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An Olfactory Reconstruction of Philip Johnson's Glass House

Jorge Otero-Pailos

You are holding, and hopefully smelling, a work of experimental architectural preservation. More precisely, it is an olfactory reconstruction of Philip Johnson's Glass House between 1949 and 1969. To create this work I was fortunate to collaborate with Rosendo Mateu, perfumer and head of the Puig Perfumery Centre, and to learn from the Carolina Herrera fragrances team. Mateu was trained as a chemist and forged his career in the laboratories of Antonio Puig in Barcelona, later apprenticing with master noses such as Marcel Carles and Arturo Jordi Pey of Firmenich. We benefited from the Puig archive of smells, one of the most important in the world, which stores over 20,000 elements of smell – almost the entirety of scents manufactured in the twentieth century. Each archived smell is associated with a textual description of its olfactive notes, indexed by seven descriptors and registered in a digital database. There are about 1,000 descriptors that range from the narrow to the open-ended and include environmental smells, food, sensations and other olfactory analogies, as well as chemical products. Typical descriptors include words like humidity, sea, pastry, recently baked bread, chocolate, hospital, tar, barber shop, rubber, electrical smells, school, various flowers, woods, resins, spices, milk, wine, pencil, lipstick, metallic, mineral, ozone, burnt, sweat and oxygen. These descriptors were the first step in the research required to locate particular concentrates, which eventually formed the olfactory profile our reconstruction.

The reconstruction itself is composed of three distinct aromas, designed to be smelled in sequence and providing a compressed experience of the first two decades of the Glass House. The first reconstructs the smell of the new house when it was built in 1949. It is a blend of newly lacquered wood closets, newly painted steel, fresh plaster from the ceiling, cement mortar from the floor and a hint of leather from the new Barcelona chairs and the bathroom ceiling. Composed of *terpinolene*, *beta pinene* and *tremontine* combined with *oleates*, it also conveys a sensation of humidity, notes of mould and wet earth.

The second aroma reconstructs the aesthetic of olfaction preferred by sophisticated American men of the mid to late 1950s. A blend of the most popular eau de colognes worn by mid-century American men, including *Old Spice*, *Canoe*, *English Lavender* and *Acqua Velva*, it is composed of lavender, bergamot, rosewood, lemon, geranium, clove, amber and tobacco. This scent introduces the human element into the reconstruction, which was central to the experience of the house. Johnson regularly invited New York's male architectural elite to the Glass House for private conversations.

The third aroma reconstructs the smell of the house in the late 1960s, by which point its porous surfaces, especially the plaster ceiling, had become impregnated with the smoke of

thousands of cigarettes and cigars. It is composed of a mix of absolutes of dry leaves of tobacco with pure cigar effect, black tobacco and tobacco from Bulgaria, scents of smoke and incense, burnt logs, aged leather and wood.

Taken together, these three aromatic layers represent our first experimental steps towards a preservation science of olfactory reconstruction. To those familiar with the Johnson house and with traditional preservation practices, this experimental project might seem out of place, or at least counterintuitive. Although the house has not ceased to be in the public eye since it was built in 1949, there are no public accounts of its smell. The first publication on the house appeared in September 1949, the year it was built, in *Life* magazine. The article focused on its layout, pointing out that it was one large room without interior partitions.¹ Two months later it was published in *Architectural Forum* with a special emphasis on its choice of materials.² In 1950, Johnson offered his account of the formal precedents of the design in 'House at New Canaan, Connecticut', which appeared in *Architectural Review* and was received as something of a provocation to modernist architects who tended to be less open about their debts to history.³ A steady stream of articles followed during the following quarter of a century, mostly debating Johnson's own analysis of the house's visual composition. By 1975, the American Institute of Architects awarded the building its prestigious 25-year award.⁴ In 1979 the Johnson house entered the canon of American architectural history as 'The Glass House', appearing in textbooks such as Leland Roth's *A Concise History of American Architecture* (1979). Architecture students who had never set foot in the building nevertheless came to know its appearance inside out: the 56-by-32-foot floor plan, the eight perimeter black steel columns, the famous corner detail of the eight-inch I-section column, the six-foot wood closets dividing the space, the

