisie and the culture of conspicuous consumption that they cultivated, this peculiar typology resulted in buildings of effectively open-plan 'free' space filled with independent commercial units, held behind massive facades that gave off an impression of an often-gaudy grandeur. The contradiction between the aspirations of consumption and the methods by which it could be achieved resulted in buildings such as *le Bon Marché* in Paris (1867-), often acknowledged as the first of the type. This particular architectural technique would later develop into the office building with a cast-iron frame, which further tended towards the proto-skyscrapers of Louis Sullivan and others in the US. In many ways

arcades and department stores continue to be built; of all the iron & glass buildings their influence is most easily discerned in the axial arrangements and roof-lit avenues of the ubiquitous shopping malls; a steroidal typology, prone to gigantism. Although much maligned by lovers of the small shop and also those who find consumerist homogeneity depressing, it has to be admitted that they are also extremely popular spaces, as long as we understand popular to mean frequently constructed and often visited.

Winter gardens were massive greenhouses, built at first in the grounds of country estates, but later constructed in parks as public works. These were the first examples of a ferro-vitreous architecture that was not reliant on substantial masonry structures or conventional architecture as support or mask; this nakedness was 'permissible' partly because architects were rarely involved in their design, but also because the structures were constructed out of the way from other buildings; in a large garden setting there was no real architectural ensemble to be a part of, in fact, the dominant ensemble was the 'nature' within and the 'nature' without. The winter gardens were museums of nature; within their glass walls the arboreal products of the world were arranged, catalogued and preserved – plants were collected from around the world in much the same way as cultural artefacts.[5] A great number of these structures were built in the second half of the 19th century, and a number of outstanding examples survive, such as at Kew, Vienna, or Brussels. Although these spaces are among the only ways one can now truly appreciate the fantastic qualities of iron & glass architecture, the vast majority of winter gardens of the 19th century are long gone, victims of neglect and short-sighted demolition:

> Whereas stylistic architecture recapitulated history, the builders of the glasshouses had to conceive designs for

> contents that were ephemeral – plants or exhibitions. The trend toward the temporary was inherent in the plant houses and the exhibition buildings, and it expressed itself in the construction. Not suitable for industry and serving only for exhibitions or recreation, many of the glasshouses were left to decay, unappreciated, in less than a decade.[6]

But by far the most bizarre and fantastic of the ferro-vitreous proto-modernist structures have to be the *Exhibition Palaces*. Beginning with the virtually unprecedented Crystal Palace (1851), designed by Joseph Paxton for the Great Exhibition in London, a strange, ambitious, deliriously optimistic and naively short-sighted typology was born. Over the next fifty years these would create some of the most incredible moments in architectural history, yet almost all now exist only as archive material. The Great Exhibition itself is thought of as the event that marked the birth of modern consumer-capitalist culture, with its effect of 'putting the world on display'; and it sparked a copycat series of exhibitions around the world, such as the 1889 Paris Exhibition or the 1893 Columbian Exhibition in Chicago, to name but two.

Why have they disappeared? Of all the buildings built for the 19th century world's fairs, only the Eiffel Tower (1889-) is significantly standing. Almost all of the exhibition buildings themselves are gone, leaving nothing but ephemera, photographs and place names. Admittedly, they were often designed as temporary structures, but in a large number of cases after the exhibitions had run there were vigorous attempts made to make the buildings permanent, often in the guise of 'Palaces for the People'. In these cases, it was mostly fire or financial ruin that eventually claimed them.

In the following sections I will discuss three examples of the ferro-vitreous glass palaces. Firstly the original Crystal Palace at Hyde Park (1851), will be discussed both in terms of its conventional architectural significance and its related but generally

scholarly distinct cultural significance. The rebuilt Crystal Palace at Sydenham (1854-1936), which is rarely properly separated out historically from the Hyde Park building, will be discussed in terms of its fantastic architecture and its overall failure, while the almost completely unremembered Albert Palace (1885-92) will be discussed with regard to its melancholic life and death and its relationship to architectural memory.

The Crystal Palace at Hyde Park

Joseph Paxton's ferro-vitreous edifice for the *Great Exhibition of the Works of Industry of all Nations* is undoubtedly the most famous of all of the 19th century exhibition palaces. Pejoratively nicknamed the 'Crystal Palace' before it was even built, it swiftly became the subject of great affection and adulation, and is now widely regarded as a masterpiece of architectural design.[7] Unlike some other events featured in this book, the Great Exhibition generated a vast body of written and graphic material, a very large amount of which still exists. In recent years it has generated much discussion as well, a great many articles and books being published on it. This production has peaked at anniversaries, especially those at which exhibitions paying explicit homage were held (1951, 2000). Despite this wealth of material, the memory of the Crystal Palace is somewhat diffuse, scattered into myriad different narratives and positions, which broadly speaking we can describe as falling within the space between three extreme positions.

The first of these is the popular/populist view, which sees the Great Exhibition as the source of great pride, a flourishing of Victorian genius and technological prowess, the birth of liberal modernity. This view is of course most commonly held in the UK itself, where there is still great popular nostalgia for the period when Britain was a world power, and when it led the world in technological development and the liberality of its capitalist culture. Needless to say, this attitude to the exhibition is most often held by conservatives who do not blanche at making appeals to the greatness of empires and all that went with them. This view is a naïve one; it takes the pronouncements of those involved in the creation of the exhibition, such as Prince Albert, at face value, without delving any further.

The second attitude is the scholarly view: the last twenty years

have seen the emergence of a revisionist narrative of the history of the Great Exhibition which has drawn out and focused upon various other narratives to the official, laudatory one, most obviously the stories and responses of those foreigners, women and workers who attended, but also drawing out the multifarious attitudes towards the exhibition from within the upper classes at whom its rhetoric was mostly aimed. This scholarly attitude stresses the heterogeneity of cultural meanings that the exhibition generated, emphasizing its conflicting and contradictory nature, breaking up, at least at the academic level, the dominant narrative that existed previously.

The third attitude can be described as the technological, or architectural attitude, which sees the Crystal Palace from a distance, viewed through the lens of later developments in the culture of architecture and building. Generally lacking anything more than cursory cultural observations, the technological view of the Crystal Palace is as a masterful solution; the first building to truly make genuine use of the mass-production technologies newly available at the time, a presaging of future methods of spatial production and a testament to the mindset of the problem-solving designer.

It would be impossible here to offer up a comprehensive new mix of these ways of looking at the Great Exhibition, which would be a far larger project than the one undertaken here, but at the same time with regard to what follows I cannot proceed without at least providing some brief analysis of the event. In that case the following will attempt to contrast the scholarly and architectural approaches, which often have existed in almost complete isolation from each other.

Industrial exhibitions of one kind or another had been held for at least half a century before 1851.[8] However, as the Great Exhibition would be the first that was international in any sense, and as it would also be an event on a scale that dwarfed any previous exhibition, then it is not unreasonable to think of it in

terms of a 'first of its kind'. Moreover, it set in motion a massive cultural movement; the Great Exhibition is often said to be the birth of modern capitalist culture, both in terms of the promotion of ideologies of free trade and competitive display but also in the new ways in which objects were consumed, and how they were seen. Benjamin refers to how the exhibitions were 'training schools in which the masses, barred from consuming, learned empathy with exchange value',[9] while more recently Peter Sloterdijk would write that with the Great Exhibition, 'a new aesthetic of immersion began its triumphal procession through modernity'.[10] The financial success of the Great Exhibition was swiftly emulated: both New York and Paris would hold their own exhibitions within the next five years, and there would be a great many others held throughout the century all over the world. As time went on, the event would slowly metamorphose into what is now known as the 'Expo', a strange shadow counterpart to the events of so long ago, but one that still occurs, albeit fitfully, and with a strange, undead quality to it. By the time the first half-century of exhibitions was over the crystalline behemoths of the early exhibitions had been replaced by the 'pavilion' format, whereby countries, firms and even movements would construct miniature ideological edifices to their own projected self identities. The 1900 Paris exhibition was the first to truly embrace this format, and in future years one could encounter such seminal works of architecture such as Melnikov's Soviet Pavilion and Le Corbusier's Pavilion Esprit Nouveau (Paris 1925), Mies van der Rohe's Barcelona Pavilion (Barcelona 1929), Le Corbusier & Iannis Xenakis' Phillips Pavilion (Brussels 1958), or witness the desperately tragic face-off between Albert Speer and Boris Iofan (Paris 1937). Much later, important buildings by Buckminster Fuller and Moshe Safdie (Montreal 1967) would occasionally be created, but generally the trend has been for the Expo to decline in significance as both a trade fair and ideological display as the years have progressed. However, 2010 saw an Expo held in

Shanghai, China. This was technically the largest ever, presumably as governments are looking to stimulate trade relationships with newly-powerful China, but overall it wasa rather confused expression of the eclecticism of contemporary architecture.

