

Touch as an Aesthetic Experience

Jenni Lauwrens,

University of Pretoria, South Africa

ORCID ID: <https://orcid.org/0000-0002-0336-7356>

Email: jenni.lauwrens@up.ac.za

Abstract

Touch is gaining attention in sensory studies and in art practice where the over-emphasis on sight and visuality in academic discourse is increasingly been questioned. The exhibition *The Blind Astronomer* (2013) by South African artist Berco Wilsenach participated in this larger critique of visuality by inviting audiences to engage with the works through the sense of touch. In particular, the artworks exposed the limitations of the spectatorial epistemology of modern Western scientific discourse. In this article I explore some of the ways in which the exhibition questioned long-held assumptions about the primacy of vision in Western science and aesthetics, the relationship between touch and vision, and touch as an aesthetic experience. The eviction of touch from the gallery and museum as well as from what is considered to count as aesthetic experience has led to an absence of language adequate to describing the complex nature of aesthetic touch. I suggest that first-hand accounts of blind peoples' haptic experiences with art, combined with insights gained from research in psychology as well as experiments by artists who encourage tactile encounters with their work can enrich and enhance how we understand an aesthetic experience that is simultaneously visual and tactile.

Keywords

Touch, Tactile Aesthetics, *The Blind Astronomer*, Blindness

Biographical note

Jenni Lauwrens teaches Visual Culture Studies in the Department of Visual Arts at the University of Pretoria, South Africa. Her current research focuses on the multisensorial and embodied nature of a spectator's encounter with art and visual culture.

The eye [...] through which the beauty of the universe is revealed to our contemplation is of such excellence that whoever should resign himself to losing it would deprive himself of the knowledge of all the works of nature, the sight of which makes the soul live happily in its body's prison, thanks to the eyes which show him the infinite variety of creation: whoever loses them abandons his soul in a dark prison where all hope of once more seeing the sun, the light of the universe, must vanish. (Rilke qtd Merleau-Ponty 1993 [1961], 146).

Introduction

Touch is gaining attention in sensory studies, art practice and in research on haptic technologies, with the over-emphasis on sight and visibility in academic discourses on art and media increasingly being questioned (see Classen 2005a, 2; Patterson 2007, 1; Vi et al 2017; Hayes and Rajko 2017). Touch is also being (re)introduced into museum spaces with hands-on exhibitions becoming popular as a means to educate and engage audiences and attract diverse groups, including blind people (Candlin 2008, 278).¹ Similarly, some artists create works that expressly accommodate or seek tactile experience (see Driscoll 2011). Despite

¹ In the industrialised world as few as 3 out of 10,000 babies are born congenitally blind (Kleege 2018, 4). In this article I use 'blind' as a category that includes people born with no visual perception at all, people who have lost their vision completely later in life and who may still have some visual memory, as well as people who are partially sighted.

these efforts, however, there is still a relative lacuna in writing on tactility as an aesthetic experience (Gallace and Spence 2011, 578; Driscoll 2011, 108; Hayes and Rajko 2017, 1) and a need for more research that treats touch and vision in art equally.

Berco Wilsenach is a South African artist whose exhibition *The Blind Astronomer* (2013) included artworks that invited both visual and tactile engagement. In doing so, the artworks explored the limitations of the spectatorial epistemology of modern Western scientific discourse as well as the hegemony of vision in discourses on art. In this article I explore some of the ways in which the exhibition questioned long-held assumptions about the primacy of vision in the Western scientific regime, the relationship between touch and the other senses, and touch as an aesthetic experience. In this way the article aims to contribute to the growing body of research that is more attentive to the role of the senses other than sight in aesthetic experience and in arts practice (see Montero 2006; Di Bello and Koureas 2010; Bacci and Melcher 2011; D’Evie and Kleege 2018; Diaconu 2006) with a specific focus on touch. Since the arguments I put forward here emerge from a critical engagement with the artworks, I begin by describing the exhibition in some detail.

Setting the scene

Comprising six installation pieces, each exhibited in semi-dark to pitch-black rooms in the Museum of African Design (MOAD) in Johannesburg, South Africa, in March 2013, *The Blind Astronomer* could easily be described as ‘out of this world.’

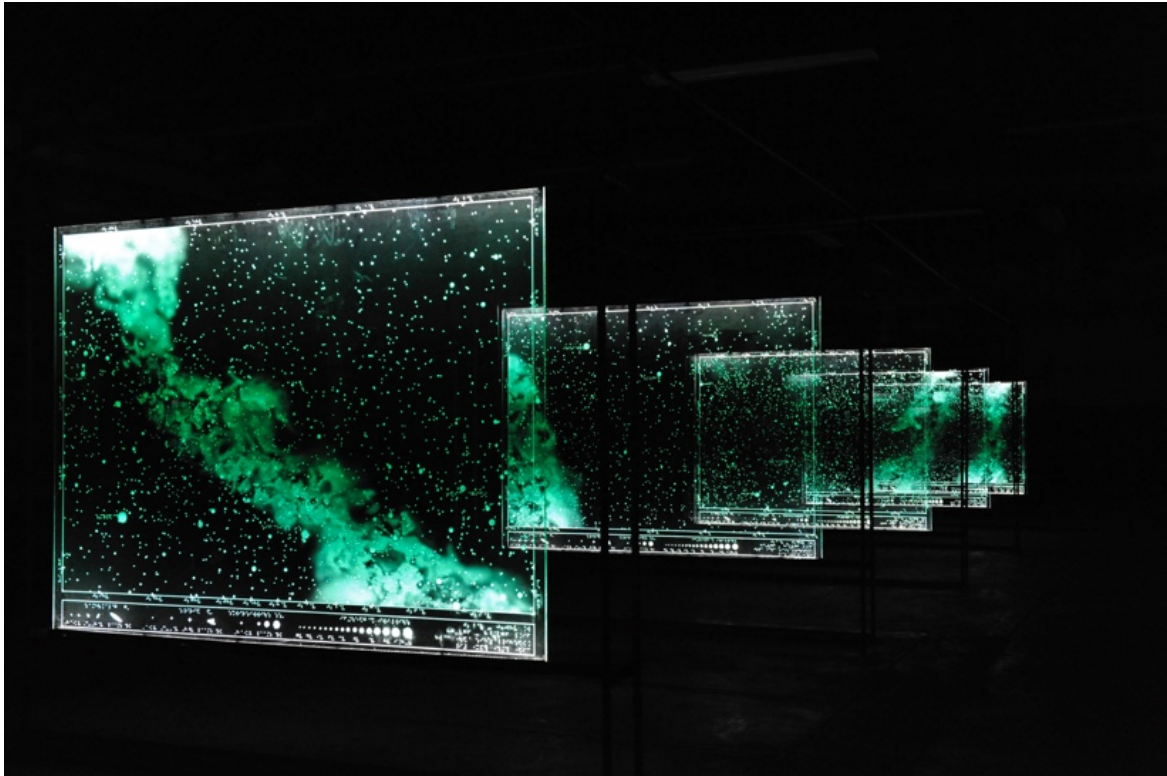


Figure 1: Berco Wilsenach, *Written in the Stars II*, 2013, Sandblasted glass, steel and lighting elements. Installed size approx. 27 x 3 x 3 m high. Each panel 1.8 x 2.4 m. Frames 3 x 3 m, placed 4.5 m apart. Photographer: Carla Crafford. Courtesy of the artist.