To activate an olfactory reconstruction of the Glass House in 1949 (newly lacquered wood, shiny stainless steel, fresh plaster), rub your finger across this caption

herringbone brick floor, the cylindrical bathroom-cum-fireplace, the elevations with central doors and 18-foot-wide inoperable single-pane plate glass windows, which Johnson ordered especially without a manufacturer's logo. From the 1970s to the 1990s, the discipline's brightest minds interpreted the building, slowly interlacing their analyses of the house's formal precedents with the political history and uses of those precedents. Worthy of note are the studies by Kenneth Frampton, Peter Eisenman, Vincent Scully, Robert A M Stern, Jeffrey Kipnis and Kazys Varnelis, who was the most daring in raising questions about Johnson's own politics and his infamous pre-war sympathy for Nazi ideology.⁵ More recently, scholars have focused on the debts owed by Johnson to the various collaborators who helped design the appearance of the house, such as lighting designer Richard Kelly.⁶ In sum, during the last 60 years, a corpus of scholarship has grown around the visual dimensions of the Glass House and its role in the social politics of architecture. But we lack documentation about the house's odours, or how they were managed, cleaned, ventilated and perfumed. Through the filter of available scholarship, the Johnson house appears distorted into an odourless image of a glass house.

Preservation operations often have the unfortunate tendency of slowly transforming buildings into the documents that describe them. The image of the Glass House depicted in its scholarship is therefore critical, and especially now, as it is currently undergoing its most important transformation since it was built, from a private house to a public museum. Johnson himself initiated this transformation in 1986, when he donated the house and the necessary funds to maintain it to the National Trust for Historic Preservation. A resident curator moved to the property at that time, although Johnson and his partner David Whitney continued to live in the house until their deaths in 2005. Two years later, the estate, which comprises the Glass House, eight other buildings, a designed landscape and a sizeable art collection, opened to the public for the first time. Visually, it reveals itself today essentially as Johnson and Whitney left it. But the house's smell has already changed dramatically. The absence of a written olfactory record means that little attention will be devoted to the preservation of the olfactory aesthetics in vogue during the house's period of significance.

Despite the lacuna of written documents about the house's smell, the house itself bears physical marks of its olfactory aesthetics, especially on the surfaces that were difficult to clean and maintain. For instance, the plaster ceiling, once pure white, is now yellowed by thousands of cigarettes smoked below it. We therefore know that the air in the Glass House was regularly vitiated with airborne particles of tar – the house is notoriously cumbersome to ventilate,

as there are no operable windows and one must open the door to allow air to circulate. Another example are the leather ceiling tiles in the bathroom that have partially peeled off, indicating a combination of humidity and lack of ventilation, both determinant factors in olfaction. In addition to these physical records, we know that construction materials release particular smell signatures – paints, lacquers and varnishes, as well as the woods, leathers and textiles used throughout the house and blended together into a unique mixture that was constantly changing depending on the surface area of each material and environmental factors such as temperature, humidity, ventilation and solar radiation. These physical traces and material properties provided the basis for our reconstruction.

Significantly, glass is odourless. One of the questions raised by this reconstruction of the house's historical smells is whether Johnson's naming of the building embodied both his visual and olfactory aesthetic ambitions. His frustration with the mirroring effects of glass, especially at night, have been amply documented as signs of failure.⁷ More research is required to understand whether he intended his Glass House to be an entirely unscented environment and whether he also considered its odours an aesthetic failure. Johnson's personal correspondence is slowly becoming accessible to scholars and we can expect some advances to be made on this front. Also, the oral history project currently being undertaken by the National Trust for Historic Preservation can reveal important facts – keeping in mind that what an interviewee attends to during an interview has a great deal to do with the questions asked.

