Chapter 9

Hands at home? textures, tactility and touch in interior design

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Introduction: touching home

The interior spaces that we occupy are not all the work of professional interior designers but they are all designed, whether with forethought (design in the sense of planning), or with less intentionality and more organic accrual. It follows that the sensory experiences we have in those spaces are also designed, and that they contribute to our understanding of interior design.

Touch looms large in our experience of the world; after all the skin is our largest organ. But touch, feeling, is also critically important for wellbeing, how we feel.[1] Interior designer Catherine Bailly Dunne notes: 'Interior design has traditionally focussed its energies on pleasing the eye. But a room that looks right doesn't necessarily feel right'. She explains that 'Humans can survive without hearing, sight, smell – even without the pleasures of taste. But without touch, we cannot survive psychologically […] Always include touch in your decorating equation'.[2] Rather than seeking to prioritise the senses, though, Bailly Dunne advocates designing for all of them, as does architect Juhani Pallasmaa.[3] Our senses - the proverbial five senses, plus proprioception, and even the sixth sense, intuition - work in concert to deliver our experiences of the world, including interiors. Some of our senses have obvious affinities: every meal we eat demonstrates that taste and smell are connected, and any task requiring hand-eye coordination shows that sight and touch are sister senses. The experiences of people with various disabilities, who develop enhanced senses, both challenge and confirm normative sensory experiences, however those are understood.

Given that the senses work collectively, why isolate the sense of touch in understanding interior design? One answer is practical: because we cannot hope to articulate a total sensory experience, isolating touch makes the task more manageable. Also, because the information we receive from our senses is highly personal, we cannot generalise about sensory experiences. Isolating touch allows greater focus and promises potentially more useful commentary and analysis. Another reason to focus on touch is that touch is not a singular entity; there are many different touch receptors on our hands and bodies and by foregrounding touch we can better appreciate its variety. We engage with the world - and with interiors therefore - by stroking, patting, squeezing, grasping and lifting etc. These touches – plural - facilitate the sensing of surface texture, volume and weight. Touch is not only a manual activity; it is a whole-body sense. We sense how a room feels using touch alongside other senses and social and cognitive functions such as intuition. We are touching interior design when we stand and walk on the floor, sit and lay on furniture, open and close doors, cupboards, drawers, curtains and blinds. We feel carpet or other flooring under our feet, whether or not we are wearing shoes. We sense air on our skin. Regardless of 'do not touch' signs in museums and certain shops, we touch every interior that we enter. Therefore, if we wish to understand interiors, their design and design history, it is essential to consider touch.

Interior design involves a range of different touch experiences, again working collectively to form a concerted sensory experience. Different materials perform diverse functions and offer varied sensory experiences. Is the floor under your feet floorboards, parquet or tile? Is it carpeted or covered with rugs, linoleum or vinyl, rubber or plant fibre matting? Is the chair you are sitting on upholstered? Is it made of plastic (see below), metal, wood, or a combination of those? Is your table glass, wood, metal or plastic? Are your walls covered in fabric, tapestry, or velvet-flocked wallpaper? Or are your walls stained plaster,

fresco, trompe l'oeil, or decorated with a mural? Are they papered and if so is the paper embossed? If you have printed wallpaper, is it machine-printed or hand-blocked? The texture will tell you. If you are your own interior designer, these variables were chosen by you, and touch will have played a part. If not, interior designers have undertaken a combinatory process which determines your sensory experience.

While some interiors are designed with all of the senses in mind, others prioritise one sense over the rest; for example, in appealing to the eye but not the hand. Things that look good do not always feel good, and vice versa, as the users of poured concrete staircases and polyester bedsheets might attest. Some plastic chairs, paints or textiles admired for their visual appeal may carry odour that mars the sensory enjoyment they promise. A focus on touch needs to recognise its interaction with other senses such as smell and sight. Indeed, focussing on touch enables an analysis which counterbalances the ocularcentrism of the design print media, as I will discuss later in this chapter.

Interior design history has largely focussed on domestic interiors rather than public, commercial, transport and other kinds of interior.[4] Most of the examples in this chapter are domestic, partly for the practical reason that it is a more manageable sub-category but also, and more importantly, due to the association of touch and comfort. The phrase 'home comforts' indicates that the home is not merely a place; it is a group of sensory experiences which collectively produce a distinctive comfort. This chapter, then, explores the mutually constitutive relationships between touch and interior design for the home, in an analysis attentive to modernisms and mediation.

