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Through the Eyes of a Deaf Architect: Reconsidering Conventional Critiques on Vision-Centered Architecture

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Abstract: Critics point towards an excessive visual emphasis in (western) architecture bringing about a weakened sense of belonging, and a disconnection from places and from other people. Architects' visual way of knowing and working is further criticized for contributing to an alienating "architecture of the eye." This article aims to challenge this critique by offering a more nuanced understanding of vision and its connecting potential. To this end, it engages with how a d/Deaf architect, George Balsley, uses and attaches meaning to vision, partially prompted by the highly visual and spatial dynamics inherent to sign language. It relies on several interviews, observations, and a guided tour through a building he helped designing, the Sorenson Language and Communication Center (SLCC) in Washington DC. The article looks specifically into the building's vision-centered features in relation to George's d/Deaf ways of being. His way of seeing is reflected in distinct characteristics of the SLCC that sustain (sign) language, mediate interpersonal communication, and facilitate connection to and understanding of spaces – features that are relevant for but also beyond the d/Deaf community. The architecture that issues from George's d/Deaf ways of seeing thus challenges the critique that vision-centered architecture by definition disconnects.

Keywords: architecture; communication; connection; deafness; language; vision

Background

Vision plays a fundamental role in sighted people's daily lives: through sight information about the visible world is collected. Yet, the last century has witnessed outspoken critiques of vision, (western) visual culture, and its resulting visual bias in architecture (Pallasmaa 2005; Latour 1990; Harvey 1989; Zardini and Schivelbusch 2005). According to these critiques, the dominance of modern vision-centered culture has caused an imbalance in sighted people's sensory system, a fixation with appearances and surfaces, and an increasing separation of self from world. Luce Irigaray (1978) argues that "more than other senses, the eye objectifies and masters. It sets a distance, maintains the distance. In our culture, the predominance of the look over smell, taste, touch, hearing, has brought about an impoverishment of bodily relations …the moment dominates, the look dominates, the body loses its materiality."

According to Marita Sturken and Lisa Cartwright (2000, 337–43), modern (visual) culture has changed people's conceptions of space and time. Contemporary interactions increasingly take place online or in simulated spaces, weakening people's perceptual awareness of being *in place*. Drawing from Marc Augé's concept of "non-places" they describe sites of distraction, solitude, and isolation that demand less presence from the people within them. The hypothesis Augé (1992) advanced is that supermodernity produces environments which disconnect people from place and time (history), from each other (human relations), and from themselves (identity).

Critics broadly agree on the mutual relationship between visual architecture and people's viewing habits: architecture embodies a specific way of seeing that is fundamentally alienating (Harvey 1989; Pallasmaa 2016, 2007; Sennett 1992). Vision's distancing nature is thus coupled with a way of conceiving architecture, and, *vice versa*, visually biased architects design vision-centered architecture that further underlines the

alienating character of vision. Peter Zumthor (2006, 68), however, frames this relationship differently, stating that "*Architektur (…) verändert die Sehgewohnheiten*" – architecture changes the viewing habits. Whereas Zumthor recognizes a correspondence between what and how people see, he suggests that architecture has the potential to catalyze and calibrate awareness of, and concern for, all the senses (including vision). Some architects, he points out, long to externalize the immeasurable stock of internal images (ibid., 64). Yet, according to critics, the striving to produce *mere* visual imagery – at the expense of multisensory qualities in architecture – point towards built environments that disconnect and isolate (Pallasmaa 2005, 22–26, 1998; Latour 1990; Judovitz 2001; Harvey 1989). Furthermore, critics allude to an excessive (visual) uniformity and a flattening of architectural spaces, structures, and surfaces causing sensory detachment (Pallasmaa 1998; Rasmussen 1964). They stress that multisensory qualities are necessary not only for high-quality architecture but also to return the human being to its embodied, situated essence (Pallasmaa 2005; Bachelard 1994; Prochnik 2010).