The first work we encountered was entitled *Written in the Stars II* (Figure 1). Seven massive glass panels were mysteriously illuminated from within with each panel seeming to float surreally in the dark museum. Sandblasted circles and ovals represented stars and constellations rendering parts of the night sky both visible and tangible. The meanings of these shapes were explained in Afrikaans Braille in a legend at the bottom of each panel (Figure 2).



Figure 2: Berco Wilsenach, *Close-up of Written in the Stars II*, 2013. Photographer: Carla Crafford. Courtesy of the artist.

The sandblasted areas trapped the light that emanated from light emitting diode (LED) globes attached to the top and bottom of the frames producing a ghostly, glowing, blue-green effect. The panels were placed one behind the other, so that when they were viewed from a central point, the constellations seemed to overlap and create a deep receding space (Figure 3).

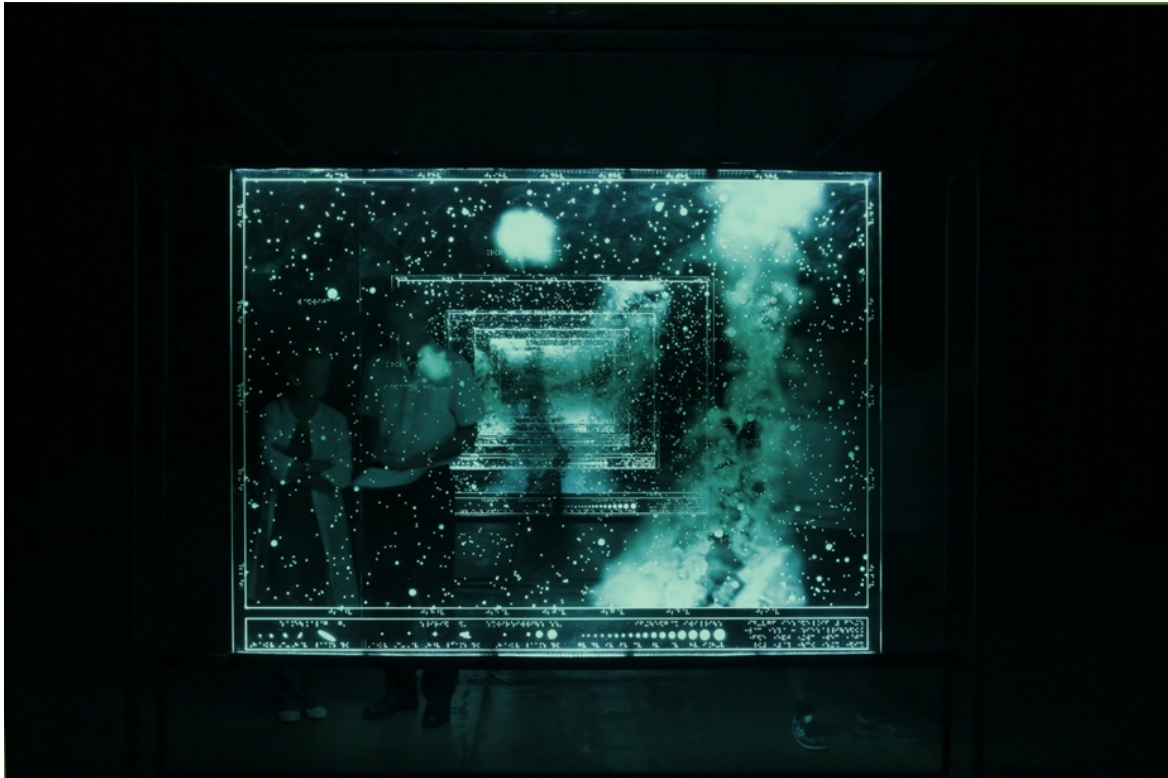


Figure 3: Berco Wilsenach, *Written in the Stars II*, 2013, Frontal view. Photographer: Carla Crafford. Courtesy of the artist.

The second room housed an over-sized book and two works in stone. Entitled *Star Chart for the Blind Astronomer* (2013) (Figure 4), the book was massive in relation to the human body and was teasingly illuminated by a single light in the otherwise dark room. 88 constellations were embossed onto its black pages with explanations in Afrikaans Braille. The sighted viewer could, therefore, touch but not clearly see or understand the charts. Although a blind person could touch the constellations, they needed to read Braille in Afrikaans in order to decode the meanings of these charts. Both sighted and (many) blind audiences were therefore left overall ‘in the dark.’

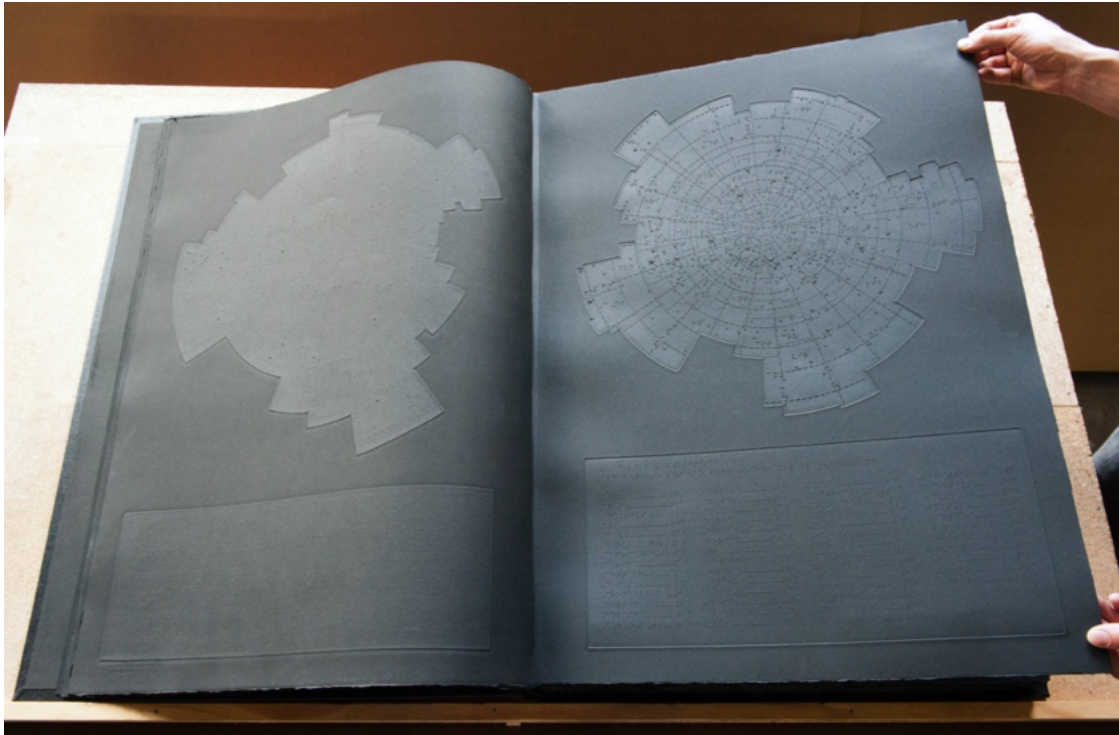


Figure 4: Berco Wilsenach, Close-up of *Star Chart for the Blind Astronomer*, 2013, Embossed black etching paper, 80 x 60 x 12 cm. Photographer: Carla Crafford. Courtesy of the artist.