Interior design has developed as a professional practice during the modern period, broadly defined, in ways increasingly distinct from both architecture, on the one hand, and decoration, on the other.[5] The central importance of comfort in the nineteenth-century bourgeois interior, communicated in contemporary domestic advice books, was challenged

by modernist designers who reimagined the home and its comfort.[6] The Modern Movement in design provided a context for the professionalisation of interior design in the twentieth century.[7] Modernism is best understood as a collection of tendencies, or even modernisms in the plural, rather than as a style or as a singular, wholly coherent cultural movement. Here, I examine three key tendencies of modernism, showing how a focus on touch yields new understanding about the interplay of people and their object worlds in domestic interiors.

Hand and machine: producing and consuming modernist interior design

Interior design is a process of planning. A meaning of 'design' is the verb to plan, another is the noun 'plan'. Interior designers focus on spatial planning - how people move through and use spaces and places – as well as how best to deploy furniture and furnishings, including 'soft furnishings' such as curtains and cushions. This planning precedes, or occurs alongside, the practical activities of realising a planned interior such as construction, fabrication, installation and decoration. Planning is not simply intellectual: it involves ideation, but also sourcing materials using manufacturers' samples. Decisions about materials are made with budget, utility and application in mind, but also in response to aesthetics and how things feel. Interior components fabricated by the designer or studio commissioned to design an interior usually sit alongside a combination of pre-existing manufactured elements, such as floor finishes, furniture, wall treatments, lighting, etc. Touch is key in their selection.

That touch is a crucial aspect of interior design is demonstrated by the persistence in the age of computer-aided design (CAD) of physical mood boards, a tactile mix of inspiration and information. The interior that is produced in the mind's eye of the designer is visible in design sketches, and imagining how the space will feel is assisted by sample swatches on mood boards and in manufacturers' catalogues. The mood board is a place where interior designers collect their ideas and plan their designs, but it is also a tool of communication with

studio colleagues, clients, contractors, fabricators and stakeholders. Mood boards ensure that touch is part of interior design process as well as its end result. The planning that interior designers undertake includes anticipating and designing users' sensory experiences, including touch. Sensory responses to design are not purely a factor of consumption; they are designed into products and places. An analytical approach to interiors focussed on the senses – here, touch, specifically – brings together the production and consumption of design in three examples focussed on aspects of modernism.

Elimination: enhancing the sense of touch

A key modernist design tendency is elimination, from Mies van der Rohe's (following Peter Behrens) 'personal motto, "less is more"', to Dieter Rams' 1984 injunction that we must 'omit the unimportant', because 'Good design is as little design as possible'.[8] Adolf Loos infamously associated ornament with degeneracy and crime.[9] A striking example of elimination in design is the bedroom Loos designed for his wife, Lina Loos (1903) [Figure 9.1].[10] This remarkable room provides only what is essential for a bedroom, albeit in luxurious, sensual style. It is dominated by an enormous white Angora rabbit fur rug which climbs up the sides of a divan bed covered in a simple white silk bedspread. The walls and window(s) alike are shielded by a white wraparound curtain, made from cambric, with a flounce at the hem that exactly matches the flounced skirts for two bedside tables and a dressing table. The effect is both dramatic and calming. Through elimination, Loos has reduced the visual load of the space and intensified the impact of its tactile, textural appeal. He has set the stage for sleep, or passion, or splendid isolation. A person contemplating the room may wish to lay on the rug more than the bed, and true relaxation in the space may require first pulling back the curtain to see what it conceals. Loos here presents a version of luxury updated for modernism: he employs longstanding status symbols in the form of luxury

materials made from animal products - fur and silk - in conjunction with qualities which might retrospectively be termed ‘stealth wealth’: luxuries of space, and the ability to resource the labour required to maintain a white or cream interior. Through elimination, Loos intensifies the experience of comfort through textures which appeal to the sense(s) of touch – deep-pile fur, smooth silk, crisp drapery.

This 1903 interior could not be a clearer rejection of the overstuffed nineteenth-century domestic interior; it can also be seen, in retrospect, as anticipating both the white moderne[11] interior designs of Syrie Maugham, and minimalism in interior design exemplified by the work of architect John Pawson. See, for instance, Pawson’s Home Farm (2013-19), ‘where architect and client are one’:

> Over the course of more than thirty years, a body of work has accumulated based on the objective of making simple spaces, with just what is required and nothing more, where the eye feels as comfortable as the body. At the heart of everything has been the idea of refining by removing, meticulously paring away until what is left cannot be improved by further reduction: sensual space, where the primary experience is of the quality of light, materials and proportions.[12]

Feminist design historians have contributed much to the understanding of modernism, interior design, the relationship of architecture, design, and decoration and domesticity, often critiquing minimalism and its variants as masculinist practices.[13] An interior design history attentive to touch enables deeper recognition of what elimination offers, as much as what it takes away. In interior design, elimination and minimalism are strategies which remove sensory stimuli and thereby enable an enhanced sensory experience.