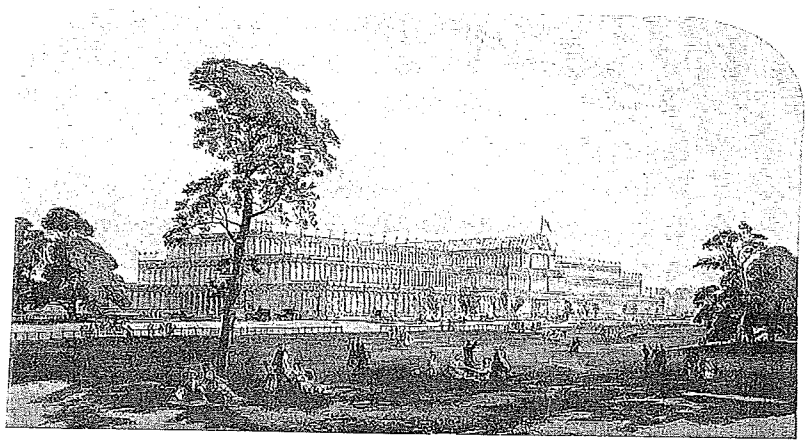
The Crystal Palace was commissioned in 1849 as part of the plans for an international exhibition of arts and manufactures dreamt up by Albert, the Prince Consort, and Henry Cole, the head of the Royal Society for the Encouragement of Arts, Manufactures and Commerce. In the words of Prince Albert:

> The Exhibition of 1851 is to give us a true test and a living picture of the point of development at which the whole of mankind has arrived [...] and a new starting point from which all nations will be able to direct their future exertions.[11]

In the exhibition was to be the largest collection of objects yet assembled; from the largest to the smallest, from raw materials to traditional crafts, to industrial machinery and sculpture. It was to be a gigantic display cabinet in which the world would examine itself in the spirit of mutual development and brotherly competition, but it was also to be a gloating display of the leading position that the UK had attained in terms of industrial development.

The story of how the building came about is almost legendary; a competition was held to which there were almost 250 entries, none of which could fulfil the needs of the Exhibition Committee who required a building of vast scale which was also cheap, temporary, and light on the ground. The committee themselves (including I.K. Brunel) then drew up a rather hapless design of masonry, iron & glass, which was essentially no better. Enter Joseph Paxton, who as head gardener at the stately home Chatsworth House had already created one of the largest ferro-vitreous structures yet built. He prepared his own concept for

the building on a single piece of blotting paper, which he showed to the committee to little effect: they were reportedly somewhat unconvinced by his proposal, or at least unconvinced in his ability to achieve it. After this setback he made the very astute political move of publishing his own proposal in a press already ill-disposed to the design of the committee (due to its apparent permanence in the context of much loved Hyde Park). By aligning himself with popular opinion (and also by offering the only proposal that came within the budget), he secured the commission, and was involved with the project all the way through from the beginning to the final stages.



The Crystal Palace in Hyde Park, Joseph Paxton,1851

The rest is of the story is well documented. The Crystal Palace was erected in a matter of four months, stood proudly for six months, during which time over six million people passed through its doors to look at more than one-hundred-thousand exhibits from almost fifteen-thousand separate exhibitors, ranging from fully functioning industrial machinery to raw materials, from a knife with over one hundred blades to the Koh-I-Noor diamond itself, and including a seemingly limitless amount of furniture, products and objects. The experience was

overwhelming: 'It was like – like nothing but itself, unsurpassable, indescribable, unique, amazing, real!' (*Tallis' History and Description of the Crystal Palace*). It would seem to be difficult to overestimate its significance; a famous illustration by George Cruikshank shows *All the World Going to the Great Exhibition,* the planet covered in people swarming towards the Crystal Palace, which sits upon the globe like a crown – in many ways the Great Exhibition was the first time that a single event had conceptually incorporated the *entire world.*

The form that most dominated the Crystal Palace as an architectural composition was the vaulted transept at the centre, which is now the most iconically reproduced image of the palace. This vault, with its delicate fan details has become the general signifier of 'Crystal Palace'-ness, the logo of the building, if you will. The form of Paxton's design was not, as might be assumed, originally based upon his famous Great Conservatory at Chatsworth (1836-1920), with its double sprung roof and vaulted arrangement. He had also designed a 'roof and furrow' system for a greenhouse built to hold a *Victoria Regia* lily, from the ribbed leaves of which he (in an oft-repeated anecdote) apparently drew structural inspiration. This greenhouse was relatively small, box-like and supported on columns; Paxton's original design for the Crystal Palace was born of a module he devised from this previous structure, constrained to the largest panes of glass that could be built at that time. Out of this module he devised a structural grid of cast iron columns 24ft apart that was repeated in three dimensions (the columns were also 24ft high). He then extruded the grid out to a size that would accommodate all of the required space, while also having it as close to the symbolic length of 1851ft as possible. And that was that.

The simplicity of the design is of course remarkable, the product of the most unpretentious thinking, focused upon a single task at hand. There was a problem; nobody had yet managed to solve it, and Paxton stepped in as the only man who

could do the job. It's doubtful that anybody has solved a brief that heroically since, and in many ways his story is paradigmatic of the no-nonsense Victorian self-made genius, a character that is as popular now as it ever has been. What he created, perhaps due to his 'outsider' status as neither an architect nor an engineer, was a design that at the time would not have been recognised as architectural at all; as previously mentioned, the architectural 'academy' made a strong and somewhat aggressive distinction between architecture and engineering. Although it's true that the theoretical systems of architecture at the time were unable to accommodate such unprecedented design, it's difficult not to see this distinction as a desperate one, born of the realisation that industrialisation had arrived, and not only was not going away but was actually accelerating. The resulting protectionism of knowledge, exemplified by the denigration of design that proceeded without initiation into the 'styles' is one born of fear; a patently absurd barrier, leading to logical contortions whereby the most efficiently engineered shed expresses its 'shed-ness' less well than an architect's ornamented, aestheticised offering, which is capable of a deeper, more meaningful portrayal of an ideal of 'efficiency'. Put simply – when threatened, it is more important to signify than to be.

The Crystal Palace building itself became deeply iconic, which is strange considering that the design was so minimal, being almost nothing more than a large glass cabinet in which the objects and people inside were displayed. People had never experienced a building of such transparency and immateriality before, indeed, this transparency was frequently overwhelming. One might perhaps expect that it would be difficult for something famous for its very lack of visual presence to become a visual icon, but there is perhaps a reason for this. Part of the public opposition to the competition designs was based on the location of the building in Hyde Park; many were aghast at the idea of a heavy structure on the land at all, and in this way

Paxton's light and obviously temporary design pleased them. But their opposition went further – there were a number of mature elm trees on the site, and public pressure forced the committee to demand of Paxton changes to the design that would allow the trees to be retained. It was at this point that the famous transept was added to the design, thus giving the building not only an iconic exterior form that would be memorable long after its physical absence, but also the picturesque image of majestic trees contained within a vault – an architectural form with explicit historical resonances. Here a speculation is appropriate: to what extent does the memory of the Crystal Palace rely upon it having such a 'composition'? Kenneth Frampton outlines the memory of the Crystal Palace from the technological perspective when he writes that 'The Crystal Palace was not so much a particular form as it was a building process made manifest as a total system, from its initial conception, fabrication and trans-shipment, to its final erection and dismantling'.[12] But it was also the particular form of the transept roof, as documented in postcards, drawings and photographs that made the palace memorable at all – contemporary commentators noted that the transept did much to bring the palace to the level of 'Architecture' – compare Frampton's reading to the more contemporary view of Fergusson:

> As first proposed, the Hyde Park Crystal Palace, though an admirable piece of Civil Engineering, had no claim to be considered as an architectural design. Use, and use only, pervaded every arrangement, and it was not ornamented to such an extent as to elevate it into the class of Fine Arts. The subsequent introduction of the arched transept with the consequent arrangements at each end and on each side, did much to bring it within that category.[13]