This room also contained two installations entitled *Sky Survey* (Figure 5 & 6) and *Set in Stone* (Figure 7 & 8). Each installation comprised puzzle pieces that represented a constellation.

These puzzle piece constellations were stored in two massive wooden chests of drawers and carefully labelled. Although the stone puzzle pieces were labelled, however, they had little meaning for viewers uneducated in the specialised language of astronomy. Each piece could be removed from the drawer and placed in its correct location on a massive table to complete the puzzle – a star chart of the northern and southern hemispheres. Although most of us could not understand the scientific taxonomy of the pieces, we were not entirely excluded from the works as each constellation could be taken out of the drawers and its position determined via the marked outlines on the tables.



Figure 5: Berco Wilsenach, *Sky Survey*, 2013, 103 movable pieces of carved sandstone. Wooden table, 3 x 1.6 x 0.8 m high. Photographer: Carmen Dávilla. Courtesy of the artist.



Figure 6: Berco Wilsenach, *Sky Survey*, 2013, Close-up of drawers in wooden display cabinets. Sandstone, wooden display cabinet with 13 drawers. Cabinet 80 x 55 x 170 cm high, 103 stones of variable sizes. Photographer: Carla Crafford. Courtesy of the artist.



Figure 7: Berco Wilsenach, *Set in Stone*, 2013, Close-up of a drawer in wooden display cabinets. Sandstone, cast glass, two wooden display cabinets each with 13 drawers. Cabinets 80 x 55 x 170 cm high, 95 stones of variable sizes. Photographer: Carla Crafford. Courtesy of the artist.



Figure 8: Berco Wilsenach, *Set in Stone* puzzle table, 2013, Close-up of wooden table with black rubber inlay, 150 x 80 cm high, 95 stones of variables sizes. Photographer: Carla Crafford. Courtesy of the artist.

Comprising 103 movable pieces and mapping 88 constellations in total, *Sky Survey* (Figure 5 & 6) was made from sandstone cut according to a contemporary star chart, with the constellations neatly engraved into the surface of each piece. The smooth, geometric, hard edges of these shapes contrasted with the textured finish in *Set in Stone* (Figure 7 & 8). Based on eighteenth century star maps, the rough edges and surfaces of *Set in Stone* were

punctuated with smooth glass beads that each represented a star in that constellation (Wilsenach 2013).

Apart from leaving the audience ‘star struck’, the exhibition obviously left us with many unanswered questions. For instance, even before seeing the work, the provocative title raised questions about the plausibility of a blind astronomer. Is the idea not entirely absurd as Rainer Maria Rilke, quoted above, would probably have thought? And why must these magnificently beautiful pieces deny both sighted and blind people access to their meanings? In the next sections I shall explore these questions by focussing particularly on how *The Blind Astronomer* a) questioned the visualist paradigm of Western science and aesthetics; b) explored the role of vision and touch in the acquisition of scientific knowledge; and c) interrogated the role and status of the senses in aesthetic experience. I begin by discussing the division and hierarchisation of the senses in Western philosophy in order to draw attention to the ways in which sensory discourses have served to debase and demonise both touch and blindness whilst valorising sight.

Sensory divisions and hierarchies

The division of the senses into five distinct modalities is regarded as a Western invention with Aristotle widely recognised as coining the notion of the five senses (Stewart 2005, 61).² For ancient Greek scholars, the prominent location of the eyes, ears, nose and mouth on the face served to fix the four senses – sight, hearing, smell and taste – in concrete and specific instruments or sensory organs (Wade 2011, 20). Touch, on the other hand, posed a more complex problem according to this logic since its perception is not localised to only one

² For a more extensive discussion of various attitudes toward the senses in Western thought see Robert Jütte, *A History of the Senses* (2005).

organ. Touch is perceived both through the whole skin and also in varying intensities on different parts of the body. Nevertheless, despite uncertainty over the precise nature and status of touch, it was regarded as a single sense and generally counted as one of the five senses. What we now refer to as *kinaesthesia* – the sense of bodily movement - was initially referred to vaguely as the ‘inner’, or ‘organic sense’, or ‘visceral sensibility’ (Çelik 2006, 159). In the early nineteenth century kinaesthesia was declared a ‘sixth sense’ in its own right when it was discovered that muscles could receive sensations as well as carry out movements. Of course, this limiting separation of the senses into unitary modalities has been refuted, most notably by psychologist James Gibson (1966, 3) who postulated that the sensory system operates in far more complex ways than this simplistic understanding recognises. More recently, neuroscience has proved that the senses are interdependent and interconnected, a point I return to later.

In their division of the senses the ancient Greeks also established a sensory hierarchy according to which sight and hearing were privileged over the so-called ‘proximal’ senses of smell, taste and touch (Diaconu 2006, 2). Aristotle regarded seeing and hearing as the ‘higher philosophical senses’ which give access to ‘sensibility’ (Stewart 2005, 61). His hierarchy positioned the senses in the following order from most to least important: vision – hearing – smell – taste – touch. Since Aristotle’s hierarchical organisation of the sensorium, vision and hearing have been linked to philosophical contemplation and abstraction with sight often treated as the ‘noblest’ sense (Jonas 1954, 507-514). Evidence of its privileged status can be found in its numerous associations with insight or higher thinking. The word ‘theory’ is derived from *theoria*, which means ‘to behold’ (Jay 1993, 23) or ‘to look at attentively’ (Jonas 1954, 507). Similarly, Plato’s *eidos* (Idea) derives from the Greek word for ‘to see’ (Jütte 2005, 36).