Functionalism at home: a cog in the machine for living in

Another modernist design tenet is that of appropriateness of form, derived from the design reformers of the nineteenth century. Architect Louis Sullivan’s proposal that ‘form follows

function' underpins the machine aesthetic, the idea that machines are beautiful.[14] Le Corbusier regarded the house as a machine for living in.[15] His interiors form some of the clearest demonstrations of the machine aesthetic, characterised by shiny metal, painted metal, tiles on the floor and walls, and minimal furniture and furnishings. Although they may seem devoid of home comforts when compared with many other homes, Le Corbusier's domestic interiors engage the sense of touch just as resoundingly as Loos' furry bedroom. As Ilse Crawford notes: 'Early Modern Movement houses, although clinical in appearance, were meant to be temples of the senses'.[16] Visitors to Le Corbusier's interiors are guided by the interior elements that he designed into them. Tim Benton's 1975 filmed visit to Le Corbusier's and Pierre Jeanneret's Villa Savoye (1928-31) makes clear that the house was designed to be experienced as a continuous route up and around, from the galleried pathway created by the pilotis on which the house sits, up through the rooms, to the roof terrace.[17] While not necessarily forming part of the visitors' promenade tour, the pantry shown here [Figure 9.2] has good sightlines throughout the first floor of the home, and shows Le Corbusier's attention to detail in terms of hardware.

When visitors grasp and turn the metal door handles at Villa Savoye (which match the ones at Maison La Roche, another one of Le Corbusier's houses in Paris),[18] and open the window locks, ascend staircases and sloping walkways, in these houses, they become cogs in Le Corbusier's living machine. The role of the designed world in scripting human behaviour through the affordances it offers to users follows the Actor Network Theory of, among others, Bruno Latour.[19] Kjetil Fallan has written 'Latour's construction metaphor seems to be more about homes than about houses, to use a familiar distinction from the sphere of architecture. […] It is not just about erecting a building, but about co-producing architecture'.[20] Le Corbusier and Jeanneret have designed our sensory experiences and left a script for us in the forms and affordances of these interiors. In elaborating instructions for the

house-machine, 'the manual of the dwelling', Le Corbusier concludes: 'Every modern man has the mechanical sense. The feeling for mechanics exists and is justified by our daily activities.'[21] He says of the '"House-Tool"' that 'it is essential to create the right state of mind for living in mass-production houses.'[22] We might see the same didacticism in Charlotte Perriand, Pierre Jeanneret and Le Corbusier's metal and leather chaise longue LC4 (1929), a common addition to Le Corbusier's domestic interiors. Although it is comfortable, and adjustable, it anticipates and scripts the positions the user may adopt.[23] Not every inhabitant, of Le Corbusier's house-machines behaves in the way that the architects intended.[24] A difference between the experiences of the original inhabitants of Le Corbusier's homes and today's visitors is that the smooth, shiny metals and other construction materials have accrued markers of time: patina, dust, rust and efflorescence. These are subtle, tactile reminders that when we visit Villa Savoye we are on hallowed ground in interior design terms.

Hard bodies: plastics and liquid modernity

A third defining characteristic of modernism that has been important in transforming nineteenth-century bourgeois notions of home comforts is the technological developments which extended the possibilities of design. Let us consider just one example: the materials we collectively term 'plastic'.[25] Plastic is derived from oil and, like oil, it is liquid during the production process. Once solid, a plastic object can take almost any form and texture, including ones which recall its liquid phase. This makes it quite different to existing furniture construction processes and materials, even those which best approximate fluidity in appearance, such as the steamed bentwood bistro chairs manufactured by Thonet (1859), of which Le Corbusier approved,[26] the serpentine, whiplash forms of Art Nouveau fine

cabinetmaking, and the tubular metal of modernism in design, such as the aforementioned LC4 chaise longue of 1929 (which was also made by Gebrüder Thonet).