There is some evidence to suggest that Johnson was carefully (even if not publicly) considering smell. In his famous 1950 essay citing the precedents for the house, Johnson stated that 'The cubic, "absolute" form of my glass house and the separation of functional units into two absolute shapes rather than a major and minor massing of parts comes directly from Ledoux, the eighteenth-century father of modern architecture'.⁸ Based on functional considerations, Johnson divided the house into two 'absolute shapes', indeed two pavilions, one with a glass envelope, the other with a brick enclosure, facing each other and slightly offset. But what functional considerations was Johnson really concerned with? Both buildings have bedrooms, bathrooms, closets and writing desks. The functional separation had more to do with distinguishing between users than uses. The glass house was Johnson's space and the brick house the space of visitors. Guests, their smells and their noises, were segregated and contained in a separate building.

Johnson's invocation of Ledoux may offer an important clue regarding his olfactory aesthetics. For Ledoux, the ability of individuals to

be housed in separate well-ventilated rooms was both a physical and moral therapeutic imperative. Ledoux was obsessed with the purity of air in buildings and their autonomy was dictated, in part, by ventilation needs. In his ideal town at Chaux he separated houses and public buildings into pavilions that could be individually aired. Alan Corbin has shown how Ledoux's development of the pavilion form was part of a larger European cultural moment in which specialists in every field fought foul smells in order to stem the spread of disease.⁹ In the eighteenth century and much of the nineteenth century, before Pasteur's proof that disease was not transmitted by foul air but by odourless micro-organisms, social reformers identified bad smells as signs and bearers of morbidity. In the late eighteenth century scientists like Jean-Godefroi Léonhardy, Antoine Lavoisier, Joseph Priestley and Karl Wilhelm Scheele 'passionately collected, decanted, confined and preserved "airs" – also called gases – and located the effects of each on the animal organism'.¹⁰ They established taxonomies of 'respirable airs' and stinking emanations, eventually leading to the discovery that air was not an element but a mixture of gases – these collections of 'airs' were the precursors of today's smell archives and important sources in the evolution of contemporary perfumery. Other people's sweat and exhalations were thought to be a potential source of contagion. The architectural notion of atmospheric isolation first found architectural expression in military barracks and new hospital designs such as those of Le Roy, who proposed an individual outlet at the head of each bed, protecting patients from the smell (ie, the diseases) of others.¹¹ Harking back to this late-eighteenth-century architectural moment, Johnson described the plan of his brick pavilion as baroque (and Miesian at the same time), calling attention to the shape and location of the individual windows – they are located at the head of each guest bed.

By the hygienic standards of the 1940s, Johnson's twin pavilion scheme for his house had significant benefits. It is worth recalling that at that time most Americans still feared each other's exhalations, since they were identified as vehicles for the transmission of tuberculosis. Part of the popular interest in international style modernism came from the advances of modern architects in well-ventilated sanatoria. American architects studied precedents and advances in the design of tuberculosis sanatoria from around the world. Alvar Aalto's Paimio Sanatorium (Finland, 1929–33) became particularly famous,

Overleaf: Andy Warhol lights up a cigarette during a visit to Philip Johnson's Glass House in 1965
Photo © David McCabe

To activate an olfactory reconstruction of the Glass House filled with smoke, rub your finger across Warhol's cigarette

but also significant were those of José Villagran Garcia (Huipulco, Mexico, 1936) and Johannes Duiker and Bernard Bijvoet (Zonnestraal Sanatorium, Hilversum, Netherlands, 1928–30).

Clearly, Johnson's interest in individual isolation also had a narcissistic dimension. He did, after all, choose to seclude himself, alone in his pavilion, yet to publicly display himself (yes, his neighbours complained) behind a glass enclosure more typical of commercial storefronts. He hid his guests away behind brick and carefully confined breathable air and personal emanations within the private realm. According to historian Paul Metzner, the deliberate construction of the self as the simultaneous coincidence of and separation between public and private life also has its origins in the late eighteenth century. During the time of Ledoux, the life of common citizens started to be divided into two distinct spheres, private and public. What held these two spheres together, argued Metzner, was a romantic notion of self-centeredness, perfected by figures like Rousseau, who was known for being simultaneously reclusive and ambitious. 'Self-love manifested itself in the private sphere as a drive for the exclusion of others and in the public sphere as a drive for recognition by others'.¹² This ideal of self-centredness became the identifying psychological trait on which the emerging nineteenth-century bourgeoisie built its ideal of the autonomous individual. Viewed from the outside, the glass pavilion was all about Johnson's public figure. From the inside, the wrap-around glass afforded the privilege of private 360-degree views into the landscape, which Johnson famously referred to with the sobriquet 'expensive wallpaper'.