The reason for such noble honours being bestowed upon sight is related to do the idea that vision functions optimally when at a distance from the object of its investigation (Jonas 1954, 517). Precisely because sight is not a proximal sense, it has been considered to have an advantage over taste, smell and touch (Diaconu 2006). For distance allegedly allows the subject to contemplate infinity, thereby enabling ‘the mind [to go] where vision pointed’ (Jonas 1954, 519). Consequently, sight is presumed to be the most reliable sense in the acquisition of theoretical knowledge and in critical reflection (Jonas 1954, 519; Diaconu 2006, 1). Whilst other cultures have produced different sensory hierarchies, in the Western hierarchical distribution of the senses vision was understood to produce rational and objective knowledge while touch was constructed as subjective and therefore less reliable (Classen 2005b, 70). And, as the alleged ‘most “rational” of the senses’ (Howes 2005, 6) in the modern West, sight was the sense *par excellence* that aided the exploration and ultimate mapping of both the earth and the sky.³

Mapping in the age of reason and exploration

Often referred to as the age of reason and discovery, the seventeenth and eighteenth centuries were dominated by a scientific ‘eye-minded’ (Howes 2005, 5) world view. Driven by a desire for order and control, visual scrutiny was integral in the pursuit of objective knowledge (Kromm 2010, 73). According to the science-based model of detached observation, seeing from a distance became a way of ‘knowing’ and was honed as an instrument of measurement (Kromm 2010, 73; Davis 2019, 66). The scientist’s sensitive and supposed detached visual inspection allowed him to describe, label and display specimens accurately according to their

³ The hierarchisation of the senses is culturally relative and highly diverse as Classen (2005, 147-163) cogently points out in her study of the sensory worlds of three nonliterate cultures, namely, the Ongee, the Tzotzil and the Desana. For a more recent analysis of the coding of sensory modalities in a far wider variety of languages, see Majid et al (2018).

visual characteristics. In *The Blind Astronomer* this obsession is suggested by the precisely labelled constellations embedded in stone and displayed in wooden cabinets like physical specimens collected by a naturalist (Figure 6 & 7).

Faith in scientific (visual) objectivity also spurred the mapping quest that characterised the seventeenth century with early explorers setting out to map and master the so-called ‘new’ continents they had ‘discovered’. The cartographer visualised the earth in a graphic form that was distinct from its actual surface. Maps are, however, socially constructed forms of knowledge that artificially schematise reality by measuring and dividing it, using codes to represent space in abstract form (Harley 1988).

The desire to map the earth extended to the heavens and was greatly enhanced in the early 1600s by Galileo’s improvements on earlier versions of the telescope. Subsequently, astronomers have been preoccupied with giving permanent form to that which lies beyond the capabilities of our inadequate vision. *The Blind Astronomer* as a whole alludes to this scientific quest to visually document, map and, by extension, control and lay claim to the heavenly realms. Like maps of the earth, star maps are classifying systems created by astronomers who aim to organise the universe by locating astronomical objects such as stars, constellations and galaxies. In so doing, mapping the earth and universe is a rather futile attempt to control, master and tame these realms.

Whether of the earth or the heavens, maps are meant to provide us with accurate details of our world and we expect them to guide us logically and unambiguously. *The Blind Astronomer*, I suggest, challenges scientific rationalism’s reliance on vision in its quest for knowledge by reflecting on and subverting the cartographic claim to ‘truth’. Instead, the

works contrast the sensory detachment of the scientist with the sensory immersion that characterises a blind person's everyday experience. By turning mapping against itself, *The Blind Astronomer* invites the multisensorial body to participate in the construction of meanings beyond both visual and scientific discourses. The visual instruments – maps – used in the endeavour to render the invisible universe visible are given to us here as tactile surfaces awaiting our touch, our somatic involvement. Sight and touch become intimately acquainted in this exhibition. When we encounter *The Blind Astronomer* our eyes need a hand as our skin seeks out and tries to understand. In an inversion of Aristotle's hierarchy *The Blind Astronomer* places touch at centre-stage. Our attention thus turns from seeing to touching.

Both in the title of the exhibition and in the extensive incorporation of Braille in most of the works, a blind astronomer is conceptually the main protagonist. This close connection between sight and blindness prompts at least two questions: Firstly, how has the relationship between sight and blindness (and consequently vision and touch) been constructed in Western culture, philosophy and science? And secondly, is the idea of a blind astronomer even plausible? For an astronomer is a scientist who gains knowledge of the stars by *observing* them and astronomy is generally assumed to be a *visual* science. Is the artist mocking us? Is he mocking blind people? Or, perhaps it is our reliance on vision that is being exposed as well as our assumptions about a blind person's (dis)abilities. When experiencing this exhibition, does the blind visitor have the upper hand?

The cultural and philosophical construction of blindness

In the Western philosophical tradition, and in the division, rationalisation and hierarchisation of the senses as discussed earlier, 'blindness makes intellectual clarity impossible' (Candlin 2004, 81). Moreover, blindness is often deployed as 'the metaphorical opposite of sight'

(Davis 2019, 65), and is symbolically imposed as a punishment for sin. Historically, blindness is associated with sinfulness, faithlessness and ignorance. Plato's allegory of the cave (in *Republic*) links shadows with ignorance and darkness with deception, while knowledge is linked with light and sight (Jones 2016, 5). Equally, phrases like 'I see' and 'you must see the error of your ways' exemplify the bias toward vision as the sense that provides clear thinking. In contrast, blindness is associated with the inability to recognise errant behaviour as in the phrases, being 'blind to the truth' or being 'blindsided'. Blind people are also regarded as being more attached to, or even imprisoned by their bodies as Rilke seems to believe. Unable to access pure knowledge by transcending the 'dark prison' of their embodiment, blind people apparently cannot verify scientific facts visually. Nor can they access aesthetic experience according to this line of reasoning.

The nature of a blind person's tactile experience of the world has long fascinated Western scholars. From Descartes to Locke and Molyneux, philosophers contemplated how a blind person comes to know and understand the world.⁴ Their investigations usually involved a hypothetical blind man and aimed to explain the visual system and human consciousness rather than explain blind experience *per se*. On the other hand, Diderot consulted a real blind man who was also a mathematician. When Diderot asked Nicholas Saunderson if he would like to be able to see he answered that '[i]f it were not for curiosity, I would just as soon have long arms: it seems to me my hands would tell me more of what goes on in the moon than your eyes or your telescopes' (Diderot 1999[1749], 153). Diderot concludes that a blind person possesses a highly developed sensitivity to touch which reveals that which is inaccessible to vision – the texture, firmness, and/or softness of an object, for instance. In his

⁴ On the so-called 'Molyneux problem' see Degenaar and Lokhorst (2017).

estimation, their dependence on the sense of touch and their autodidactic experience enriches rather than limits blind people's experience.

Whereas these seventeenth and eighteenth century philosophers, as well as ancient scholars before them, thought the senses operated in separate brain regions, owing to recent studies in neuroscience, the concept of a metamodel brain with a multisensory task-based organization is replacing this view (Lacey and Sathian 2014, 3). Reflecting Gibson's ecological approach to perception that I referred to earlier, these studies show that our perceptual experience is fundamentally multisensory, integrating input from multiple sensory modalities. Areas of the brain previously thought to only process visual information have been shown to also process information from tactile or haptic tasks. For example, regions that process shape selection are activated whether the task is visual or haptic as Lacey et al (2014, 4) contend: 'When feeling an object, one naturally imagines what it might look like'. There is thus a closer correlation between vision and touch in object recognition and mental imagery than earlier presumed with vision and touch not recognised as engaging a common representational system (Lacey et al 2014, 5).⁵ Moreover, blindness studies concur that sight is indeed embodied and relational which destabilises the modern ideal of vision as disembodied and detached (Davis 2019, 66).