Just as entering an interior is a kind of touch – touching the floor, touching the air, touching the handles and surfaces – so sitting is a kind of touch.[27] Early applications of plastic to products for the interior include Charles and Ray Eames' DAR armchair (Herman Miller Furniture Company, 1948-1950) [Figure 9.3] where their goal was to produce an armchair from a single piece. This chair was recognised by the Museum of Modern Art in 1950.[28] The next year, Phillips Petroleum established the polymerization of propylene, and from 1954, Giulio Natta and Karl Rehn, at the Politecnico di Milano, developed polypropylene further. First commercially exploited by Montecatini from 1957,[29] subsequently manufacturers including Kartell took advantage of the properties of plastic to create new furniture forms. In 1960, Verner Panton designed the first single-form injection-moulded plastic chair, the organic 'S chair'.[30] Panton's aesthetic legacy persists, for instance, in the smooth plastic curves favoured by Egyptian-Canadian designer Karim Rashid, such as his rotomoulded polyethylene Woopy chair of 2011.[31]

Plastic introduced new tactile experiences into the domestic interior. In some cases, the shiny new forms that plastic enabled became the entire interior as shown in many of the room and dwelling proposals showcased in the exhibition 'Italy: The New Domestic Landscape' at the Museum of Modern Art in 1972 and some of these ideas were put into production. Sitting on an Eames plastic chair, the sitter experiences not the responsive bounce of upholstery but rather the small flex plastic affords. Production of the Eames chairs switched from fibreglass to polypropylene, and there is a discernible difference between the feel of the two materials,[32] but in neither case does the sitter sink in to an Eames chair as she would into an upholstered one; rather she is enclosed by it, and it moves with and next to her.[33]

Inflatable plastic chairs such as the Blow chair - designed by Paolo Lomazzi, Donato D'Urbino and Jonathan De Pas (Zanotta, 1967) – [Figure 9.4] offer a sitting experience more akin to upholstery than the Eames shell chairs do, but they share with all plastic chairs the fact that skin sticks to them in a way that it doesn't with furnishing fabric. Sitting in an Eames chair, or a Blow chair, feels different depending on whether the sitter is wearing trousers or a skirt, shorts or a bikini. Ingrid Halland has theorised that the Blow chair is immaterial, because it is inflated with air. Closely following Felicity Scott's analysis of Manfredo Tafuri's critique, Halland suggests that 'plastic-moulded mass-produced objects alienated the designer from work and increased the distance between the designer and the object'.[34] If we accept this theory, we must also recognise that plastic chairs decrease the distance between the user and the object to nothing. Here my analysis of the plastic chair, focussed on touch, has shown that it is wholly material, whether moving with and alongside the sitter, or sticking to them.

Seeing and touching: mediating and consuming interior design

So far, this chapter has examined how interiors - and interior elements in the form of plastic chairs – engage the sense of touch. While I have deliberately selected examples of which I have primary, direct experience (architecture and interiors design by Le Corbusier and John Pawson, chairs designed by Charles and Ray Eames) I did not visit Lina Loos' bedroom and have responded to that space using the available evidence. Loos himself recognised the problem: 'a true building makes no impression as a picture reduced to two dimensions. It is my greatest pride that the interiors I have created are completely lacking in effect when photographed.'[35] Yet, as Ellen Lupton and Andrea Lipps put it, 'Touch is visual. The eye is a surrogate for the skin. We can look at things and see if they are sticky or slick, nubby or smooth, sharp or blunt, before we ever touch them.'[36] As noted, the senses work together.

Seeing is usually a prelude to touching and when we cannot see what we are touching, the sense of touch is heightened to make up for the lost information we would gather from sight.[37] Imaginatively occupying an interior is a skill we develop as consumers in a variety of contexts from browsing home decorating and domestic advice books, shelter magazines and catalogues, visiting retail environments, handling products and entering shops room sets, and visiting historic interiors and period rooms. Yet, as I noted at the outset of this chapter, appearances can be deceptive; things can look better than they feel, or look as if they feel better than they do. It is necessary to distinguish between interiors we can touch, and those we cannot, and to consider how in the latter case, touch, as a constitutive element of interior design, is mediated to consumers.

Press

Ironically named after a kind of touch, the press offers merely an oblique touch experience. We flip through the glossy pages of aspirational magazines such as *World of Interiors*, and turn the slubby, recycled paper pages of publications such as *Kinfolk*, feeling the pages, smelling the ink, and perusing the interiors shown. The shelter magazine, home decorating book, or online equivalent accessed via a device such as a touch screen or keyboard, are tangible artefacts providing touch experiences, but they do not allow direct contact with interiors depicted. So how have design commentators promoted attention to the sense of touch? Two women who have each combined the roles of interior design consultant, design journalist and editor-in-chief of *ELLE Decoration*, Ilse Crawford and Michelle Ogundehin, have called attention to the sensory, textual, affordances of objects, materials, furniture and furnishings, and how interiors can make inhabitants feel. Crawford designed a hotel, Ett Hem, with the intention that guests should feel at home.[38] Ogundehin has written a lifestyle

guide called *Happy Inside*.[39] Their insistence on the importance of texture may be understood as an antidote to the visuality of the interior design press.