If the palace had actually been as featureless as the original

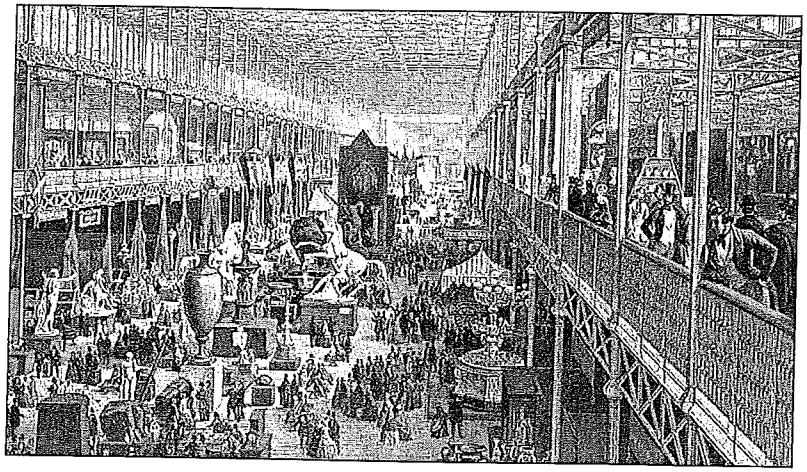
design suggested, if it was as obviously and simply nothing more than a 'system', as the original drawings showed, as the later Glass Palace at Munich (1853-1931) would tend towards, then what effect would it have had? It's impossible to say, although perhaps it would have been a less memorable icon, and a more 'truthful' influence on rationalist architecture in years to come. What is definitely clear however is that even at this early stage of proto-functionalism, there are always questions of the aesthetic, the memorable or the communicative at work. In much the same way that academic architects were dealing in ideals of architectural meaning, the technological reading of the Crystal Palace is also positing an ideal picture of totally non-aesthetic functioning. Architecture cannot help but be significant.

In this study we will be often focusing on the relationship of the architecture discussed to its mediation; architecture's complex conceptual ties to memory will be seen to be problematic when conditions of ephemerality are involved. If I may be permitted to introduce theoretical terminology, I will use the word 'spectrality'[14] to describe the inconsistent presence of objects and their mediated being. Jacques Derrida once argued that "the structure of the archive is spectral", meaning that the marks we make are inextricably bound up with a logic of ghosts, that representation is in itself haunted, as in the ghostly trace of human presence, but also that our own haunted finitude is made clear in the making of the mark. In short, our history is the history of our own haunting. Derrida - as a thinker of the archive or of the 'body of knowledge' - argued that the ghost was a more appropriate figure for our being than any fully present human subject: instead of ontology, he proposed a *hauntology*. But this was not an entirely abstract or poetic observation; it describes a concrete condition. We can expand upon Derrida's statement thus: all media, in some way, are spectral. All marks made create a fragmented image of the human who inscribes them. Almost every medium of communication or transmission – from writing

to telephony to television and beyond – proliferates spectral images that create fragments out of single identities. Although architecture is usually seen as the epitome of solidity, and indeed draws much of its power from its potential to long outlast its builders, we will return time and again to ways in which architecture itself is spectral. In the case of the Crystal Palace, this spectrality was partly manifested by the fact that it was constructed almost entirely from glass, a material not only transparent, but one that multiplies and fragments images. Contemporary accounts focused on the strange and unsettling experience of being within such an immaterial space: 'Glass could stand in for the invisible nature of mediation in complex, "modern," nineteenth-century experience: [...] Glass's unreadability, insistently spectral, insistently material, pressed upon the cultural imaginary'.[15]

Beyond this there is another level of spectrality; the fact that the Crystal Palace was quickly and cleanly removed from its site leaving nothing but its buried foundations means that we only experience the building in its mediated form; it is preserved but at a distance, as fragments. It actually plays a significant historical role in this regard; inside the Great Exhibition was one of the very first exhibitions of photography, and the Crystal Palace itself was photographed extensively in a way that was unprecedented; architectural photography effectively begins here. The rapid disappearance of the Crystal Palace emphasized its success; it existed only in its glorious prime; something that cannot be said for its later incarnation. As an ephemeral object (albeit on a massive scale), it was saved the ignominy of struggling to be a success for more than a few months.

The Crystal Palace was the first (and one of the only) financial successes of the world exhibitions. At first they were run as genuinely commercial concerns, but by the beginning of the 20th century their trade and propaganda value began to be its own reward, with the hosts and participants all taking part for a loss.



The Great Exhibition in the Crystal Palace

The Great Exhibition specifically, and the world exhibitions in general were rhetorically structured around themes of brotherhood and progress. Brotherhood, as all the peoples of the world would supposedly be drawn closer by the spirit of collaboration, display and free trade that was embodied by exhibitions, and progress, as the plenitude of comparative displays were supposed to testify to the bright future that the onward march of technology was bringing forth. Prince Albert spoke of '...a period of most wonderful transition, which tends rapidly to accomplish that great end, to which, indeed, all history points – the realization of the unity of mankind'.[16] Although in the case of the Great Exhibition, the fact that Great Britain occupied by far the largest space was intended to stress that said brotherhood did not necessarily mean equality. In fact, the Great Exhibition was a massive and somewhat histrionic display of Britain's 'greatness'; it was 'the self-authored portrait of a self-universalizing people'.[17] with professions of peace juxtaposed with displays of weaponry; talk of brotherhood alongside celebrations of imperial exploitation.

But at the same time, where there is self-aggrandisement, fear

and doubt is never far away – the Great Exhibition being held in 1851 cannot help but bring forth images of revolutions and insurgency. The Great Exhibition was being organized and formulated in the wake of the failed European revolutions of 1848, and in the UK, the Chartists and the Anti-Corn Law movement threatened to unleash the same turmoil on British soil. In this context the Great Exhibition has been understood as a 'counter-revolutionary measure',[18] as a symbolic plaster over open social wounds, but it was also moving in the direction of economic and political liberalization; 'it offered the tantalizing prospect of implicitly supporting free trade but distracting the public from revolution'.[19] It was a path between a volatile working class and a protectionist aristocracy. It is well documented that before the exhibition there were all kinds of worries – of assassinations, of terrorism, of petty violence, of disease, of infrastructural collapse, but it is equally well documented that the exhibition passed without any violence or even significant disruption; the hordes of anarchists failed to materialize.

Overall, the Crystal Palace was certainly one of the most significant early moments of modern capitalism – indeed, it is widely described as *the* moment in which modern (or even *postmodern)* capitalist culture was born, the point at which the gaze of capitalism first turned back upon itself and the symbolic value of the products that it was consuming; the very beginnings of 'the spectacle'. It is naïve for the Crystal Palace to be understood merely as the first example of the deployment of large-scale prefabrication in architecture: it is important that all of the contradictory issues that relate to it are understood to be as much *architectural* issues as any other kind.

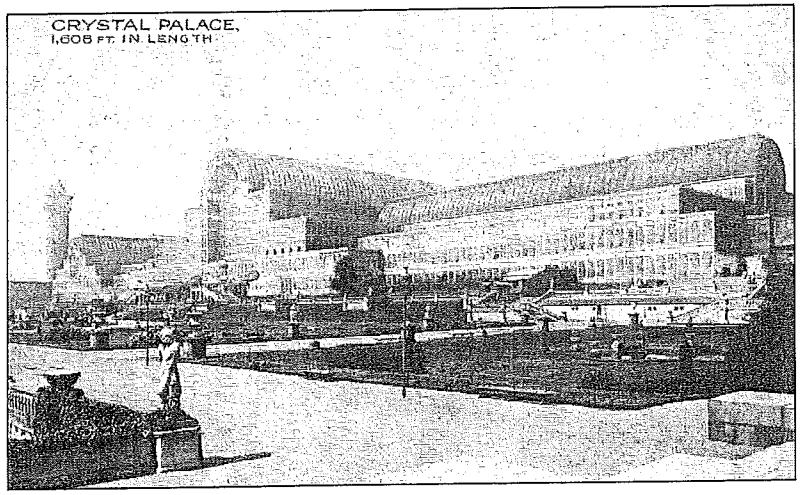
The Crystal Palace at Sydenham

One of the things most often misunderstood about the Crystal Palace is that there were two different incarnations of the building, and that the two buildings were very different in terms of form, setting, purpose, reception and achievement. The two palaces are often conflated as one single cultural event, and yet their residues of meaning are incredibly different. In the following section I intend to properly introduce the Sydenham Crystal Palace, and describe some of the strange architectural and cultural effects of the ill-fated ferro-vitreous edifice. We have already seen that despite the incredible successes of the Great Exhibition it was the scene of much doubt, but in the Sydenham Palace we will see a fantasy architecture, significantly removed from the proto-functionalism of its predecessor, and a number of fragments of a modern architectural melancholy.