Whilst the anti-ocularcentrist current is critical of the excessive attention to vision, emphasizing the need to study the other neglected senses, there is still a need to understand vision more profoundly and through multiple lenses. For instance, Richard Sennett (1996) as well as David Howes (2005) recognize that all senses can be culturally and experientially explained differently. Specifically, Howes (2003, 2005) stresses that different cultures may have distinct ways of understanding and attaching meaning to the sense of vision. Traditionally, however, Don Ihde (1976, 21) recognizes there has been a visualist habit in phenomenology: "there is an old and deeply held tradition that vision 'objectifies', and, contrarily but not so widely noted, there is also a tradition which holds that sound 'personifies'". Defining sight and hearing in these terms implies the existence

of separate sensory modalities, as well as "the visual and auditory [being] at odds with one another" (Friedner and Helmreich 2012, 73). Howes points out that "it cannot be denied that the senses have a certain inherent physical characteristic and that these characteristics will influence the way in which they are used and understood by different peoples. The problem arises when certain sensory characteristics are identified as paramount and construed as *determining* the social role of the senses across cultures." (2003, 53).

Ihde (1976) and Howes (2003, 2005) call out for a deeper and culturally more diverse understanding of the senses (including vision), as well as a re-examination of the traditions of their sometimes excessively unified or limited interpretations and associations. Hilde Haualand, for instance, stresses that sound's alleged personifying and connecting character and sight's alleged objectifying and disconnecting nature would not invite any significant questions "until deaf people, by their very existence, confront the world with the possibility of living without sounds and construct lives, connections, belonging, communication, and communities based on visuality and sight" (2008, 116).

Without disregarding modernist critiques of visual culture, this article engages a d/Deaf [1] person's vision-centered perspective in order to gain a more nuanced understanding of the qualitative aspects of vision and its potential to connect us to - rather than isolate us from - the world. The research question that guides this study is therefore: how might the established critique of distancing vision-centered architecture be challenged by d/Deaf ways of seeing, i.e., by how d/Deaf people use and attach meaning to vision and appreciate distinct (visual) features in architecture. To this end, we study a building that uses d/Deaf people's visual experience as design content – the Sorenson Language and Communication Center (hereafter SLCC) at Gallaudet University in

Washington DC. Moreover, we focus on how one of its architects, who is d/Deaf himself, contributed to its design and experiences the resulting building.

After reviewing literature on how d/Deaf people use and attach meaning to vision, and presenting the methods and materials used, we report on the findings of our analysis describing how the building studied connects with its (d/Deaf) architect's ways of seeing.

Deaf Visual Perception

d/Deaf people do not see better than most other people, but develop a visual dexterity that allows them to understand and connect with their surroundings in a unique way (Haualand 2008; Bahan 2008; Solvang and Haualand 2014; Rée 1999). The book *DeafGain* (H.-D. Bauman and Murray 2014) – a collection of d/Deafness's contributions to society – contains several stances of d/Deaf people's visual cognition relevant for this article.

Teresa Blankmeyer Burke (2014, 3–22), for instance, explains that the very nature of d/Deaf people requiring eye contact for communication brings forth a feeling of intimacy, whereas hearing individuals can communicate side by side without visually acknowledging each other. For her, intimacy transcends mere touch and eye-contact, including notions of trust, (inter)connection, and mutual caring. Moreover, interpersonal connections formed through prolonged eye contact also have psychological benefits (Wilkowski, Robinson, and Friesen 2009).

Robert Sirvage (2014; H.-D. Bauman and Murray 2014, xxv–xxvi) offers interesting insights into d/Deaf communication and perception while being in motion. Very telling is how conversational partners take responsibility for each other to overcome obstacles that are out of the other's field of vision. Attending to and understanding specific visual cues of each other's body language implies a high level of care, kindness and empathy. Sirvage also addresses dorsality, i.e., the ability to recognize visual cues

within one's field of vision as indices of what is happening behind oneself, e.g., by attending to reflections or shadows.