If that is the case, then the sensory data audiences received through their whole bodies played a part in their experience of *The Blind Astronomer*. But unlike blind people, sighted people are perhaps not as adept at processing tactile information. It would seem then that a sighted

⁵ For a useful overview of important insights about sensory experience gained from neuroscience and especially the application of this research in art see Bacci and Pavani (2014).

viewer might gain much from a blind person's tactile sensitivity when experiencing the exhibition. In this way, the installations reflected on the place of touch in both scientific discourse and in aesthetic experience by asking audiences to consider how a blind person – and an astronomer in particular – might navigate their way through both terrains.

Astronomy and blindness

As early as the nineteenth century tactile atlases were being made in the United States for blind students (Lopes 1997, 428). More recently, Noreen Grice made NASA research accessible to blind people in her book *Touch the Universe: A NASA Braille Book of Astronomy* (2002). The shapes and colours in images from the Hubble Space Telescope (HST) are represented using raised lines, symbols and textures along with Braille and large print. These tactile versions of HST images make knowledge about the night skies accessible to blind people interested in astronomy.

Touch is not the only way that blind astronomers access the night skies, however. Sonic astrophysicist, Wanda Diaz-Merced (2013) uses sound to show that astronomy is not only a visual science. Using sonification - the auditory equivalent of data visualisations - Diaz-Merced translates light curves into sound. A light curve is a table of numbers converted into a visual map or graph. Diaz-Merced realised that these numbers can also be translated into sound using duration and pitch, among others. This technology shows that the notion of a blind astronomer is not absurd at all, but rather that its supposed absurdity is yet another vestige of Western visual-centrism according to which vision and blindness are constructed as binary opposites. To assume that the blind astronomer's quest to map the universe is impossible is, merely, to fall victim to the misconception that astronomy can only be practiced by the sighted and that pictures can only be experienced visually.

It should be noted, however, that both sighted and blind audiences (who did not understand Afrikaans) were denied access to the meanings of the maps in Wilsenach's exhibition. And even people who could read Afrikaans Braille were probably unable to understand the highly sophisticated coding system employed in the maps. Depending on the level of ones 'carto-literacy' (Harley 1988, 278) for many people star maps remain entirely inaccessible.⁶ Most visitors to the exhibition were therefore left 'blindsided' – unable to make sense of the work. Just as the current availability of highly sophisticated visualising technologies are unable to visualise parts of the complex universe for scientists, the stars remained a mystery to many visitors. By rendering the night sky inaccessible, the exhibition encouraged not exact knowledge but tacit experience. As neither vision nor touch could unlock the mysteries of the universes, complete objectivity deluded us and was replaced by the experience of its sublime, ineffable nature. Although the stellar maps are rendered with meticulous precision there are 'only certain points of enlightenment for the viewer' resulting in the artist's own contention that getting lost is 'written in the stars' (Wilsenach 2009). But even though the audience – whether blind or sighted – was unable to make sense of the exhibition, I propose that we were invited to experience something new in terms of aesthetic experience.

Visual aesthetic experience

In alignment with the hierarchisation of the senses and the importance afforded vision in modern (rationalist) philosophy the involvement of the 'other' senses in aesthetic experience was for the most part denied. Formulated in the late eighteenth century, the Kantian notion of disengaged and detached aesthetic experience contributed to the construction of the modern museum as a place devoid of sensory engagement other than through the eyes (see Lauwrens

⁶ One of the limitations of Grice's book *Touch the Universe* (2002) was that some prior exposure to astronomy and space science helped the blind reader understand what they were touching. Without this information, they were lost.

2018, 17). This was in contrast to how museum visitors had previously interacted with the objects on display. As Constance Classen (2007, 897) points out, in the late seventeenth and eighteenth centuries it was common for visitors to the Ashmolean museum to touch, shake, smell and even taste the objects and paintings on display. Handling objects was deemed necessary to acquire a deep understanding and an aesthetic experience of the object. The eviction of touch from the art gallery and museum around the 1800s was embedded in the upper class's ideological endeavour to educate the alleged unruly, 'dirty' public in the proper enjoyment of art or, if they did not conform, to exclude them from that experience altogether (Candlin 2004, 77). The working classes were believed to 'injure' (Waagen in Candlin 2004, 77) artworks by bringing their undesirable dress, filth and body odour into the museum. The lower classes were also considered incapable of exercising the appropriate judgement that would allow them to experience art aesthetically, a mode of experience which, it is still sometimes assumed, hinges on visual skill rather than a sensitivity in any of the other sensory modalities.

Kant's construction of a proper aesthetic experience was refined even further in the twentieth century by modern artists who, while expanding the definition of art, were doing so predominantly within the realm of sight. According to Clement Greenberg's 'ocular obsession' (Jones 2006, 10) each medium should pursue effects specific to it. Moreover, all art forms ought 'to put an even higher premium on sheer visibility and an even lower one on the tactile and its associations' (Greenberg 1961, 144). In her critique of Greenberg's sensory segregation, Caroline Jones (2006, 8, 10) points out that modern formalist art criticism 'yoked itself' to the hegemonic sense of sight which 'promised order in the aesthetic realm'.

Immersive aesthetic experience

While modernist aesthetic discourse remained primarily ocularcentric, some artists included touch, taste and smell in their artistic practice. For example, in his essay 'Tactilism' of 1924, the Futurist artist Filippo Marinetti called for the destabilisation of the hegemony of vision in aesthetic practice by demanding an art based on the sense of touch (Classen 1998, 156).

Similarly, Marcel Duchamp was obsessed with developing 'sensory alternatives to passive sight' (Jones 2016, 25). These artists' support of multisensory art was revived by Fluxus in the 1960s. More recent approaches to arts practice have aimed to overthrow Kantian disinterested contemplation and Greenbergian visual exclusivity and replace them with an aesthetics of multisensory immersion. As Jones (2016, 3) observes of twenty-first century biennial culture, many contemporary artists actively solicit visceral experience and multimodal sensation, invoking sightlessness as a critical practice of a now global art. For Jones (2016, 6), these contemporary artworks are embedded in what she refers to as 'blind epistemology' that makes way for 'new modes of multisensory being, experience, and politics ...'

As an example of such multisensory, immersive arts practice that disrupts institutionalised hierarchies of the senses, *The Blind Astronomer* invited audiences to interact with its various parts, which in various ways drew us toward them, soliciting our attention and inviting us to respond to them through a combination of seeing, touching and full body involvement. Precisely because the audience could not remain passive observers of the artworks the exhibition subverted the notion of detached, intellectualised aesthetic experience. The audience's experience was more accurately aligned with Alexander Baumgarten's earlier conception of 'aesthetics' as outlined in his two volumes of *Aesthetica* (1750/1758). Baumgarten's aesthetics is based on the Greek concept of *aesthesis* which refers to sensory

perception as opposed to perception through the intellect. Although Baumgarten's conceptualisation of aesthetic experience is not unproblematic (for he ultimately considered the mind to unite and give meaning to sensory perceptions), many scholars of the senses and aesthetic embodiment have noted the usefulness of returning to his emphasis on the role of (multi)sensory perception in aesthetic experience (see Howes 2011,; Di Bello and Koureas 2010).