Before the Great Exhibition had even shut its gates there were public discussions ongoing about what fate would befall the building. There was absolutely no question of the building being retained upon the land on which it stood, but opinion was split as to what its fate should be. There were those who felt that as the Exhibition had been such a resounding success, it would be a terrible shame not to retain the building and have some permanent reminder of the wonders of the exhibition, as well as a permanent facility for the health and edification of the public. On the other hand, in a view reminiscent of the attitudes of later radicals like Cedric Price, it was argued that as the palace had been a mere functional artefact, a massive display cabinet, there would be no point keeping it once its purpose was served.[20] A number of strange proposals were made, displayed and discussed through the popular and the architectural press. These included the preposterous notion of stacking up the cubic iron modules to create a 'Crystal Tower' 1000ft high,[21] or rather

audacious proposals to massively extend the palace right where it stood in Hyde Park. Owen Jones proposed the re-use of the material from the palace to create a 'Palace of the People' on Muswell Hill in North London (later the home of the Alexandra Palace, which was actually built with the remains of the much ignored 1862 International Exhibition).[22] This would have been built atop a new railway station, and would have been heavily oriented towards commerce – a transit hub/shopping centre configuration that would have effectively been the paradigm for many an inner-city development in future. Prince Albert himself suggested that the Crystal Palace be rebuilt on the recently laid-out Battersea Park to be used as a winter garden, an idea to which we shall return.[23]

In the end, however, it was Joseph Paxton who again managed to set the future of the palace. Towards the end of the exhibition he became a director of the Crystal Palace Company which had been formed with the sole purpose of re-building the Crystal Palace as the centrepiece of a large formal garden on Sydenham Hill to the south of London. Through the sale of shares they swiftly managed to raise the £500,000 required, and



The Crystal Palace at Sydenham, Joseph Paxton,1854

so the palace was Paxton's again, being taken down, transported, re-erected and open to the public again by 1854.

At this point it is worth analysing the physical differences between the two palaces. As we have seen, the Hyde Park Palace was a remarkably clear solution to a problem that was mostly defined by cost and time – the budget was low, the schedule tight, and none of the other designs were plausible in the context. But that is not to say that its brilliant simplicity was even something that Paxton was particularly proud of – while making the case for his Sydenham proposal, he denigrated the original Exhibition building as 'the simplest, the merest mechanical building that could be made'.[24] This lack of confidence in what would later be thought of as the building's purity was more than made evident by the building that was eventually designed. Where the Hyde Park Palace was mostly a shed, enlivened by a single large transept, the new palace at Sydenham had vaults that ran the entire length of the nave, with a transept of equal height at each end of the building, and a new, extra large transept in the middle. The new building was, contrary to popular misconception, both shorter (1848/1608 ft.) and slimmer (408/312 ft.) than the Great Exhibition building, but it was substantially loftier (up to six storeys compared to two for the Hyde Park Palace);[25] thus appearing much larger, and its arrangement was far more 'composed', far more 'architectural'. At the time this was considered a great improvement, as described by Fergusson:

> As re-erected at Sydenham, the building has far greater claims to rank among the important architectural objects of the world. [...] Nothing can well be better, or better subordinated, than the great and two minor transepts joined together by the circular roofs of the naves, and the whole arrangement is such as to produce the most pleasing effects both internally and externally.[26]

However, to contemporary eyes it tends to look like somewhat of a retreat, a shrinking back from a premonition of systems to come. The introduction of 'proper' architectural proportions to the building, as well as a hierarchy of differing vaults looks like a rejection of the simplicity of the original, especially when set out in its grandiose gardens. There was more to this redesign than simply adding in as much extra 'Architecture' as the budget would allow, however – the conception of what the palace was to be used for was completely different:

> In taking the structure of the Exhibition of 1851 – that type of a class of architecture which may fairly be called "Modern English" – as the model for the building at Sydenham, the projectors found it necessary to make such modifications and improvements as were suggested by the difference between a temporary receiving house for the world's industrial wealth, and a permanent Palace of Art and Education.[27]

As opposed to being a temporary spectacle of the consumption of images of production, the relocated Crystal Palace was to fit into the category of buildings for the edification and uplift of the people. Much like the museums of 'Albertopolis' (an area of Kensington to the south of Hyde Park which was purchased with the proceeds of the Great Exhibition, and upon which a number of large museums and public facilities would be built), the Sydenham Palace was to be a true 'Palace for the People' where all social classes could relax in an environment of education and culture. This has much in common with then-contemporary rational recreation movements, whereby 'the masses' were to be 'improved' by being drawn away from their own disgusting situation and given the chance to become better people. This was to be achieved partially through exposure to culture and educational pursuits, partially through being placed in situations where inequity was unavailable to them, and partially through

exposure to the 'better classes'. Of course this 'improvement' was also intended to neutralise the threat that an organised working class could pose to the establishment, so although the palace was supposedly of genuine benefit to the working classes, they were still subject to the patronising and condescending attitudes of the middle and upper classes.

The charter of the Crystal Palace Company enshrined the notion that it was a building for the use of the 'common' people, and that it was to be educational on a number of levels.[28] At the very far northern end of the building were a number of rooms set aside for not just rational recreation but for genuine higher education, albeit of a segregated kind: this was the Crystal Palace School of Art, Science and Literature.[29] Within this small institution there was a library, a lecture theatre, and classrooms for female students of fine arts, music and literature, and male students of engineering. Bearing in mind that at around the same time a design school was founded in the Victoria & Albert museum that would eventually become the Royal College of Art, another direct offshoot of the Great Exhibition, then it is tantalising to consider the educational atmosphere of attending art school in this ferro-vitreous palace; certainly, it was seen as a huge benefit to have access to the collections of sculpture and art for studying. The school would in fact still be functioning beyond the end of the Sydenham Palace's life, with studios in one of the large water towers that flanked the building and powered its fountains.

If the Hyde Park Palace can be seen as a gigantic display case, setting the paradigm for all manner of spatial cultures to come, then the Sydenham Palace was a structure with a much more strange and surreal set of spaces, which bear further description. As opposed to the notion that the Sydenham Palace was an inferior architectural statement, I suggest that the spatial and cultural effects of the rebuilt palace were even stranger than the original, creating a strange hybrid that was as connected to

The Crystal Palace interior, c.1860

romanticism as modernism; suggesting a dreamy synthesis of the two. The whole edifice was laid out with fountains and plants, with trees and a proliferation of climbing plants such as ivy wrapping their way up towards the roof. Although it was filled with flora, this was not to the extent to which it could be honestly classed a winter garden – there were far too many other functions occurring in the palace, too much other programme for it to be a building *about* foliage. The spatial quality of a winter garden usually involves the recession of the building to create a pseudo-natural environment, with a series of paths in amongst a

planted space. In the case of the Sydenham Palace, the area dedicated to plants was comparatively small, and thus the foliage could not dominate the building, it grew around it and up it, without ever overwhelming it.

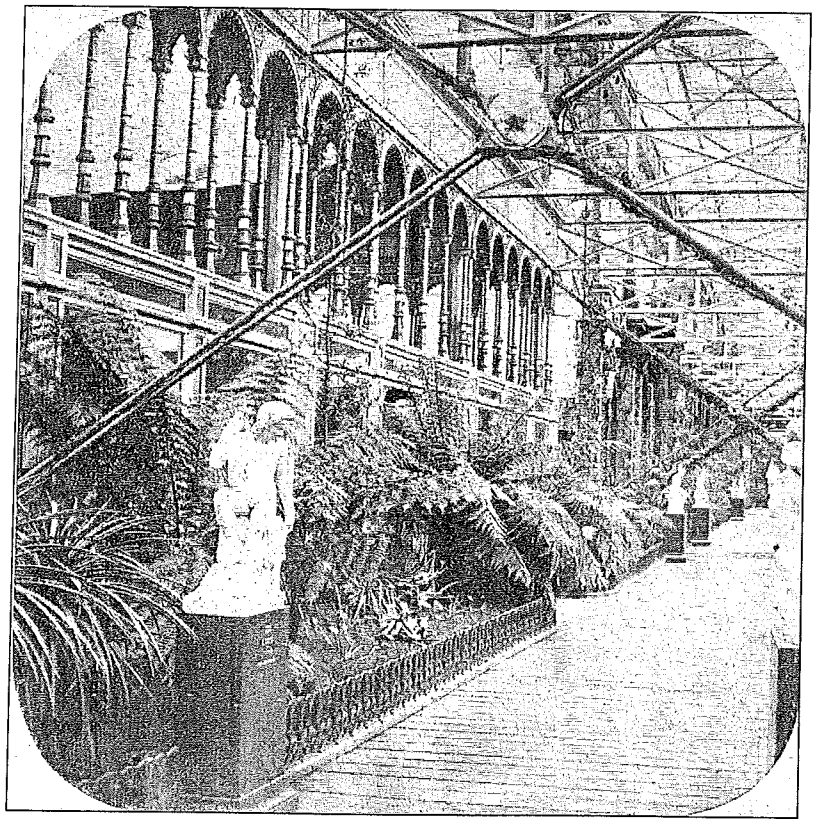
Rather than a pure exhibition palace or winter garden, or even a simple hybrid of the two, the primary spatial experience of the Sydenham Palace was rather more that of a strange proto-virtual reality, primarily due to the system of courts. It cannot be stressed just how strange this collection of spaces actually was, a complex mixture of what Venturi & Scott Brown would later describe as the 'duck' and 'decorated shed'; neither truthful nor entirely false, an eerie collage of strange spatial juxtapositions.[30] The court system was an attempt to create within the palace an immersive educational environment by constructing actual-size replicas of various historical architectural styles throughout the building. There were over twenty-five individual courts originally constructed in the palace, each representing a specific architectural style ranging from antiquity to recent times.[31] One could visit the Egyptian, Alhambra or Greek courts, or three varieties of medieval court – French, English and German. One could enter a replica of a Roman villa from Pompeii, or stand before a wooden screen depicting all of the Kings and Queens of England. In some ways the method of curation is familiar from many a 19th century museum, but the way in which the viewer, rather than engaging with an object across a display, entered fully into the exhibit is surely unique.[32] But this immersion was never total – some of the courts were fully closed, with a ceiling and floor in keeping with their theme, but the girders of the palace would come slicing through the walls, entering and exiting the space to either side as part of an over-arching grid. In other spaces this effect would be even more prominent, as the quasi-masonry walls of the court would simply end at the cornice, revealing the structure above and all around, as if the roof had been lifted right off. Standing in a room of modest proportions, the visitor would have a clear