Because oral communication is widely based on and structured around sound, and architecture sustains these oral structures, architecture can also show a certain hearing bias (Rée 1999; Rosen 2012, 368; Friedner and Helmreich 2012). Such "oral" architecture is neither responsive to nor expressive of d/Deaf ways of being, and has largely stirred feelings of oppression and disconnection from place, other people, and d/Deaf cultural identity (H. Bauman 2014, 375). Hearing-based environments have thus caused d/Deaf people to inhabit permanent non-places: "[d/Deaf people] are visual citizens of auditory nations" (H.-D. Bauman and Murray 2014, xxvi). As disability studies scholars corroborate (Siebers 2008; Livingston 2000; Powell 2013), societies are constructed around ableist assumptions of normalcy, i.e., the idea of a standard able-bodied man. Design implying a specific social body constructed by social norms makes an undeniable dent in people's behaviors, feelings and identities, and critique on such design has been abundant (H. Bauman 2014; Franck and Lepori 2000; Siebers 2008). Particularly because most environments presuppose hearing individuals, Hansel Bauman points out, "many deaf people possess an acute architectural awareness and a sensitivity to the connection between person-hood and the spaces they inhabit" (2014, 376); one that this article wishes to further explore.

Methodology

We report on a case study of the SLCC, an academic building for d/Deaf and hard of hearing students at Gallaudet University in Washington DC, in relation to the d/Deaf ways of being of one of its architects, George Balsley. Studying the material and the experiential simultaneously – through the eyes of a d/Deaf architect – reveals how a

specific way of using vision relates to how architecture is conceived, and *vice versa*. The reasons for selecting this case are multiple.

The first reason is that the building's design played a pioneering role in establishing the relationship between architecture and d/Deaf experiences. In 2005 Gallaudet University started to concretize this relationship by organizing a two-day visioning workshop with d/Deaf students, scholars, and staff. One immediate outcome was a set of preliminary d/Deaf design principles, which were further developed into the Request for Proposal (hereinafter RFP) for the design of the SLCC. Traditionally, architecture had been focused – if at all – on eradicating misfits between d/Deaf people and the hearing-based environment. The SLCC represented a paradigm shift insofar as its initiators set out to "fix" neither d/Deafness nor the environment, but rather to find ways for the built environment to be responsive to and expressive of d/Deaf culture – with sign language being a fundamental component to take into account.

The second reason is that the design competition which Gallaudet subsequently launched explicitly required participating teams to involve a d/Deaf architect. The winning team of the competition, Smith Group Architects, had partnered with George Balsley, an at the time 56-years old d/Deaf architect from Amherst, Massachusetts.

George is a self-confessed history lover who was educated to be a hearing architect (who cannot hear). He functioned as such until the 1990's, when the New England Home for the Deaf scouted specifically for a d/Deaf architect. George's involvement in this project marked a turning point in his career. He started to incorporate his embodied knowledge of being d/Deaf into architectural design, and progressively continued to do so in subsequent projects. However, the impact of George's hearing-based training, combined with the scarcity of d/Deaf-related projects, made it difficult for him to connect his embodied experiences with design at first. During what George

experienced as an awakening period he therefore relied on complementary sources of (d/Deaf) knowledge, keeping notes on encounters with d/Deaf people, as well as (re)educating himself through courses and independent research. Opportunities to work on d/Deaf-related projects enabled him to continuously develop the interaction between being d/Deaf and being an architect.

Throughout the design process of the SLCC, George was entrusted with reconciling architectural knowledge with d/Deaf experiences and d/Deaf culture. His role was particularly relevant within the (apart from him) hearing design team insofar as he understood and embodied the requirements the RFP stipulated. Nevertheless, since the RFP incorporated multiple d/Deaf experiences, the SLCC should be considered a manifestation not of George's d/Deaf perspective alone, but of multiple d/Deaf perspectives that converged into a built form.

To study this case, we used focused ethnography, a branch of ethnography that compensates for short-term field visits through extensive preparation and intensive use of recording devices (Knoblauch 2005). We looked for specific connections between George's experiences of the world and features of the SLCC, i.e., how his embodied experiences of being d/Deaf relate to vision-centered architecture. The available material included articles, design media, and a written blog entry. New material was collected through two face-to-face interviews that sign language interpreters made possible to audio-record, transcribe, and analyze. Quotes taken from the interviews are thus oral interpretations of George's sign language. A third interview included a guided tour of the SLCC given by George that was also audio-recorded and sporadically photographed. Additionally, we interviewed hearing architect Hansel Bauman, director of Campus Design and Planning at Gallaudet University, to obtain an overview of past, present, and future campus developments. To minimize potential bias in interpreting the data, they

were analyzed collaboratively by all authors, roughly following the QuaGol (Dierckx de Casterlé et al. 2012) guidelines. All interviews were transcribed and discussed among the authors, resulting in a list of concepts that allowed for posterior coding. Coded citations were analyzed resulting in two main themes in response to the research question; "ways of seeing" and "design features" related to vision. Sub-themes were identified combining inductive and deductive thematic analysis (Fereday and Muir-Cochrane 2006), i.e., bringing together data-driven themes with theory-driven themes based on d/Deaf studies and phenomenological stances related to architecture. Anonymity was not requested by any of the participants.