Retail

We cannot usually step into windows displays; the appeal of seeing window dressers at work comes from them being real people in an environment of fabrications, samples and models, caught in the act of constructing an alluring illusion, moving in a context which is usually static (unless uncanny animatronic and other dynamic display techniques are used). But we can imagine, from the other side of the glass, that we inhabit those spaces, just as we can imaginatively enter interiors shown in the press. Interior design retail incorporates physical touch in a variety of ways, from the swatches given to customers in stores, for planning and colour matching, to the retail environments themselves, where we can pick up lamps and open drawers, sit on sofas, and wheeled office chairs, pat cushions, stroke fabrics and rummage through remnant bins. The 'big box' US homewares retailer Bed, Bath and Beyond provides something of the retail tour experience epitomised by IKEA. Antonia Mantonakis, Professor of Marketing at Brock University, explains that

> [c]ustomers want to touch, feel, and get all of the senses when they shop, […] In Bed Bath, you can feel the towels and linens. Even if you do the research online, there are certain categories of items consumers will always want to check out in stores. It's a different, more engaging, more emotional, involved experience consumers enjoy.'[40]

Interiors retailers often go further, providing small mock-up scenes, such as dummy beds (sometimes full length, sometimes strangely abbreviated like early modern beds in stately homes) made up with bedlinen. Bed retailers encourage customers, individually or as couples, to lay down to test the texture of mattresses. In IKEA we are guided through apparently endless 'room' sets, entering a trance state in which we become more easily

impressed by mesh storage solutions and rugs. While these pretend interiors enable touching and feeling as a prelude to purchase, they still require imaginative labour from consumers who envisage the store's produced in their homes, just as potential home buyers do in show homes.[41]

Museums

The room sets we encounter in interiors stores are sisters of the period rooms we see in museums, albeit with some key differences: museum period rooms exist not to sell, but rather to educate; the objects they contain are usually prized or remarkable in some way; unless they form part of a house tour, we are not always allowed to enter period rooms.[42] Handling collections are provided by museums not only because manual handling enhances learning, but also to preserve the main collection from the damages wrought by touch. When I toured Elvis Presley's house Graceland in Memphis, Tennessee, the only thing I touched was my camera. The Museum of the Home in London has repurposed a group of alms-houses as an enfilade of period rooms to communicate a chronological history of the middle-class interior, where visitors are kept out of the successive period rooms by a low rope. On a visit there, I saw a man simply step over the rope into one of the rooms. This transgression earned the censure of the security staff (and myself). Visitors to England's National Trust properties are used to seeing teasels or holly sprigs placed on seats as instructions not to sit, as well as disincentives (both are spiky). Those same visitors are now being coaxed into the touch experiences, such as playing the pianos, that are increasingly integrated into the National Trust visitor experience.

Conclusion: touch as/and consumption and interiority

This chapter has reflected on the importance of touch, as a whole-body sense, as the defining experience of interiority and as a primary medium for interior design. We touch every interior

we enter (not always with our hands but always with our bodies). When we enter interiors, they envelop us. Just as we consume them, they consume us. It is not easy to replicate in words the feeling of touching interior design – however hard the design press might try – but when we read about interiors in home and shelter magazines, and browse the images they show, we imagine what it would feel like to inhabit those homes.

While touch as a way of knowing interiors is a whole-body experience, it is constrained. We learn rules about what we can and cannot touch, how and when.[43] This is demonstrated by children who have yet to learn the behaviours of interiority and identify affordances more creatively.[144] The interiors we can touch unguardedly do not extend much beyond our own homes and – potentially - any interior in which we are left unattended and unobserved. Even in the homes of friends and family we cannot touch what we want, when we want. Fragile items must be handled carefully, and infrequently, perhaps only by certain people. Firearms, ceramics, paintings, are out of bounds, whether for safety or propriety. By refraining from running our fingers over everything in sight, we show deference to other inhabitant(s). In workspaces where space, equipment and facilities are shared, we are not at liberty to riffle through items on other people's desks or to enter certain spaces without permission. When we travel, we may feel temporary (illusory) ownership over our reserved seat, while a visit to the cockpit of a plane is an invitation-only treat. Sometimes not being allowed to touch is an expression of care. The interior can be a retreat and place of safety. In a hospital ward, hygiene and safety are paramount, as they are in a prison cell, albeit for different reasons. Constraints and denial can be self-imposed, too.