By focusing on the precedents of Johnson's aesthetics of olfaction we arrive at an analysis of the Glass House that enriches previous visual analyses. We can appreciate more clearly the relationship between the choice of dividing the house into two pavilions and Johnson's taste for bourgeois self-fashioning, without falling into the trap of identifying the architectural type of the pavilion with the social type of the bourgeois. After all, the pavilion type itself is not what reflects a bourgeois sensitivity. Rather, it is the way the two pavilions were used to separate users and the narcissist-voyeuristic employment of glass.

Nevertheless, it appears that Johnson's own interpretations of his house fell precisely into the trap of that identity theory. Critics have suggested that Johnson understood the formal autonomy of his glass pavilion to be an expression of the autonomy of the bourgeois (modern) individual, on the grounds that Johnson was influenced by Emil Kaufmann's notion of autonomy, as expressed in *Von Ledoux bis Le Corbusier* (1933) and other works.¹³ Early critiques of the tenuous grounds on which Kaufmann made the connection between built form and social form, such as those of Meyer Schapiro, evidently did not





discourage Johnson.¹⁴ Anthony Vidler recently salvaged Kaufmann from near obscurity by showing his notion of formal 'autonomy' to be the intellectual source for many postmodern architects interested in typology, like Aldo Rossi.¹⁵ For Kaufmann, the concept of autonomy was the keystone of his historiographical method for analysing architecture. It was based on the idea that each period in architectural history was governed by an 'autonomous' structure of compositional principles, or what he called an 'architectural system', in contradistinction to a style. He thought that the aesthetics of buildings were first and foremost determined by internal requirements of construction technology and use. Under his analytic framework, style appeared as something applied post-facto, an idea that resonated with modernist architects interested in the primacy of structure over stylistic decoration.

Johnson's interest in Kaufmann has led historians to analyse the Glass House in Kaufmannian terms, as an example of the idea of formal autonomy, and to relegate the direct influence of Ledoux to a secondary plane, ignoring the question of smell entirely. It does not seem to me entirely fair to either Johnson or Kaufmann to identify their thinking too closely. In fact, descriptions of the house according to a strict Kaufmannian framework exhibit internal contradictions, which can only be explained by moving to the plane of a different analytical framework. For instance, Vidler suggests that the Glass House was designed as an example of Kaufmann's theory and that it failed as such. For Vidler, the house was meant as a post-facto illustration of the theory of autonomy, as a building that 'authorised already written history' rather than serving as the origin of a new architectural history. That failure *vis à vis* historiography led Vidler to condemn the building as essentially a failure, as nothing but a smorgasbord of architectural elements drawn from the past by Johnson in a fit of 'stylistic nostalgia'.¹⁶ Vidler's condemnation is convincing within a Kaufmannian framework, where buildings are valued for being links in the great historical chain of tectonic clarification and not for their style. Yet precisely because it could not be properly described according to Kaufmann's theories, the Glass House attracted new ways to write the history of architecture and to describe the very notion of style. According to more postmodern historiographical frameworks, the Glass House would appear less a failure to originate history and more a frustration of the very search for 'origins' and 'originality' as authorising sources of history.