space of many metres above them, the light and sounds of the entire palace reverberating around. Entire courts would be covered in ivy, the circulation routes would pass under the crossed tie-beams that tensioned the structure, which themselves would be overgrown with ivy. Overall, the effect would have been that of a number of distinct spatial logics all competing, in some cases disjunctively co-existing with each other in the same space; an iron girder clashing with an Egyptian column; the seeming solidity of the walls compared with the timber floor creaking three stories up in the air. Even though there are a great many examples of 'dishonest' architecture in this fashion, for example; the Columbian Exhibition in 1893 was notable for the mock-massive structures draped over the iron inside, what is notable here is the fact that there was no attempt being made to create a seamless environment. The Sydenham Palace's fragmentary displays of historical form mimicked in their arrangement the incompleteness of memory, in such a way that the structural grid can be seen as a metaphor for the substratum of memory itself, a 'mystic writing pad';[33] an almost non-existent memory layer that becomes gradually filled with the impressions of objects and recollection. As one commentator described the experience of visiting the palace:

> We are wafted into a region still more dreamlike than anything which even fond memory had retained of the past [...] Hour after hour finds us in wandering mazes lost – the sport of impressions gone as soon as formed, all rapid, vivid, but fleeting.[34]

The courts are in an indeterminate condition between being spaces and objects within space; this overlapping complexity of spatial register was almost unknown again until it reappeared in different guises in both the indeterminate 'plug-in' architecture and the experiments of deconstructivism in the 1970s, both of

which we will consider later. Yet here it was occurring in the 1850s; all the hallmarks are there; different registers of structure set against each other, a logic of incompleteness, where no spatial system manages to 'seal' itself off, and, here one can only surmise, an uncanny sense of space. Unlike the Great Exhibition, with its regime of the gaze massively multiplied in the display case of the building itself, the Sydenham Palace is even more fragmentary; displayed objects, micro-spaces and the meta-structure of the palace itself all created a cacophony of objects and spaces, irreducibly complex.



The Sheffield Court at the Crystal Palace, c.1860

Both of the two incarnations of the Crystal Palace were home to

great amounts of sculpture. In the case of the Great Exhibition this had been due to a decision not to include fine arts as a category, the preference being instead to focus upon industry and applied arts. Sculpture made it into the exhibition as a result, and some of the most significant displays were sculptures, such as the American Hyram Powers' *The Greek Slave*, which, in what might seem an unbearably kitsch touch, was displayed on a rotating pedestal.[35] The Sydenham Palace had a great amount of sculpture displayed inside, ranging from the massive Egyptian figures at one end of the building to the many classical objects on show. Many, like *The Greek Slave*, with its subject matter of a nude chained to a post who is at once both chaste and lascivious, achieved that very Victorian mixture of the naïvely moral and the unseemly.[36] Indeed, the opening of the Sydenham Palace was delayed under puritanical pressure to add plaster fig-leaves to the genitalia of the (specifically male) statuary.[37] Scenes of a very peculiar quality abounded in the Sydenham Palace: extant photographs show images of marble nudes, surrounded by ivy and other unruly plants, with to one side a gothic screen and then in all other directions taut wires and firm columns stretching off into the distance. In this dream-like environment it is easy to imagine an accompanying sense of poetic melancholy, expanding upon this condition of 'technological romanticism': the fragmentary complexity of the immediate, futuristic spatial environment set against the historical scenes, covered in the 'enhanced nature' of the winter garden and the charged eroticism of the art, create a scene that combines recognisable aspects of romantic aesthetics with functionalist and modernist signifiers.

In the journey between Hyde Park and Sydenham, in the move towards semi-permanence, so much of the palace became given over to practices of documentation and archive. Instead of the Great Exhibition's snapshot of the current moment of industrial and capitalist development, the majority of activities origi-

nally on offer in the Sydenham Palace involved the immersion of the visitor in displays, in objects of history and of memory. The whole building, in a sense, was a gigantic memory palace, a journey of objects and scenes from various times embedded within this vessel with its spindle-like frame, the outside world blurred away by the dust on the glass (obvious from photographs taken even very early in its life, and worsened later with the introduction of a motor-racing circuit to the park which was surfaced with a layer of ash), the viewer drifting from fragmentary space to fragmentary space. We can understand the stated desire of 'improvement', of education as a way of reducing the threat of common people, but at the same time the building represents a remarkable thrust both towards and away from the idea of permanence. More than any museum, this collage of incomplete spaces from different times, all tied into a space whose character was most ephemeral: surely this is a most appropriate evocation of spatial memory? Riven between two simultaneous yet opposing logics, that of permanence and that of transience, the Sydenham Palace can genuinely be described as *dialectical*; it was fragmented in the manner of what Walter Benjamin calls 'the Ruin': 'Allegories are, in the realm of thoughts, what ruins are in the realm of things'.[38]

To briefly explain; Benjamin identifies allegory as a quality opposed to symbol. In allegory, meaning is fragmented, and through allegory history and its ruptures can be grasped in objects that are apparently simple in their presence. Although Benjamin originally analyses allegory through the figure of the German tragic drama, or *Trauerspiel*, it is for him also a modern phenomenon, particular to the rise of bourgeois capitalist culture in the late 19th century.[39] We can understand it best in this context as the expression of a fragmented, dialectical meaning; as opposed to a totality of symbols, or a complete history, the allegory is destructive; it is tied to melancholy, but also progress:

> Allegory has to do, precisely in its destructive furor, with dispelling the illusion that proceeds from all "given order," whether of art or of life: the illusion of totality or of organic wholeness which transfigures that order and makes it seem endurable.[40]

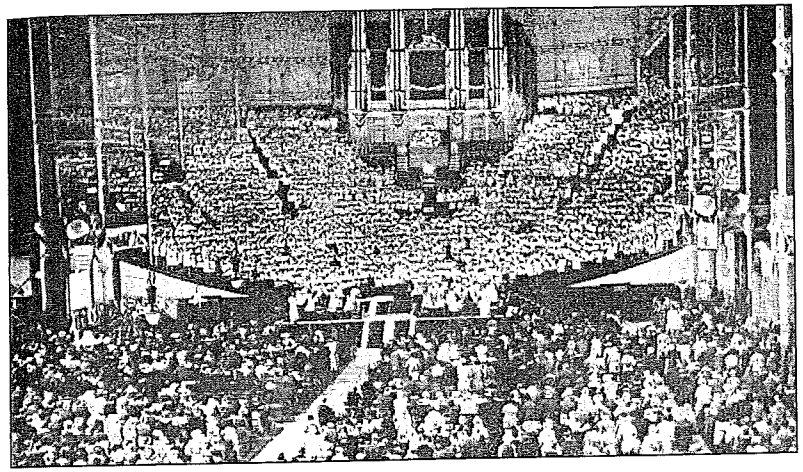
This fragmented notion of meaning and history is inextricably tied to a commitment to radical change; to Benjamin, history is a shifting concatenation of fragments which carry residual latent moments of radical utopian potential. Benjamin identifies the melancholic allegorical sense of history and meaning with the spatial qualities of the fragmented ruin: 'the allegorical physiognomy of the nature-history, which is put on stage in the Trauerspiel, is present in reality in the form of the ruin. In the ruin history has physically merged into the setting'.[41]

I suggest that opposed to the academic architecture of its time, which we might think of as symbolic, the Sydenham Palace can be described as 'allegorical'. The palace was obviously not a ruin in the normal sense of the word; but in its contradictory existence it embodied certain aspects of the condition; the ruin is both a symbol of monumentality in its massive remnants, but it is also a symbol of the inevitable transience of things. At one level of abstraction, the Sydenham Palace's display of objects and the museum-like qualities of its educational displays are tendencies towards memory and archive. On the other hand the fragile weightlessness of its architecture and its incomplete spatial relationships are qualities of disappearance. In this sense the Sydenham Palace, even before its decline, represents an example of what we might call the 'abstracted' or perhaps 'dialectical ruin', a melancholy space of contradictory meaning, simultaneously remembering and forgetting itself.