Understanding George's Ways of Seeing

Concerning George's d/Deaf ways of seeing three overarching sub-themes could be identified: vision as a means of communication; vision as a means of understanding, connecting, and wellbeing; and appreciating the visual qualities of the environment.

Vision as a Means of Communication

For George, vision is the primary means of communication, either with d/Deaf people using sign language, or with hearing people through lip-reading. Both modalities require seeing his conversational partner's hands or face; if George cannot see a conversation properly, he misses part of it. George stresses the importance of having optimal visual access during interpersonal communication. Good light conditions are crucial to allow him to read subtle facial features and paralinguistic expressions, and to avoid eyestrain or loss of concentration.

George's interaction with the environment and with other people demonstrates that visual communication involves a different dynamic than oral communication: visual communication can happen within visual distances and through transparent materials

(which sound may not be able to pass through). Visual communication obeys different social and physical rules, distinct spatial relations, and particular distances. For example, George demonstrates how, unlike oral language, sign language allows communicating from within a moving glass-enclosed elevator to someone outside. As long as there is visual contact, George can continue communicating.

George describes how the simple act of opening a door differs between him and hearing people: an opaque door offers him no means to anticipate someone's presence or approach on the other side, increasing the risk of opening a door into someone – or having it opened into him. Also, through a closed door George is unable to communicate to people standing outside and invite them to come in; he needs to physically go to the door and open it. Since George needs his hands and eyes to communicate, opening a door might interrupt his conversation – because of needing to pull or push the door handle with his hands, but also deflect his visual attention to the tasks and elements before him, and thus may lose his train of thought or even miss parts of the conversation. Uninterrupted movement through space expands from the merely visual – for communication's sake – onto the visuo-kinetic realm. George appreciates not only wide spaces that allow moving and signing simultaneously, but also being naturally and continuously led through space without interruption or having to watch his step. Hence, the fluency of space affects directly the fluency of his conversation.

However much George appreciates being able to see information, he acknowledges the importance of striking a balance between "public" *versus* "private". In sign language, the message conveyed remains public within visual distances. Whereas oral language can be regulated (loud or quiet), sign language can only be permitted or denied, and thus George's preferred openness of space is oftentimes toned down in his designs by a need for enclosure and intimacy in particular circumstances.

Vision as a Means of Understanding, Connecting and Wellbeing

For George, vision is also a means of understanding the spaces he navigates, connecting with his surroundings, and taking care of his personal safety and wellbeing. He points out that spaces designed by hearing architects seldom consider d/Deaf people's wellbeing: "something might be too bright, something might be blocking something. So, we always have to [be] conscious of how to take care of [our] wellbeing, (…) what's the lighting, what's the color use, what's the space, and how do we interact with the environment, and what's the optimum for a d/Deaf person. I think that's the definition of the d/Deaf ways of being."

"If there is a sound the d/Deaf must see it" is one of George's favorite quotes, which implies an equivalence between sound and its translation into visual indicators he has learned to be especially attentive to. He mentions that understanding his surroundings and recognizing what kind of room and atmosphere he enters helps him to "accommodate" his actions. For example, George adapts the volume of his voice to the number of people in a particular setting: "people would, like, *shush* me because they say that I was speaking too loud, so I have to monitor myself (…). Over time I learned as I was looking at my environment, looking around rooms: 'okay, this is a room where I should be quiet, so I need to monitor my voice more'. There is a lot of chatter around a bar: 'okay, this is a place [that] I can speak a little bit louder'". These adjustments suggest that sound is certainly part of George's life, although he has never had auditory experiences through his sense of hearing. Accordingly, seeing sound contributes to (socially) understanding spaces.