The larger question to consider here is that what we know about Johnson's life and intentions can help us understand his house better, but can also lead our interpretations astray. This is true with any architect, but especially with

Johnson, who was an infamous manipulator of his own history and thought nothing of de-authorising the documents of his own past.¹⁷ Buildings are both much more and far less than what their original architects intended. They have a life that the first architects cannot control. If they stand for more than a few decades they will invariably be maintained, completed, improved or mangled by subsequent generations of users, builders and architects, whose creative work is often disregarded by historians who see the life of architecture as reducible to the moment when the first architect was involved. Returning to the previous discussion, the historiographical bias of original intentionality is linked to the partiality of many architectural historians towards the visual. The pragmatic reality is that scholars base their work on the documents that are available about buildings and those are mostly visual. But that does not mean that architects were not concerned with the other senses, it was simply a function of the technological limitations of media technology. During the first 20 years of the Glass House's existence, media technology changed dramatically. In 1949, Richard Neutra still had to translate his interest in the sound and smell of architecture into words.¹⁸ But by the late 1960s, advances in micro-encapsulation made it possible for architects like Doug Michels, Chip Lord and other members of the Ant Farm collective to communicate their design ambitions with 'scratch and sniff' stickers.¹⁹ The exhibition *Sugerencias Olfativas*, held at the Fundación Miró in 1978, showcased the work of Rosendo Mateo as part of a larger exploration of new advances in the artistry and technology of smell. As a result of that exhibition a larger set of architects became aware of the possibilities for designing the olfactory aesthetics of environments and communicating their work through scented books. The olfactory reconstruction presented here follows in that tradition, extending it to the discipline of preservation.

Preservation creativity is never *ex nihilo*. It is always a response to a human product that precedes it and to the history of interpretations of that product. The preservation of the Glass House must respond to the particular material conditions of that building and confront the various biases of previous interpretations, such as the emphasis on the visual to the exclusion of all the other senses and of the primacy of place given to Johnson's intentions. As Manfredo Tafuri noted, preservation work can put scholarship in crisis, by confronting it with the reality of the building itself and presenting it with new material evidence that may challenge previous assumptions.²⁰

To activate an olfactory reconstruction of the smell of 1950s' men (*Old Spice, Canoe, Acqua Velva*), rub your finger across this caption

This particular work of olfactory preservation is also a confrontation that runs against the grain of preservation scholarship itself, which is mute on the subject of smell. Despite the technical sophistication of the perfume industry, there is a dearth of serious attempts at historical reconstructions of smells. Rather, like architectural historians, preservationists have tended to approach the subject of historical reconstructions primarily as a visual problem. The degree of a reconstruction's integrity, for instance, is commonly evaluated visually on the basis of stylistic accuracy (especially in the case of works of high architecture), or fidelity to the extant evidence of drawings and photographs. Rather than posit a rare form of professionally induced anosmia to explain the double exclusion of smell from historical analyses of the Glass House and from the discourse on reconstruction, I would suggest that the key to comprehending the moment that discourse fell silent is to be found in our contemporary aesthetics of olfaction.

Although the subject of old house smells rarely comes up in professional architectural or preservation journals, the popular press is obsessed with it. Judging by real estate literature, when Americans purchase homes they are driven as much by olfaction as by the looks of a place. Realtors warn sellers to 'clean and air out any musty smelling areas. Odours are a no-no'.²¹ More bluntly, they set out rules such as 'play down the scent' and 'play up the visual'.²² Americans, it seems, value odourless homes. More importantly for our purposes, they negatively associate old buildings with a foul stench. The smell of old cigarette smoke is thought to be particularly noxious. 'A friend of mine just bought a lovely 1920s house', wrote a concerned journalist in a recent issue of *House Beautiful*, 'but it has layers of old smells, especially from fireplaces and tobacco. How can she get rid of them?'²³ The notion of 'old smells' is marked negatively as something dead. The stale stench of smoke is relegated to the past and deemed something to be expunged in order to restore the house to its 'lovely' 1920s state.