As well as the social rules and expectations which variously constrain and allow touch, tactile engagement with interiors develops over months, years and decades. We reach out and grasp a door knob, stair rail, drawer pull or light switch. When the light, or our

eyesight, is insufficient, we feel our way around our homes, using familiarity and sense-memory. Touch over time is evidenced in patterns of wear, such as worn sections of floor in a heavily-trafficked hall, next to a kitchen counter, by a bed, and threadbare soft furnishings such as chair arms. The decisions made by interior designers, and the choices we make for ourselves about the design of our homes, directly condition this tactile experience without always anticipating its effects.

Endnotes

[1]For a remarkable study of how home feels, albeit not focussed on touch, see P. J. J. Pennartz, 'Home: The Experience of Atmosphere', in I. Cieraad (ed.), *At Home: An Anthropology of Domestic Space* (Syracuse: Syracuse University Press, 1999).

[2] C. B. Dunne, *Interior Designing for all Five Senses* (London: St Martin's Press, 1998), p. 3, p. 85.

[3] J. Pallasmaa, *The Eyes of the Skin: Architecture and the Senses* (Chichester: Wiley, 2005).

[4] P. Sparke (2010) 'The Modern Interior: A Space, a Place or a Matter of Taste?' *Interiors*, vol. 1, no. 1 (2010): 7-17.

[5] For a precursor to nineteenth-century bourgeois notions of comfort, see J. E. Crowley, *The Invention of Comfort: Sensibilities and Design in Early Modern America* (Baltimore: Johns Hopkins University Press, 2003). On nineteenth-century bourgeois notions of comfort, see K. C. Grier, *Culture and Comfort: Parlour Making and Middle-Class Identity, 1850-1930* (Washington DC: Smithsonian Institution Press, 1988); D. Cohen, *Household Gods: The British and Their Possessions* (New Haven and London: Yale University Press, 2006) and L. Young, *Middle-Class Culture in the Nineteenth Century: America, Australia and Britain*, (Basingstoke: Palgrave Macmillan, 1992).

[6] P. Sparke, A. Massey, T. Keeble and B. Martin (eds.), *Designing the Modern Interior: From the Victorians to Today* (Oxford: Berg, 2009).

[7] G. Lees-Maffei, G. 'Introduction: Professionalization as a Focus in Interior Design History,' *Journal of Design History*, vol. 21, no. 1 (2008): 1-18.

[8] P. C. Johnson, *Mies van der Rohe* (New York: Museum of Modern Art, 1947), p. 49. Dieter Rams, 'Omit the Unimportant', *Design Issues*, vol. 1, no. 1 (Spring, 1984): 24-26. 'Less is more' was later replaced by postmodern architect Robert Venturi with 'Less is a bore': R. Venturi, *Complexity and Contradiction in Architecture* (New York: Museum of Modern Art, 2002, 1966), p. 17.

[9] A. Loos, 'Ornament and Crime', *Neue Freie Presse*, Vienna (January 1908). Reprinted in Le Corbusier's *Esprit Nouveau*, 1920. Just as the racial politics of this essay have been critiqued, so has its bibliographic history: see C. Long, 'The Origins and Context of Adolf Loos's "Ornament and Crime,"' *Journal of the Society of Architectural Historians* vol. 68 (2009): 200-223.

[10] A. Loos, 'Das Schlafzimmer meiner Frau' ('My Wife's Bedroom') in *Kunst: Halbmonatschrift für Kunst und alles andere*, no. 1 (1903). See T. Gronberg, 'Haptic Homes: Fashioning the Modern Interior' in T. Gronberg, *Vienna: City of Modernity 1890-1914* (Bern: Peter Lang, 2007).

[11] 'Moderne' refers to an interwar style in interior design and decorative arts, between high modernism and consumerist variations on modernism as a style. See T. Washington, 'Moderne' in C. Edwards, ed. *Bloomsbury Encyclopedia of Design*, vol. 2, p. 386 (London: Bloomsbury 2016); Tim Benton, Charlotte Benton and Ghislaine Wood, eds., *Art Deco 1910-1939*, (London: Victoria & Albert Museum, 2003).

[12] J. Pawson, 'Home Farm', http://www.johnpawson.com/works/home-farm website, accessed 31 March 2021. See also J. Pawson, *Minimum* (London: Phaidon, 2006); J. Pawson, *Anatomy of Minimum* (London: Phaidon, 2019). Pawson has also addressed the sense of touch with his textile collections and the sense of taste with his two cookbooks: J. Pawson and A. Bell, *Living and Eating* (New York: Clarkson Potter, 2001) and C. Pawson and J. Pawson, *Home Farm Cooking* (London: Phaidon, 2021).