George points out that his eyes are naturally drawn towards and trained to react to light. For example, he explains that most safety-related sounds – bells and alarms – visually correspond to either soft flashing or intrusive strobe lights, depending on what is

intended: “it’s a cultural thing, (…) [me and my peers] grew up reacting to light. (…) d/Deaf people always internally understand that a flashing light means to leave or that something’s going on. So, any time a light flashes, d/Deaf people’s eyes are naturally drawn towards it, like birds, you know, we’ve got that peripheral vision (…)”.

Orientation in space is not straightforward for George, he explains: he lacks directionality. Activities produce sound, and the human ear is capable of identifying its source, meaning, direction, and distance. In the absence of hearing, wayfinding becomes a highly vision-oriented endeavor. George interprets visual cues from his surroundings. He explains that narrow hallways probably lead to private places, whereas wide hallways guide him towards more public areas.

Knowing and understanding what surrounds him is a way of connecting to places and people. Seeing what is going on and who is present is something he experiences as visually – and socially – pleasant. On the contrary, it is as if that which is outside George’s field of vision does not exist, and therefore having poor comprehension of – or no visual access to – space is experienced as limiting his sense of wellbeing.

Appreciating Visual Qualities of the Environment: Atmosphere and Meaning

When asked about his conception of beauty, George mentions distinct aesthetic features being pleasing to the eyes:

> I love (…) the historical elements themselves, like, how the columns are placed and why (…). Greek elements, like temple designs, [use] math concepts in order to measure specific heights and width of the column and how to build (…) the circumferences of those columns. I mean, it was just perfection the way they approached architecture, (…) it’s perfect to the eye, absolutely straight lines.

Besides alluding to visual coherence, harmony and clarity, George also refers to affectively charged atmospheres : “I like authentic seventeen hundred homes, with a fire

place, which makes it feel homey, comfortable. (…) My conception of beauty is something that has roots in history. I like something with substance, something traditional that is going to be sustained for a long time". Contrarily, George is critical of sterile, see-through, "crazy" architectural designs.

Furthermore, George shares memories with many d/Deaf people attending institutions as part of their d/Deaf-situated upbringing. Besides the abovementioned atmospheres, his perception of beauty is linked also to the emotional affect stirred up by institutional aesthetics, which often characterize facilities for d/Deaf people: "d/Deaf people hate that concept, (…) the experience of oppression". A beautiful building in George's terms will not give off any institutional reminders, such as certain brick and window patterns, or long rows of light fixtures positioned along the ceiling.

Designing from Experience, Experiencing the Designed

In analyzing George's approach to architecture, we find vision to be one of his generative tools. In nearly all design decisions he refers to, the overarching focus points are interpersonal communication, as well as straightforward comprehension of and meaningful connection to space. The succession of spaces described hereafter correspond to how George walked through and explained the SLCC.

Arriving at

Upon arrival, George points out specific aspects of the façade: its composition, materiality, and relation to its surroundings. The historic buildings around the SLCC are described by George as beautiful and visually enjoyable, yet most of them do not respond to his d/Deaf ways of being; some of them have narrow entrances, feel oppressive, and have an "institutional" look. For the SLCC, George and his fellow designers envisioned a contemporary looking building that sticks out – "a breath of fresh air" – yet copies the

historic buildings' feelings of belonging and connection to the spatial, social, and cultural context. The SLCC's main façade facing Gallaudet's central mall (Figure 1) contains a colonnade and three-story glass front with brick and steel accents.

Figure 1. Main façade of the SLCC. © Prakash Patel

The cultural background George shares with the d/Deaf community, combined with being an architect, allowed him to assist in defining the façades' architectural language: "on the back side of the building (…) there are all bricks. [We] put some rough elements between windows. That way (…) it doesn't look institutional. It gives it some rough edge."

The guidelines handed over to the design team further indicated the wish to look at d/Deafness differently; not as a disability, but as a natural state which is part of the Earth's bio-diversity. George and the other designers worked on ways for architecture to reflect that message. The architecture of the SLCC is therefore largely based on, and inspired by, natural elements. For instance, "the [north façade is] made out of zinc. We

put it up hoping to reflect the sky, make it look blue and sheen, but it's faded over the last ten years. But it almost looks organic. [It looked] like fish scales when it was originally put up."