Should the Glass House be restored to its 'lovely' 1949 state? To do so would require cleaning the yellow stains on the plaster ceiling, an operation that would help purify its currently rancid smell. The theory that restoration should be a cleaning operation has evolved out a series of instrumental misreadings of Viollet-le-Duc, who thought of restoration as a profoundly modern operation. In 1843 he wrote that 'To restore a building is not to preserve it, to repair, or rebuild it; it is to reinstate it in a condition of completeness that could never have existed at any given time'.²⁴ This sentence, quoted so often in isolation, has led commentators to boil down Viollet-le-Duc's theory to the idea that restoration is the operation of removing later accretions and adding missing parts to achieve historic build-

ings with stylistic integrity. In truth, however, Viollet-le-Duc not only tolerated later accretions but vehemently defended their retention, so long as they were innovations in building technology that improved the building's performance and were unavailable in previous periods. For instance, he was in favour of maintaining a thirteenth-century cornice gutter on a twelfth-century building, because the cornice-gutter was a technological innovation of the thirteenth century without which the roof of an old building would have collapsed. Viollet-le-Duc employed an admittedly structural/rationalist analytical framework for determining whether accretions should be kept or removed. The point is that his restorations did not aim exclusively at achieving stylistic unity. They endeavoured instead to faithfully capture buildings as continuous sites of innovation, restricted by their given material conditions but open-ended as far as time. The fact that Viollet-le-Duc did not identify a building's state of completeness with a particular moment in time has led Aron Vinegar to interpret his theory of restoration as a precursor of the contemporary theory that preservation is as much a material as a temporal practice, best described in the tense of the future anterior.²⁵ In sum, restoration does not necessarily require the removal of material accretions in favour of visual or stylistic integrity. It does mean, however, that the basis for removing or retaining elements (even the soot on the ceiling) must be explicitly articulated and theorised.

To be explicit, then, removing the material traces of the smells that permeated Johnson's Glass House, such as the yellow tint of the plaster ceiling, would be to restore the house according to the olfactory bias of contemporary society. In the 1950s, the stale smell of cigarette smoke was a socially acceptable aesthetic in elite environments. Today, it is associated with lower-class environments. To restore the Glass House as a deodorised pavilion would certainly make it easier for contemporary visitors to grasp its elite nature. Preservation is often rightly accused of distorting historical evidence in order to advance myth and folkloric tales – of the very sort that Johnson liked to spin about himself.²⁶ Preservation can also be a critical practice that questions its own *modus operandi* and nudges other disciplines to rethink their assumptions about it. The present experimental reconstruction of the smells of the Glass House was designed as an olfactory installation to be diffused intermittently in the building. We did not obtain approval from the National Trust to install it. There is no question that the smells might be offensive to contemporary visitors. Yet it is precisely this difference between our aesthetic sensibilities and those impregnated in the Glass House that make it a perfect place to re-open the question of the sociology of smell and its lasting influence on architecture.