[13] B. Colomina, *Privacy and Publicity: Modern Architecture as Mass Media* (Cambridge, MA: MIT Press, 1994); B. Colomina, 'The Split Wall: Domestic Voyeurism' in B. Colomina (ed.), *Sexuality and Space* (New York: Princeton Architectural Press, 1992). B. Colomina (ed.), *The Century of the Bed* (Vienna: Verlag für modern Kunst, 2014), pp. 18-23 mentions and illustrates Lina Loos's bedroom but does not discuss it. P. Sparke, *As Long as it's Pink: The Sexual Politics of Taste* (London: Pandora, 1995) refers to a telling scene in the documentary series *Signs of the Times* in which an architect's wife laments the loss of curtains in their shared house. The episode referred to is probably 'Marie Louise Collects Bric-a-Brac', *Signs of the Times*, Directed by Nicholas Barker. 5 January 1992, 49 minutes, BBC. Available online at https://www.bbc.co.uk/iplayer/episode/p03rff4k/signs-of-the-times-marie-louise-collects-bricabrac Accessed 31 March 2021. For a discussion of women, windows, curtains and vulva, see Margaret Maille Petty, 'Scopophobia/Scopophilia: Electric Light and the Anxiety of the Gaze in American Postwar Domestic Architecture', in Robin Schuldenfrei (ed.), *Atomic Dwelling: Anxiety, Domesticity, and Postwar Architecture*, (Abingdon: Routledge, 2012).

[14] L. Sullivan, 'The Tall Office Building Artistically Considered' (1896), in R. Twombley (ed.), *Louis Sullivan: The Public Papers* (Chicago: University of Chicago Press, 1988). The Alessi company's postmodern retort to this was 'family follows fiction'; see Centro Studi Alessi, F.F.F. Family Follows Fiction Workshop 1991/1993 (Crusinallo: F.A.O. S.p.A., 1993).

[15] Le Corbusier, *Towards a New Architecture* (Vers une Architecture, 1924, Paris), trans. Frederick Etchells (London: The Architectural Press, 1927, 1952), p. 89, p. 100.

[16] I. Crawford, *The Sensual Home: Liberate Your Senses and Change Your Life* (London: Quadrille, 2000), p.

[17] A305/13: 'Le Corbusier: Villa Savoye,' written by T. Benton, directed by N. Levinson, produced by the BBC/Open University, aired 14 June 1975 on BBC2 as part of The Open University course A305, History of Architecture and Design 1890–1939. https://youtu.be/40I7y-3Wvcg This promenade experience might be seen, in retrospect, to anticipate Frank Lloyd Wright's continuously sloping art promenade for the Guggenheim Museum (1943-59) in New York City.

[18] Le Corbusier and Pierre Jeanneret, Maison La Roche (1923-5) is one of two homes, known collectively as Les Villas La Roche-Jenneret, and now housing Fondation Le Corbusier. I visited Villa Savoye and Maison La Roche in Paris, and the Wesisenhof Museum in houses designed by Le Corbusier as part of the 1927 Deutscher Werkbund exhibition Die Wohnung (The Home) on the Weissenhof Estate in Stuttgart, Germany, as part of my embodied research for a broader project on hands and touch in design history and the history of design.

[19] B. Latour, *Reassembling the Social: An Introduction to Actor Network Theory* (Oxford: Oxford University Press, 2005); A. Yaneva, 'Making the Social Hold: Towards an Actor-Network Theory of Design', *Design and Culture*, vol. 1, no. 3 (2009): 273–288.

[20] K. Fallan, 'Architecture in action: Traveling with actor-network theory in the land of architectural research', *Architectural Theory Review*, vol. 13, no. 1 (2008): 80-96, p. 87.

[21] Le Corbusier, *Towards*, p.115, p.119.

[22] Le Corbusier, *Towards*, p.115, p.245.

[23] I experienced first-hand the comfort of Perriand, Le Corbusier and Jeanneret's Chaise Longue at the exhibition 'Charlotte Perriand: Inventing a New World,' Fondation Louis Vuitton, Paris, 2nd October 2019 to 24th February 2020, where examples of Perriand's furniture were available for visitors to sit and lay on, to enjoy a full-body experience of their ergonomic excellence.

[24] P. Boudon, *Lived-In Architecture*, trans. Gerald Onn (Cambridge, MA: MIT Press, 1969), p. 2 cited in J. M. Malnar and F. Vodvarka, *Sensory Design* (Minneapolis: University of Minnesota Press, 2004), p. 68.