Touch in art museums

Over the last few decades the other senses have been returning – although slowly - to museums and art galleries which have seen a growing interest in the experiential dimension of such visits. To a large extent, it has been through programmes designed for people who are blind and visually impaired that the multisensorial body has been permitted back into these spaces. An example is Elisabeth Salzhauer Axel's programme, Art Education for the Blind (AEB). Founded in 1987, this programme aims to make art, art history and visual culture accessible to blind people (About Art Education for the Blind 2005). With its headquarters in New York City, AEB works to design art and art education programmes that are now increasingly used by museums across the globe to help people who are blind gain skills in art that will improve the quality of their lives and improve their employment opportunities. The organization initially developed multisensory tools for blind audiences that included tactile images, verbal descriptions of artworks and museum objects, tactile collections, sound images and a tactile language of lines and patterns (Levent and Pascual-Leone 2014, xiv). Currently known as Art Beyond Sight (ABS), the organization now also hosts a biennial international conference that has expanded the initial focus of the organization to include issues pertaining to multisensory learning for *all* museum audiences by drawing on insights gained from collaborative, cross-disciplinary research by artists, museums practitioners and

neuroscientists (Levent and Pascual-Leone 2014, xv). Museum professionals have begun actively soliciting all the senses, and especially touch into the museum and art experience owing to new research that has highlighted the social, cognitive and even therapeutic benefits of handling objects (Pye 2008). Moreover, curators are recognising that the different knowledges produced by people whose experience is through visual or tactile modes ought to be ‘negotiated and shared’ (Candlin 2004, 88).

It is precisely this kind of negotiation and sharing of knowledge that I argue is the crucial message of *The Blind Astronomer*. As the artist states, ‘The project relies to a large extent on the synaesthetic exchange of senses. You must feel to see to understand. Hopefully this will inspire people to start looking (and touching) again ... Even if it is only for a short while’ (Blindfolded art 2013). From this statement, one can infer that the installations were not created explicitly for either blind or sighted people but rather aimed to create an awareness that tactile engagement with art enriches our understanding of its possible meanings. It was precisely in the exchange between visual and tactile experiences that deeper meanings were produced.

This was precisely the conclusion drawn in two recent experiments with haptic/tactile devices in artworks. Vi et al (2017, 2) used mid-air haptic technology to enhance the experience of emotions and the meaning of abstract paintings at the Tate Sensorium exhibition in 2015. In this experiment, people were asked to place their hand inside a plinth which emitted carefully designed mid-air haptic pattern stimuli that were designed to evoke different responses to the painting being viewed. Similarly Azh et al (2016) used tactile devices to augment the emotional and affective experience of an artwork. While these experiments did not require people to physically touch the artworks, the research concluded that sensory augmentation

can make the experience of art more meaningful and engaging and awaken a viewer's imagination (Vi et al 2017, 10). In addition, it can provide a more intimate connection between the artist's intentions and the viewer (Azh et al 2016, 37).

Aesthetic touch

While the above recent examples invite tactile engagement and show that there is increasing interest in understanding haptic encounters with art, the prevailing exclusion of touch from the gallery and museum as well as from what is generally considered to count as aesthetic experience has led to what Fayen d'Evie and Georgina Kleege (2018) describe as 'tactile amnesia' – an absence of language adequate to describing the complex experiences of touch. Considering touch as an aesthetic experience is difficult; touch is a complex sensory modality, and, as I have already argued, our sociocultural perceptions of touch are complicated (Hayes and Rajko 2017, 1). Perhaps the greatest problem is finding a suitable method to understand touch as an aesthetic experience. And this might have something to do with the popular assumption that 'Every other sense has an art to go with it: the eyes have art, the ears have music, even the nose and the tongue have perfume and gastronomy. But we don't train our hands to touch as we train our eyes to look or our ears to listen' (Gopnik 2016).

How might we train our hands to touch art? Classen (1998, 139) suggests that by listening to the experiences of blind people, sighted people can learn to appreciate the overlooked 'contours and textures' of our world. Despite the common assumption that blind people cannot have an aesthetic experience (Classen 1998, 139), their haptic experiences with art can shed light on how touch might also produce pleasurable or 'hedonic' (Gallace and Spence 2011, 572) tactile experiences in sighted viewers. D'Evie and Kleege (2018) agree that

listening to blind people talking about their tactile experiences can greatly enrich sighted audiences' experiences of art. In an attempt to overturn the repression of touch in the art gallery, D'Evie and Kleege curated a one-day public exhibition of four works they specially selected through first-hand experience from the KADIST Art Collection in San Francisco. Their selection criteria hinged on the works' ability to 'sp[ea]k to the social history or politics of touch, and works that were materially diverse, with textural, compositional, or tactile traces of haptic making' (D'Evie and Kleege 2018). Their main aim was to 'generate descriptive and conceptual vocabulary for a contemporary tactile aesthetics' (D'Evie and Kleege 2018). In other words, they wanted to develop a way in which to articulate tactile aesthetic experiences that could inform how other tactile encounters with art might be enriched by paying attention to specific aspects and nuances of that experience.

The following description of their encounter with their selected works indicates the multifaceted nature of a tactile aesthetics as experienced by a blind person:

What we discovered whilst working with this collection was less about developing a vocabulary and more about observing how each piece seemed to require, even dictate, a different kind of haptic engagement. Our conversation brought into focus the different kinds of touching we were doing—tracing, pinching, stroking, manipulating, folding, tapping, grasping, shaking— and the different body parts enlisted to do it—fingertips, palms, whole hand, forearms, whole arms, whole body (D'Evie and Kleege 2018).

Evidently, the artworks themselves solicited particular kinds of haptic engagements from the audience. If their approach is applied to *The Blind Astronomer* we begin to understand how particular haptic sensibilities were activated. The glass panels in *Written in the Stars II*

encouraged gentle, careful tracing by the fingertips which are more sensitive than other areas of the body (Verrillo 1992). The sandstone puzzle pieces, on the other hand, were surprisingly cool and heavy, requiring the involvement of the whole arm or even two as we manipulated them into their proper places on the maps and in the drawers. People tentatively pinched the outermost edges of the black embossed pages of the star atlas, turning them gently over, so as not to leave greasy fingerprints behind.

As suggested by D'Evie and Kleege's example, touch is not a single sense but incorporates information from various parts of the body. Moreover, artworks elicit 'manifold forms of touching' (Paterson 2007, 3) Exteroceptive or cutaneous touch is felt on the skin's surface as I discussed briefly above. This form of touch is immediate and usually instantly recognisable. On the other hand, inward-oriented or interoceptive forms of touch are more difficult to describe (Paterson 2007, 15). These include proprioception (bodily position), kinaesthesia (movement) and the vestibular system (balance). These interoceptive forms of touch were activated in the darkness of the opening night when, like blind people, we felt our way from one room to the next, relying on the touch of others to guide us safely up and down barely visible steps and through dark passageways. But unlike blind people, we were not very adept at moving through a space without the help of our sight. Even though blind people cannot *see* objects in a room, Kleege (2005, 186) explains that they can often feel the presence of large objects without actually touching them. This feeling can be described as a sensitivity to atmospheric change which is experienced 'kinesthetically and by the body as a whole' (Kleege 2005, 187).