1. 'Glass House', in *Life*, September 1949, pp 94–96.
2. 'Glass House', in *Architectural Forum*, November 1949, pp 74–79.
3. Philip Johnson, 'House at New Canaan, Connecticut', in *Architectural Review*, no 645, vol 108, September 1950, pp 152–59.
4. 'Honour Awards go to Nine Buildings, the 25-year Award to a Glass House', in *American Institute of Architects Journal*, no 5, May 1975, pp 26–43.
5. Kenneth Frampton, 'The Glass House Revisited', in *Institute for Architecture and Urban Studies Catalogue*, no 9, 1978, pp 38–59; Peter Eisenman and Philip Johnson, 'Peter Eisenman's interview with Philip Johnson [and] Oriental Pavilion, New Canaan, Connecticut, 1991–1993', in *Zodiac*, no 9, March–August 1993, pp 134–49; Vincent Scully, 'Architecture: Philip Johnson: The Glass House Revisited', in *Architectural Digest*, no 11, vol 43, November 1986, pp 116–25, 220; Robert A M Stern, 'The Evolution of Philip Johnson's Glass House, 1947–48', in *Oppositions*, no 10, Fall 1977, pp 56–67; Jeffrey Kipnis, 'Philip Johnson', in *A+U: Architecture and Urbanism*, no 4 (259), April 1992, pp 6–39; Kazys Varnelis, *The Spectacle of the Innocent Eye: Vision, Cynical Reason and the Discipline of Architecture in Postwar America*, PhD Dissertation (Ithaca, NY: Cornell University, 1994).
6. Margaret Maile Petty, 'Illuminating the Glass Box: The Lighting Designs of Richard Kelly', in *Journal of the Society of Architectural Historians*, no 2, vol 66, June 2007, pp 194–219.
7. *Ibid.*
8. Philip Johnson, *op cit*, p 154.
9. Alain Corbin, *The Foul and the Fragrant: Odour and the French Social Imagination* (Cambridge, MA: Harvard University Press, 1986).
10. *Ibid.*, p 15.
11. Richard Etlin, 'L'air dans l'urbanisme des Lumières', in *Dix-Huitième Siècle Paris*, no 9, 1977, pp 123–34. These early experiments later influenced the design of prison cells in the nineteenth century, thoroughly analysed by Michel Foucault in *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan (New York: Vintage Books, 1977).
12. Paul Metzner, *Crescendo of the Virtuoso: Spectacle, Skill and Self-Promotion in Paris during the Age of Revolution* (Berkeley, Los Angeles and London: University of California Press, 1998).
13. Franz Schulze, *Philip Johnson: Life and Work* (New York: Knopf, 1994), pp 157–58, 194–96, 216. Kaufmann was largely responsible for reviving interest not only in Ledoux but also in other late-eighteenth-century architects like Boullée and Lequeu. He called attention to the intellectual lineage, from Kant to Rousseau, from which Ledoux drew justification for his theories of architectural isolation. See Anthony Vidler, *Histories of the Immediate Present: Inventing Architectural Modernism* (Cambridge, MA: MIT Press, 2008), pp 17–59.
14. Meyer Schapiro, 'The New Viennese School', in *Art Bulletin*, no 17, 1936, pp 258–66.
15. Anthony Vidler, *op cit*, pp 17–59.
16. *Ibid.*, p 55.
17. Leslie Klein, 'History, Autobiography and Interpretation: The Challenge of Philip Johnson's Glass House', in *Future Anterior*, no 2, vol 1, Fall 2004, pp 59–66.
18. Richard J Neutra, 'The Sound and Smell of Architecture', in *Progressive Architecture*, vol 30, November 1949, pp 65–66.
19. Felicity D Scott, *Living Archive 7: Ant Farm* (Barcelona and New York: Actar, 2008).
20. Manfredo Tafuri, Bruno Pedretti, Chiara Baglione, 'Storia, Conservazione, Restauro [Interview]', in *Casabella*, no 580, vol 55, June 1991, pp 23–26, 60–61. See also Andrew Leach, 'Libido Operandi or Conflict: Tafuri on Historic Preservation and Historiography', in *Future Anterior*, no 2, vol 3, Winter 2006, pp 1–9.
21. Elizabeth Weintraub, 'How to Prepare your House for Sale', in About.com, <http://homebuying.about.com/od/sellingahouse/ht/homeprep.htm> (accessed September 1, 2008).
22. Elizabeth Weintraub, 'Top 10 Home Showing Tips', in About.com <http://homebuying.about.com/od/sellingahouse/qt/ShowingHome.htm> (accessed September 1, 2008).
23. Eve M Kahn, 'Maintenance and Odour Removal Q&A', in *House Beautiful*, no 6, vol 150, June 2008, p 64.
24. M F Hearn (ed), *The Architectural Theory of Viollet-le-Duc: Readings and Commentary*, (Cambridge, MA: MIT Press, 1990), p 269.
25. Aron Vinegar, 'Viollet-le-Duc and Restoration in the Future Anterior', in *Future Anterior*, no 2, vol 3, Winter 2006, pp 55–65. Vinegar maintains that Viollet-le-Duc conceived of buildings as entities with paradoxically 'untimely' temporalities. He argues that Viollet-le-Duc's conception of time was 'implicated': 'a time that is not over there in "segments" – a set of discrete temporal units following each other as successive moments in a line or sequence organised in relationship to a distant and stable "present" – but rather a time that we are part of, involved in, caught up in the midst of, but which we never quite master and are thus also apart from', p 56.
26. David Lowenthal, 'Fabricating Heritage', in *History & Memory*, no 1, vol 10, 1998, <http://www.iupjournals.org/history/ham10-1.html>.