The Sydenham Palace was not only a vast collection of static displays of historical space. It had restaurants and tearooms, an exhibitor's department where consumer goods could be

purchased, it hosted all kinds of events including dog-shows and a forty-thousand strong annual co-op meeting. Most significantly, it played a massive role in the musical life of London. The Sydenham Palace was the scene of not only some of the most incredible musical spectacles of the age, but would also play host to one of the most significant moments in modern musical culture. Besides the musical tuition in the art school, two public musical venues were set up within the palace. In amongst the courts, a small concert room was created for chamber music. This was one of the main venues in London at which touring virtuosi would perform recitals; great names such as Leopold Godowsky, Federico Busoni and Moriz Rosenthal all performed there, but more significantly it was also the space in which many continental composers – such as Schubert, Schumann and Brahms – were first popularised in the UK. The seemingly unchanging pantheon of art-music that we are now familiar with was formed and distilled at Sydenham.[42] Most prominently however, at the west end of the main transept a massive auditorium was created, the biggest yet built by a huge margin. This space became famous for hosting the triennial Handel Festival, where choirs and musicians from all over the country would travel to London to perform a number of concerts over the course of a weekend. The scale of these events is incredible – the massed orchestra numbered seven hundred, the choir three thousand, performing to audiences of over twenty thousand people. These festivals presented great problems to the organisers; the space could effortlessly accommodate vast numbers of people, but there were terrible problems with acoustics; a ferro-vitreous palace is a highly reverberant space, and the earliest concerts would have been spectacles of huge but somewhat indistinct noise. Various devices were introduced to muffle the acoustics, and by all accounts they greatly improved the experience.[43]

We mentioned the role of the Hyde Park Palace in the rise and dissemination of photography; the Sydenham Palace was also the



The concert hall at the Crystal Palace

site of a number of highly significant developments in media technology. It was at the Handel Festival of 1888 that the Edison Gramophone Company would make the first ever piece of recorded music, during a gigantic performance of Handel's Moses & Aaron.[44] The wax cylinder upon which it was recorded still exists, and digital recordings have been made of it.[45] It bears description, both as a comparison to the role that the Hyde Park Palace played in early photography, but also in terms of ways in which we evoke and describe temporally distant objects, expanding the notion of the abstracted ruin that we have introduced. The most prominent aspect of the recording is the sounds of the dust, scratches and overall decay of the wax medium upon which it was recorded. The orchestra and chorus are audible, but in greatly transfigured forms; the orchestra is an indistinct rumble, all the instruments coalesced into a singly grainy sound, while the choir drifts in and out of audibility, their words indiscernible, a barely existing melody sometimes appearing out of the crackling noise of the cylinder's disintegration. This particular semi-disintegrated quality is an analogy of the process of memory itself; the sounds are invariably incomplete, drifting

in and out of intelligibility and adrift from any solid ground that would anchor them to a specific sonic fact. The resonance is two-fold; on the one hand this drifting, fragmented quality of memory is analogous to the spatial logic that was described before of incomplete spaces adrift in an almost immaterial fog, but it also speaks to us about our relationship to objects that are lost in their original state – the architecture thus far discussed is non-existent, accessible to us only as drawings, photographs, writings and memories, and in this case as distant sounds. There are very specific lessons to be drawn out here; all architecture, here understood perhaps as a Victorian architect might do as the 'art' of the building, that part of it which is insufficiently explained by an analysis of function, that which is concerned with 'meaning' – all architecture is in some way an archive, an immaterial statement preserved in a solid form, or a document of sorts. Both of the Crystal Palaces were statements that in a strong sense related to knowledge – they were collections, filled with objects to know and be remembered. But what is the nature of the condition whereby the only access to these moments of architecture is through the trace, through archive? What is being described in these cases? We should return to the term 'spectrality' here. As previously mentioned, 'spectrality' is Derrida's word for the condition of mediated presence; the ghostliness of repetition through recording, as described by Jameson: 'This is the other face of modern or we might say postmodern virtuality, a daily spectrality that undermines the present and the real without any longer attracting any attention at all'.[46]

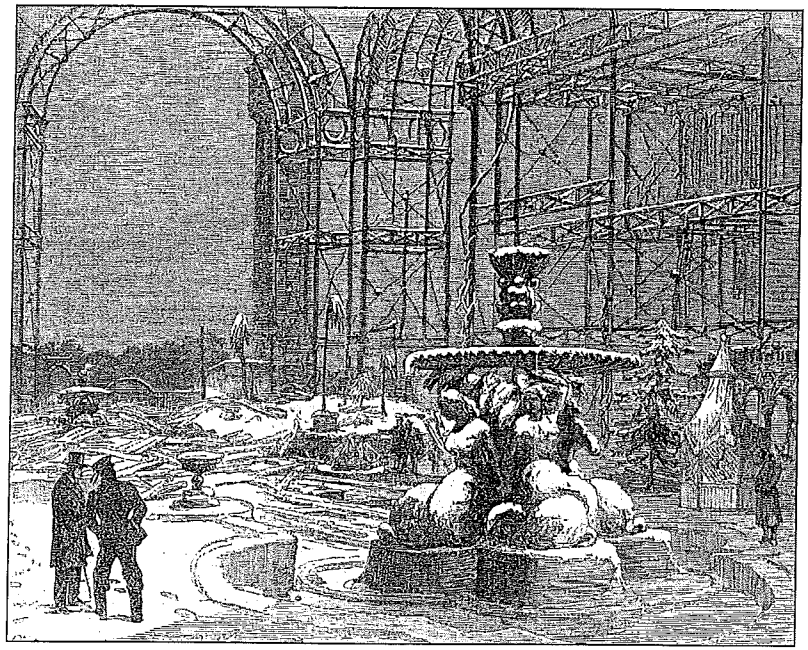
We only have access to the Crystal Palaces through ghostly means; the abstracted ruin that we previously discussed must now be understood as being ghostly in another register. Indeed; the Crystal Palace seems, in a way, to have attracted spectral media; John Logie Baird, one of the inventors of television, moved his studios into the Crystal Palace in 1933. Why is this significant? Well; on the one hand, the more we delve into the

inherently vanishing nature of the Crystal Palaces, the more their ephemerality is set in contrast to the monumentality that is the source of much of the normal power of architecture. Not only this, but we are also beginning to conceptually frame a certain notion of architecture that is perhaps unique; a fragile modernity; a dream-like, ghostly, abstracted ruin. We will continue to trace this form as we continue through the study.

If we wished to set up a simple dichotomy between the contemporary meaning of the two palaces then we might say that the Hyde Park Palace signified temporariness, while the Sydenham Palace signified permanence. Needless to say, this is deeply reductive, and perhaps we might complicate matters a little thus: The Hyde Park Palace was a building tending towards a 'pure' system, which nevertheless shied away from the implications of its own logic, while the Sydenham Palace was a building in which two very different logics were attempting to operate at once. For while the Sydenham Palace was intended to be as permanent as any massive masonry edifice, and while it had been redesigned to be a work of 'architecture', the logic of prefabrication and efficiency still permeated its very fabric. The accelerated decrepitude that results, which we shall have opportunity to further explore later, is something that will always haunt the architecture of systems, of temporariness and flexibility.

This temporariness affects how the buildings compare in history. The Great Exhibition, although obviously not as monolithically magnificent as is commonly believed, was spared an ignominious fate by its very ephemerality. On the one hand the Sydenham Palace had a much easier task to fulfil, seeing as it would not be the location of any massive festivals on the scale of its predecessor – the attempt to repeat the feat of the Great Exhibition in a brand new building in 1862 just months after the death of Prince Albert was, although not pathetic, still nowhere near as successful both in terms of money and in cultural

resonances.[47] But on the other hand, the Sydenham Palace had to maintain public interest over a much longer period of time – and sustaining such a plateau of activity was in many ways a more difficult proposition.