[25] On the etymology of the word 'plastic', see J. L. Meikle, *American Plastics: A Cultural History* (New Brunswick, NJ: Rutgers University Press, 1995), p. 4.

[26] Le Corbusier, *The Decorative Arts of Today* (*L'art décorative d'aujourd'hui*, 1925), trans. James Dunnett (Cambridge, MA: MIT Press, 1987).

[27] On sitting as touch see E. Lupton, 'Notes on Touch' in E. Lupton and A. Lipps, *The Senses: Design Beyond Vision* (New York: Princeton Architectural Press and Cooper Hewitt National Design Museum, 2018).

[28] E. Kaufmann, Jr., *What is Modern Design?* (New York: Museum of Modern Art, 1950), p. 11; Meikle, *American Plastic*, p. 202.

[29] P. J. T. Morris. *Polymer Pioneers: A Popular History of the Science and Technology of Large Molecules* (Philadelphia, PA: Chemical Heritage Foundation, 2005), p. 76; P. Sparke, ed., *The Plastics Age: From Modernity to Post-Modernity* (London: Victoria & Albert Museum, 1990).

[30] Later known as the 'Panton chair', it was produced by Vitra from 1967. https://www.vitra.com/en-gb/product/panton-chair

[31] https://www.b-line.it/prodotti/woopy/ website. Accessed 5 April 2021.

[32] Based on direct personal experience of living with a variety of Eames chairs, in both plastic and fibreglass, DAR, RAR, and DSR.

[33] On Eero Saarinen's design of plastic chairs with upholstery for comfort see C. McAtee, 'Taking Comfort in The Age of Anxiety', in Schuldenfrei (ed.), *Atomic Dwelling*.

[34] I. Halland, 'The Unstable Object: Glifo, Blow and Sacco at MoMA, 1972', *Journal of Design History*, vol. 33, no. 4 (December 2020): pp. 329–345, cites F. D. Scott, *Architecture or Techno-Utopia: Politics after Modernism* (Cambridge, MA: MIT Press, 2010), discussing M. Tafuri, 'Design and Technological Utopia' in E. Ambasz (ed.), *Italy: The New Domestic Landscape: Achievements and Problems of Italian Design* (New York: Museum of Modern Art, 1972), and M. Tafuri, *Architecture and Utopia: Design and Capitalist Development* (Cambridge, MA: MIT Press, 1976).

[35] A. Loos, 'Architecture' (1910) in A. Loos, *On Architecture*, p. 78, cited in Gronberg, 'Haptic Homes', p. 101. On Adolf Loos, Le Corbusier, architecture and photography, see Colomina, *Privacy and Publicity*. On Loos and Corbusier, see Colomina, *Sexuality and Space*.

[36] Lupton, 'Notes on Touch', p. 42.

[37] Crawford, *The Sensual Home*, p. 66.

[38] Kinfolk (N. Williams) and Norm Architects (J. Bjerre-Poulsen) (eds), *The Touch: Spaces Designed for the Senses* (Berlin: Die Gestalten Verlag, 2019), pp. 248-257.

[39] M. Ogundehin, *Happy Inside* (London: Ebury Press, 2020).

[40] C. Lieber, 'Calculated Chaos: Examining the Brilliant Strategy Behind Bed Bath & Beyond', Racked.com website, February 26th, 2015. https://www.racked.com/2015/2/26/8110031/bed-bath-beyond-home-goods-market Accessed 1 April 2021.

[41] See T. Chapman, 'Stage Sets for Ideal Lives: Images of Home in Contemporary Show Homes', in T. Chapman and J. Hockey (eds), *Ideal Homes: Social Change and Domestic Life* (London, Routledge, 1999). Chapman also refers an episode of the BBC television series 'Signs of the Times', featuring the purchasers of a furnished show home.

[42] See P. Sparke, B. Martin and T. Keeble (eds), *The Modern Period Room: The Construction of the Exhibited Interior, 1870 to 1950* (Abingdon: Routledge, 2006).

[43] See D. Wood and R. J. Beck with I. Wood, R. Wood and C. Wood, *Home Rules* (Baltimore and London: Johns Hopkins University Press, 1994).

[44] On children's creativity with regard to interior affordances and design for children, see M. Gutman and N. De Coninck-Smith, *Designing Modern Childhoods: History, Space and the Material Culture of Children* (New Jersey: Rutgers University Press, 2008). For a recent examination of James J. Gibson's concept of affordances, as applied by Donald A. Norman to design, see J. L. Davis, *How Artifacts Afford: The Power and Politics of Everyday Things* (New Haven: MIT Press, 2020).