Moreover, when we feel something – whether cutaneously or interoceptively – our emotional and affective states are also touched (Hayes and Rajko 2017:2). This was evident in the

particular ambience produced by MOADs gritty industrial spaces, which are very different to the neutral environments usually considered suitable for displaying art. Instead, the space solicited a particular kinaesthetic involvement as the large darkened rooms produced a sinister atmosphere.

Unfortunately, since touch is still seldom encouraged in exhibitions people are often hesitant to touch works, even if they are permitted to do so. This was certainly true of people's interactions with *The Blind Astronomer* as some watched closely to see what others were doing before touching the works themselves. I also noticed that whilst some viewers felt compelled to touch and interact with the artworks, others cautiously awaited an invitation to touch.

Some viewers took their cue from children, many of whom seemed to have no reservations about touching the works, especially the puzzles. Their spontaneous haptic engagements encouraged adults to also experience the various modalities of touch elicited by the works. Touch is the first sense to develop in the foetus, long before visual perception matures (Gallace and Spence 2011, 577). Furthermore, studies show that tactile contact is actively sought out by twin foetuses (Gallace and Spence 2011, 577). On the one hand, this reveals the possibility that visual aesthetics might build on tactile aesthetics and not the other way around. From an ontogenetic point of view, tactile aesthetics has an older, or more 'primitive' foundation than visual aesthetics (Gallace and Spence 2011, 572). On the other hand, it highlights our human 'desire (or curiosity) to touch' (Gallace and Spence 2011, 582) and explains the children's willingness to fully embrace the tactility of the installations as opposed to adults who have learnt not to touch.

Overall, a tactile encounter with art affords ‘a much more intimate’ experience, leading to a ‘physical bond’ between artwork and perceiver (Classen 1998, 149). Accordingly, touch can provide information about the work that is inaccessible to vision. Similarly, a tactile aesthetic experience involves active movement or participation. Rosalyn Driscoll (2011, 111), a sculptor who employs sensuous materials in her work to intensify people’s somatic responses, argues that ‘[c]ontact, movement, and gesture generate a cascade of cues for one’s memory that may be different than those generated by sight, enriching the associations and meanings of an artwork.’ Combined with the fact that touch is the first sense to develop in the womb, touch may potentially call up intensely embodied emotional memories (Gallace and Spence 2011, 572).

Although I am aware that blind people did visit *The Blind Astronomer*, the works were experienced mainly by sighted audiences. This is not uncommon as evidenced by the large number of sighted visitors who go to tactile museums and exhibitions. However, on all the occasions that I have viewed the works – some of which have been exhibited at different locations across South Africa – there weren’t any blind people present. This, I admit, was an unfortunate disadvantage when considering the potential impact of the artworks as I have tried to do here. I can merely speculate on how a blind person might have touched the work or what that touch meant for them. Despite this missed opportunity, however, I believe that the installations stimulated sighted audiences’ senses of sight, touch and bodily movement and forced us to consider a world of knowing accessed through touch. Precisely because both sighted and blind audiences were denied access to clarity about the meanings of the works, the entire exhibition provided an opportunity to ‘forge intersensory connections’ (Howes 2011, 174) that informed and shaped our overall experience of them. In this way, some

visitors may even have been prompted to develop a better acuity and appreciation for touch, which is what the artist hoped might occur (Blindfolded art 2013).

Conclusion

In this article I have shown that *The Blind Astronomer* participates in the larger critique of visuality that has gained momentum in sensory studies and in art practice. I argued that the exhibition questions traditional assumptions about the authority assigned to vision in Western science and aesthetics. By interrogating our assumptions about the place of touch in both scientific discourse and in aesthetic experience, the exhibition drew attention to our encounter with art at the level of feeling and bodily perception. In this way, we embodied the possibility that aesthetic experience may be as much tactile as visual. Sight is clearly not the only route to aesthetic experience. Paying attention to the multifarious nature of tactile experience can enrich and enhance the visual perception of art by disrupting our common sense understanding both of aesthetic experience and ‘the normative sensory subject’ (Davis 2019, 63). In order to do so, more opportunities are needed where blind and sighted audiences can share and negotiate their experiences of art so as to enhance research in this field. More awareness is needed not only of the aesthetic needs and interests of the blind, but also of the ways in which touch can enrich aesthetic experience for all people. Insights gained by cross-disciplinary perspectives on the varieties of tactile experience is, I suggest, a valuable avenue for further research on the nature of touch as an aesthetic experience.

Bibliography

About Art Education for the Blind. 2005.

<http://www.artbeyondsight.org/sidebar/aboutaeb.shtml>.

- Ahn, M., Z. Shengdong, and S. Sriram. 2016. "Investigating expressive tactile interaction design in artistic graphical representations." *ACM Transactions on Computer-Human Interactions (TOCHI)*. 23 (5): Article 32. doi: <http://dx.doi.org/10.1145/2957756>
- Bacci, F., and D. Melcher, eds. 2011. *Art and the Senses*. New York: Oxford University Press.
- Bacci, F., and F. Pavani. 2014. "'First Hand', not 'First Eye' Knowledge. Bodily Experience in Museums." In *The Multisensory Museum: Cross-Disciplinary Perspectives on Touch, Sound, Smell, Memory, and Space*, edited by N. Levent, and A. Pascual-Leone, 17-28. Lanham: Rowman & Littlefield..
- Baumgarten, A. G. 1750-1758. *Aesthetica*. Ionnis Christiani Kleyb.
- Blindfolded Art*. 2013. <https://visi.co.za/blindfolded-art/>
- Candlin, F. 2004. "Don't Touch! Hands Off! Art, Blindness and the Conservation of Expertise." *Body & Society* 10 (1): 71-90.
- Candlin, F. 2008. "Touch and the Limits of the Rational Museum, or Can Matter Think." *The Senses and Society* 3 (3): 277-292. doi:10.2752/174589308X331323.
- Çelik, Z. 2006. "Kinaesthesia." In *Sensorium: Embodied Experience, Technology, and Contemporary Art*, edited by C. Jones, 159-162. Cambridge: MIT Press.
- Classen, C. 1998. *The Color of Angels. Cosmology, Gender and the Aesthetic Imagination*. London and New York: Routledge.
- Classen, C. 2005a. "Fingerprints. Writing about touch." In *The Book of Touch*, edited by C. Classen, 1-9: Oxford: Berg.
- Classen, C. 2005b. "McLuhan in the Rainforest." In *Empire of the Senses: The Sensual Culture Reader*, edited by D. Howes, 147-163. Oxford: Berg.
- Classen, C. 2007. "Museum Manners: The Sensory Life of the Early Museum." *Journal of Social History* 40 (4): 895-914.