The Crystal Palace as a romantic ruin, after the partial fire of 1866

The decline of the Sydenham Palace was a slow one. The palace was popular enough in the late 1850s and the 1860s, but by the 1870s visitor numbers had drastically reduced. The financial situation was poor; partly as a result of Paxton spending vast amounts of the initial capital of the Crystal Palace Company on the fountains; partly because Christian groups managed to have the palace closed on Sundays; partly through general mismanagement; and also because gradually the social mix of visitors to the palace narrowed to effectively include only the petit-bourgeoisie.[48] The 1870s saw a number of impassioned pleas to save the institution, which was considered to have lost sight of its

noble ideals and was sinking into a pit of moral inequity:

> The establishment is at present a financial wreck. The building and the grounds are, to a grievous extent, in a state of material wreck [...] a visit by any one who remembers what the place once was [goes] some way to justify the statement that it is also in a state of moral wreck [...] Were the worst to come, were this ennobling institution to become really degraded, of which there appear sad, sad, premonitory symptoms, it would not only fail, but sink immeasurably below failure.[49]

Eventually, by 1911 the palace was bringing in so little money and was in such a poor physical state that the palace and the grounds were put up for auction. Although it was seen as being a 'white elephant', its symbolic value to the nation meant that the government made the purchase, and so the palace lurched on throughout the next few decades as a public institution. By this time the emphasis on 'Empire' that had always been one of the unpleasant sides to the entire exhibition culture was now one of the defining characteristics of the building; the park was the location for the 1911 Empire Exhibition, before becoming home to the Imperial War Museum for a number of years after the First World War, with cannons mounted in the aisles and barrage balloons moored in the transept. The quality of the entertainment dropped, the money kept disappearing into upkeep, so that by the end of its life it was in such a sorry state that commentators were moved to make such sentimental descriptions as this, from CF Bell-Knight's book on the palace;

> I recall a visit to the Crystal Palace during a summer in the mid 1930's; it presented a most woe-begone picture, peeling and sun blistered paintwork, the glass grimy, ironwork encrusted with rust and stonework suffering from erosion.

> Overall was a film of black dust that seemed to invade everywhere, caused by the cinder ash which arose in clouds from the racing track. The fountains had ceased to function, possibly an economy drive, newspaper and wrappings floated disconsolately upon the oily waters of the lakes and pools. The outbuildings had fallen into disrepair, it was hazardous to negotiate the weed infested and cracked flights of steps and terraces. The grottos were literally refuse bins and fouled by urine and excreta. The shrubs were grossly overgrown and the borders unkempt...
>
> That visit, which was my last before its final destruction, made such a lasting impression upon me that I can vividly conjure it up to this day. It really was a sad and sorry sight – as if the old palace was about to give up the ghost (as indeed it did not very long after) – but at least it went out in a final 'blaze of glory'.[50]

Eventually the Sydenham Palace burnt to the ground on the 30th November 1936. The death of the palace is often interpreted to be a highly symbolic one; within days of the conflagration German troops had landed in Spain, and Europe was about to be rent asunder all over again. Viewed in hindsight, it was easy to see the destruction of the palace as a portent of greater destruction, but it also marked the end of an era of Britain's 'greatness'; within years the empire would be all but gone and the UK would have to get used to playing its subservient global role in the new geopolitical order of the cold war.

But what of the Sydenham Palace now? One characteristic of a ferro-vitreous structure is that it doesn't ruin in the accepted aesthetic fashion. A masonry building has an entire aesthetic already developed for it to decay into, whereas an iron building, with its shards of glass and rust, is of a different visual order; rather than a ruin, a dead iron & glass palace has a skeleton. This lack of picturesque qualities, this hint of corporeality might

perhaps explain why there are no 'stabilised ruins' made from iron & glass buildings; indeed, there are no direct traces of the actual palace at Sydenham today. The much-vaunted ephemerality of the construction has had its final triumph – there is no ruined palace on the site, but there is a massive disappearance, made tangible by the secondary objects left behind. At Sydenham this is clear from not only the masonry walls and staircases behind which the palace stood, which have indeed become little ruins, but from the expanses of blank space which used to feature in secondary roles to the dominance of the palace; these spaces are strange, subservient to something no longer there, playing second fiddle to an absence. The grand axiality of the space is another defining characteristic; broad avenues and promenades stretch out from the footprint of the palace, although they have nothing to lead up to apart from some scrubland. These blank spaces and pathways are decidedly empty; with no destination to draw people en masse, those who are present are dwarfed by the grandeur of the spatial arrangement, of which the sense of being in a space that was built for something that is no longer achievable is tangible. This particular sense is acutely melancholy – it hits straight at the centre of the logic of progress that was so important to the culture of exhibitions in the first place; instead of culture straining at the edges of the spaces which they use, pushing them out and forth, there is the sense of decline. Despite lacking the ruined artefact, what we have here, like the spaces of the Roman Forum being used as limekilns during the middle ages, is a vessel built to accommodate a grand purpose whose contemporary inhabitants are no longer capable of filling its empty space.

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Notes

1. Kohlmaier, G & von Sartory, B, *Houses of Glass*, Cambridge, Mass.; London: MIT Press, 1986, p.27.
2. Giedion, S, *Building in France, Building in Iron, Building in Ferro-Concrete*, Santa Monica: Getty Centre, 1995, p.111 – 'The common characteristic of these buildings is that they serve transient purposes: market halls, railroad stations, exhibitions'.
3. See for example Fergusson, J, *History of the Modern Styles of Architecture*, London: John Murray, 1891, p.413 'The point, however, at which the engineer and the architect come most directly in contact is in the erection of stations and station buildings. In every instance these ought to be handed over to the architect as soon as the engineer has arranged the mechanical details.'
4. Benjamin, W, *The Arcades Project*, Cambridge, Mass.; London: Belknap Press, 1999, p.14.
5. *Houses of Glass*, p.1 – 'The nineteenth century glasshouse was like a museum in which the masterpieces of nature were gathered together, listed in a catalogue, and preserved for the future.'
6. *Houses of Glass*, p.152.
7. To take just one example; 'The Crystal Palace, as a product of Victorian England, was one of the most influential buildings ever erected. Innovative in structure, completely new in its function, unusual in its form and significant in the associations it embodied, it takes its place with a handful of other pre-eminent buildings such as the Pantheon, Hagia Sophia, and Abbot Sugar's St. Denis' (Kihlstedt, F.T., *The Crystal Palace*, Scientific American, 1984, quoted in Greenhalgh, P. *Ephemeral Vistas: a History of the Expositions Universelles, Great Exhibitions and World's Fairs, 1851-1939*, Manchester: Manchester University Press, 1988,

p.150).

8. The 1798 Industrial Exhibition in Paris is often cited as the very first, but the 'exhibition' at least partly grew from 'fairs' that had been held throughout the previous century.
9. *The Arcades Project*, p.201.
10. Sloterdijk, P, *Im Weltinnenraum des Kapitals*, Frankfurt am Main: Suhrkamp, 2005, p.266 – 'Mit ihm began eine neue Ästhetik der Immersion ihren Siegeszug durch die Moderne.'
11. Speech by Prince Albert at the opening of the Crystal Palace, 1851 quoted in Gillooly, E, 'Rhetorical Remedies for Taxonomic Troubles', in Buzard, J, Childers, J.W. & Gillooly, E (eds.), *Victorian Prism: Refractions of the Crystal Palace*, Charlottesville; London: University of Virginia Press, 2007. p.26.
12. Frampton, K, *Modern Architecture: A Critical History*, London: Thames & Hudson, 2007. p.34.
13. *History of the Modern Styles of Architecture*, p.420.
14. Derrida's work is filled with the figure of the ghost; especially from the end of the 1980s onwards. The most important text in this regard is *Spectres of Marx*, New York; London: Routledge, 1994.
15. Armstrong, I, 'Languages of Glass', in *Victorian Prism*, p.58.
16. Speech by Prince Albert, March 1850, quoted in Davis, J.R., 'The Great Exhibition and Modernisation', in *Victorian Prism*, p.235.
17. Buzard, J, 'Conflicting Cartographies', in *Victorian Prism*, p.40.
18. *Ephemeral Vistas*, p.29.
19. 'The Great Exhibition and Modernisation', in *Victorian Prism*, p.235.
20. Auerbach, J, *The Great Exhibition of 1851: A Nation on Display*, New Haven, CT: Yale University Press, 1999, p.193.
21. *The Builder*, 10th May 1852.

22. *Houses of Glass*, p.109.
23. *The Graphic*, 13th June 1885.
24. *Paxton, J*, Speech to Parliament 28th January 1852, quoted in Chadwick, G.F, *The Works of Joseph Paxton*, Architectural P, 1961, p.143.
25. Figures from *The Works of Joseph Paxton*, appendix.
26. *History of the Modern Styles of Architecture*, p.420 It should be noted that Fergusson himself would be involved in the art direction of the interior of the Sydenham Palace. This did not stop him from suggesting that the Sydenham Palace required a more massive, more monumental masonry aspect to it to raise it to the level of 'great' architecture, however.
27. The Crystal Palace, Sydenham. To be sold by auction on Tuesday 28th day of November, 1911, *London : Hudson & Kearns, 1911. p.11.*
28. *The Crystal Palace Company. Deed of Settlement, Royal Charters and List of Shareholders*, London: H.G. Bohn, 1856, p.5 – 'Object and business of the company: That the objects and business of the said company shall be the purchasing of the great exhibition building in Hyde Park, [...] the forming and maintaining Conservatories, Parks and Museums in conjunction with the said building for the illustration and advancement of the Arts, Sciences and Manufactures, and the cultivation of a refined taste amongst all classes of the community.'
29. Phillips, S, *Official General Guide to the Crystal Palace and Park, Sydenham*, Robert K. Burt, Crystal Palace Printing Office, 1862. p.131.
30. See: Venturi, R, Scott-Brown, D & Izenour, S, *Learning from Las Vegas*, London: M.I.T. Press, 1972. Simply put; the 'decorated shed' is a rudimentary structure where the meaning is expressed through ornament, whereas the 'duck' is a building which communicates wholly through its

structure.

31. See the *Official General Guide to the Crystal Palace and Park* for a complete list.
32. Perhaps the closest analogies would be the Pergamon Museum in Berlin (1910-) in which entire buildings were transported and re-erected within the new building, sometimes becoming part of a hybrid edifice, or the Cast Court of the V&A museum (1899-), in which full scale fragmented replicas of significant architectural details are stored. Both of these spaces are remarkable, but neither of these two conditions are quite as intense as the courts of the Sydenham Palace appear to have been.
33. Derrida, J, 'Freud and the Scene of Writing', in *Writing and Difference*, London: Routledge, 2001, pp.246-91. This essay is an examination of Freud's use of a writing metaphor to describe the process of memory accumulation.
34. Eastlake, E, 'The Crystal Palace', in *Quarterly Review 96*, March 1855, quoted in Gurney, P, 'A Palace for the People' in *Victorian Prism*, pp.138-41.
35. Flint, K, 'Exhibiting America', in *Victorian Prism*, p.171.
36. For a discussion of the contradictory Victorian attitudes to the nudity of the Greek Slave and other sculptures, see Teukolsky, R, 'This Sublime Museum', in *Victorian Prism*, pp.89-93.
37. Piggot, J, *Palace of the People: The Crystal Palace at Sydenham 1854-1936*. London: C. Hurst, 2004. p.52.
38. Benjamin, W, *The Origin of German Tragic Drama*, London: Verso, 1998, p.178.
39. *The Arcades Project*, p.328 – 'The allegories stand for that which the commodity makes of the experiences people have in this century.' We will have occasion to come back to this notion when we compare allegory to spectrality.
40. *The Arcades Project*, p.300.
41. *The Origin of German Tragic Drama*, p.177.

42. See Musgrave, M, *The Musical Life of the Crystal Palace*, Cambridge: Cambridge University Press, 1995.
43. The Musical Life of the Crystal Palace, p.42.
    There are numerous examples of contemporary accounts of the acoustic properties of the Crystal Palaces; Musgrave quotes the *Musical Times* referring to the 'fogginess and uncertainty' of the sound of the concerts. In fact one can approximately experience this in the acoustic qualities of the railway sheds, which reverberate and muffle sound as if one were underwater.
44. This is true to a certain extent; the phonautogram, which was developed by Édouard-Léon Scott de Martinville, certainly existed before the phonograph (the earliest recording is from 1860), although with this method (which actually utilised the engraving of a sound wave into ash!) there was no way to replay the sound. Recently however, new digital techniques have led to vague recreations of the original sound. As well as this, the Edison company made a number of failed attempts to record music before the event described above. See *http://www.firstsounds.org/* (accessed 18-04-2010).
45. For digital recordings of the earliest Edison recordings, see the Edison National Historic Site, where one can listen to the 1888 Crystal Palace recording.
    http://www.nps.gov/archive/edis/edisonia/very_early.htm (accessed 18-04-2010).
46. Jameson, F, 'Marx's Purloined Letter', in Sprinker, M, (ed.), *Ghostly Demarcations: A Symposium on Jacques Derrida's Spectres of Marx*, London: Verso, 1999, p.64.
47. Allwood, J, *The Great Exhibitions*, London: Studio Vista, 1977. p.41.
48. Gurney, P, 'A Palace for the People?', in *Victorian Prism*, p.147.
49. Anonymous ('The Shorthand Writer'), *The Crystal Palace in*

Adversity; the Duty of Raising it to National Usefulness, with Special Reminiscences of the Great Exhibition of 1851, London: 1876, p.11; p.19.

50. Bell Knight, C-F, *The Rise and Fall of the Biggest Ever Glass Container,* Bath: 1977. p.49.
51. See Allwood, J, *The Great Exhibitions,* London: Vista, 1977.
52. See *Houses of Glass* for a near-complete taxonomic list of iron & glass buildings.
53. Ensing, R, 'The Albert Palace Battersea', in *The Wandsworth Historian,* 1985 vol. 45 p.1.
54. *The Builder,* March 1st 1884, pp.316-7.
55. *The Civil Engineer and Architect's Journal,* April 1st 1866.
56. *The Builder,* May 2nd 1885, p.634.
57. *Houses of Glass,* p.110.
58. *The Builder,* May 2nd 1885, p.634.
59. *Albert Palace Picture Gallery, Descriptive Catalogue,* London: Dunn, Collin & Co. 1885.
60. *Plan of the Albert Palace, Battersea Park. For Sale,* London: 1888.
61. *The Builder,* March 1st 1884, pp.316-7.
62. *The Builder,* May 2nd 1885, p.634.
63. *The Musical World,* June 13th 1885, p.365.
64. *The Builder,* June 13th 1885, p.852.
65. Indeed; it also rained at the opening of the Great Exhibition. See Allwood, J *The Great Exhibitions,* London: Studio Vista, p.20. Allwood quotes Queen Victoria's diary; 'A little rain fell, just as we started, but before we neared the Crystal Palace, the sun shone and gleamed upon the gigantic edifice, upon which the flags of every nation were flying'.
66. *The South-Western Star,* November 5th 1892.
67. Posters from the *Evanion Collection,* British Library. Evan.265, 1885; Evan.2538, 1886; Evan.1161, 1881 respectively.
68. *The Builder,* August 19th 1893, p.134.

69 *The South-Western Star,* April 30th 1892.
70. *The South-Western Star,* May 14th 1892.
71. *The South-Western Star,* October 15th 1892 (Walter Besant was a Victorian novelist who established the 'People's Palace' in East London; another long lost iron & glass palace).
72. *The South-Western Star,* October 15th 1892.
73. *The South-Western Star,* October 22nd, 1892
Passmore Edwards' autobiography makes no mention whatsoever of the Albert Palace. See Passmore Edwards, J, *A Few Footprints,* London: Watts & Co., 1906. It is also notable that Passmore Edwards' philanthropic building spree only began in 1892; the Albert Palace would have been one of the very first of his efforts. See Best, R.S, *The Life and Good Works of John Passmore Edwards,* Redruth: Truran Publications, 1981.
74 *The South-Western Star,* January 13th, 1894 / *Hansard, Jan 8th 1894,* HC Deb 08 January 1894 vol 20 c1024, *http://hansard.millbanksystems.com/commons/1894/jan/08/albert-palace-battersea* (accessed 18-04-2010).
75. *The South-Western Star,* June 2nd 1894.
76. The property developers ignored my request for information.
77. 'The Kensington Canal, railways and related developments', *Survey of London: volume 42: Kensington Square to Earl's Court* (1986), pp. 322-338. *http://www.british-history.ac.uk/report.aspx?compid=50329&strquery=Albert Palace* (accessed 18-04-2010).
78. *The South-Western Star,* May 14th 1892 (the Alexandra Palace is actually still extant, although it is under constant threat of being redeveloped).
79. Regarding the problem of water ingress and iron & glass; 'Only a year after the Palace opened, Paxton was told at a meeting that rain poured 'in torrents' through the roof