- Davis, E. 2019. "Structures of Seeing: Blindness, Race, and Gender in Visual Culture." *The Senses and Society* 14 (1): 63-80.
- Degenaar, M., and G-J. Lokhorst. 2017. "Molyneux's Problem." *The Stanford Encyclopedia of Philosophy*.
<https://plato.stanford.edu/archives/win2017/entries/molyneux-problem/>
- D'Evie, F., and G. Kleege. 2018. "The Gravity, The Levity: Let us Speak of Tactile Encounters." *Disability Studies Quarterly* 38 (3), Published electronically.
- Diaconu, M. 2006. "Reflections on an Aesthetics of Touch, Smell and Taste." *Contemporary Aesthetics* 4 (1), Published electronically.
<https://www.contempaesthetics.org/newvolume/pages/article.php?articleID=385>.
- Diaz-Merced, W. L. 2013. *Sound for the Exploration of Space Physics Data*. PhD thesis., University of Glasgow.
- Diderot, D. 1999 [1749]. "Letter on the Blind for the Use of Those Who See." In *Thoughts on the Interpretation of Nature and Other Philosophical Works*, edited by D. Adams, 149-200. Manchester: Clinaman Press.
- Di Bello, P., and G. Koureas. 2010. "Other Than the Visual: Art, History and the Senses." In *Art, History and the Senses: 1830 to the Present*, edited by P. Di Bello, and G. Koureas, 1-18. Surrey: Ashgate.
- Driscoll, R. 2011. "Aesthetic Touch." In *Art and the Senses*, edited by F. Bacci, and D. Melcher, 107-114. New York: Oxford University Press.
- Gallace, A., and C. Spence. 2011. "Tactile Aesthetics: Towards a Definition of its Characteristics and Neural Correlates." *Social Semiotics* 21 (4): 569-589.
- Gibson, J. J. 1966. *The Senses Considered as Perceptual Systems*. Houghton Mifflin Company: Boston.
- Gopnik, A. 2016. "Feel me." *The New Yorker*, May 9.

- Greenberg, C. 1961. *Art and Culture: Critical Essays*. Boston: Beacon Press.
- Grice, N. 2002. *Touch the Universe: A NASA Braille Book of Astronomy*. Washington, DC: Joseph Henry Press.
- Harley, J. B. 1988. "Maps, Knowledge, and Power." In *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments*, edited by D. Cosgrove, and S. Daniels, 277-304. Cambridge: Cambridge University Press.
- Hayes, L., and J. Rajko. 2017. "Towards an Aesthetics of Touch." Proceedings of MOCO '17, London, United Kingdom, June 28-30.
- Howes, D. 2005. "Introduction." In *Empire of the Senses: The Sensual Culture Reader*, edited by D. Howes, 1-17. Oxford: Berg.
- Howes, D. 2011. "Hearing Scents, Tasting Sights." In *Art and the Senses*, edited by Francesca B., and D. Melcher, 161-181. New York: Oxford University Press.
- Jay, M. 1993. *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought*. Berkeley: University of California Press.
- Jonas, H. 1954. "The Nobility of Sight: A Study in the Phenomenology of the Senses." *Philosophy and Phenomenological Research* 14 (4): 507-519.
- Jones, C. A. 2006. "The Mediated Sensorium." In *Sensorium: Embodied Experience, Technology, and Contemporary Art*, edited by C. Jones, 5-49. Cambridge: MIT Press.
- Jones, C. A. 2016. *The Global Work of Art. World's Fairs, Biennials, and the Aesthetics of Experience*. Chicago and London: The University of Chicago Press.
- Jütte, R. 2005. *A History of the Senses*. Cambridge: Polity.
- Kleege, G. 2005. "Blindness and Visual Culture: An Eyewitness Account." *Journal of Visual Culture* 4 (2): 179-190.
- Kleege, G. 2018. *More Than Meets the Eye. What Blindness Brings to Art*. New York: Oxford University Press.

- Kromm, J. 2010. "To Collect is to Quantify and Describe: Visual Practices in the Development of Modern Science." In *A History of Visual Culture: Western Civilization from the 18th to the 21st Century*, edited by J. Kromm, and S. Benforado Bakewell, 74-88. Oxford: Berg.
- Lacey, S., and K. Sathian. 2014. "Please DO Touch the Exhibits! Interactions between Visual Imagery and Haptic Perception." In *The Multisensory Museum: Cross-Disciplinary Perspectives on Touch, Sound, Smell, Memory, and Space*, edited by N. Levent, and A. Pascual-Leone, 3-16. Lanham: Rowman & Littlefield.
- Lauwrens, J. 2018. "More Than Meets the Eye: Embodied Engagement in *After The Last Supper*." *Art Journal* 77 (2): 8-23. doi:[10.1080/00043249.2018.1495519](https://doi.org/10.1080/00043249.2018.1495519)
- Levent, N., and A. Pascual-Leone, eds. 2014. *The Multisensory Museum: Cross-Disciplinary Perspectives on Touch, Sound, Smell, Memory, and Space*. Lanham: Rowman & Littlefield.
- Lopes. D. M. M. 1997. "Art Media and the Sense Modalities: Tactile Pictures." *The Philosophical Quarterly* 47 (189): 425-440.
- Majid, A., S. G. Roberts, L. Cilissen, K. Emmorey, B. Nicodemus, L. O'Grady, B. Woll, B. LeLan, H.de Sousa, B. L. Cansler, S. Shayan, C. de Vos, G. Senft, N. J. Enfield, R. A. Razak, S. Fedden, S. Tufvesson, M. Dingemanse, O. Ozturk, P. Brown, C. Hill, O. Le Guen, V. Hirtzel, R. van Gijn, M. A. Sicoli, and S. C. Levinson. 2018. "Differential coding of perception in the world's languages." *Proceedings of the National Academy of Sciences of the United States of America* 115 (45): 11369-11376. <https://doi.org/10.1073/pnas.1720419115>

- Merleau-Ponty, M. 1993 [1961]. "Eye and Mind." In *The Merleau-Ponty Aesthetics Reader: Philosophy and Painting*, edited by G. Johnson, 121-149. Evanston: Northwestern University Press.
- Montero, B. 2006. "Proprioception as an Aesthetic Sense." *The Journal of Aesthetics and Art Criticism* 64 (2): 231-242.
- Patterson, M. 2007. *The Senses of Touch: Haptics, Affects, and Technologies*. Oxford: Berg.
- Pye, E., ed. 2008. *The Power of Touch: Handling Objects in Museum and Heritage Context*. New York: Left Coast Press.
- Stewart, S. 2005. "Remembering the Senses." In *Empire of the Senses: The Sensual Culture Reader*, edited by D. Howes, 59-69. Oxford: Berg.
- Verrillo, R. T. 1992. "Vibration sensation in humans." *Music Perception* 9 (3): 281-302.
- Vi, C. T., D. Ablart, E. Gatti, C. Velasco, and M. Obrist. 2017. "Not just seeing, but also feeling art: Mid-air haptic experiences integrated in a multisensory art exhibition" *International Journal of Human-Computer Studies* 108: 1-14.
- Wade, N. J. 2011. "The Science and Art of the Sixth Sense." In *Art and the Senses*, edited by F. Bacci, and D. Melcher, 19-58. New York: Oxford University Press.
- Wilsenach, B. 2009. Interview in Lynnwood, Pretoria. 17 September 2009.
- Wilsenach, B. 2013. Interview at MOAD, Johannesburg. 16 March 2013.