Entering

Entering the SLCC, George points at the automatic glass doors that enable an effortless entrance. "No barriers", he says, as we witness a smooth transition from outside to inside. George reveals that he feels welcomed as he steps into the atrium (Figure 2), which is wide and filled with natural light. The atrium serves as distributor, George points out. In addition, it grants visual access across all three floors, facilitating wayfinding and rendering excessive signage obsolete: "this will help as you enter. There's that kind of space walking in. You're [greeted], there's an elevator, you have access to see what's going on in the building, and that visual connectivity to see it". George touches upon the atrium's atmosphere and symbolic meaning as well:

> when you come in, [the elevator] is the first thing that you see and the second thing is this open space. Here, the atrium. It represents that being d/Deaf is not limiting. It's expansive. And you have a sense that you can do anything, to move forward, go into their lives in an open way and not in an institutional, oppressive way. (…) It's intentional to remove that sense of oppression. And that's why we wanted to go for this atrium, because it's uplifting.

The atrium also incorporates a terrace-like amphitheater distributed along three floors and facing a white projection wall. The amphitheater's U-shaped arrangement imbues this open and wide space with a sense of both enclosure and visual connection, facilitating interpersonal communication even from a distance: "we have speakers who actually come up here to present, and the audience attends here (…) and even up on the third floor and see the presenter, as well as at this balcony that's right behind you."

Figure 2. Atrium seen from the first floor. © Prakash Patel

Passing through

By simultaneously signing and moving on, George illustrates that the SLCC was designed partly based on (and for) movements to flow through it. He explains – and experiences – how gentle, wide ramps help covering height differences in a relaxed way while allowing eye-contact to be maintained among conversational partners, and how rounded edges of intersecting walls – especially in the narrower areas of the building – help take care of one's wellbeing. These vertical and horizontal transitions afford a continuous visuo-kinetic flow through space, in which the eyes can anticipate what the body will encounter: "that way people can see around the corner whether somebody is coming instead of bumping into them. (…) I have definitely come around and (…) been

shocked that there was somebody walking around the corner. So, trying to avoid that encounter and make it more d/Deaf-friendly, more visual."

Related to this flow, one of the building's weaknesses George mentions are the stairs connecting ground and first floor in the atrium area (Figure 3):

> they're awkward. (…) They had to put the visual tape down because you can't actually see where one step goes to the other. (…) This is nice to have the platform right here, but they have to continue it straight along the way, so there's actually the landing and when you come down it's hard to see the steps. It should be a more continuous movement or flow.

Figure 3. Stairs between the ground floor and the first floor. © Darryl Bedford

More successful in this respect was George's and his fellow designers' decision to position the elevator at the very center of the atrium. Leaving the front side of the elevator's enclosing structure open not only helps people entering the building to locate it, but also allows for visual communication to continue even from the inside. Adding a window that facilitates inside-outside view makes sense also because "d/Deaf people can't hear the elevator is moving up and down, they can't see what's happening outside

the doors. Suppose you were d/Deaf, how would you know that the elevator is coming or broken?"

The double circumstance of being d/Deaf and being an architect allowed George to, amongst other things, acknowledge and address safety issues arising during the design process. Having an embodied understanding of what is at stake enabled him to balance concerns and code requirements against the available budget and have a critical view on setting priorities. For example, because one of the premises of the SLCC design was to keep spaces visually open, fire safety concerns pointing in the opposite direction – enclosing spaces – were issued. Meeting these contradicting demands resulted in adopting a compromise that would not hamper the visuo-kinetic flow through space by latching fire-resistant doors. Consequently, George and his design team opted for automatic closing devices activated only in case of a fire, but that could otherwise be kept open.

Staying at

Social and gathering spaces of the SLCC vary in character and size. Whereas visual connection – both horizontally and vertically – is maximized in the atrium, the exact opposite is sought in the semi-private nooks off the central pathways, distributed around the central space. Most of these spaces, whether big or small, allow for concentric, enclosing arrangements that reinforce a sense of intimacy and facilitate face-to-face interaction. During the visit George points at a lounge (Figure 4) that accommodates several armchairs. In this particular space, the challenge to balance private and public lead to a concrete design solution: the lowered ceiling intersects with the vertical line of the wall through a rounded chamfer. Ceiling, wall, and floor are differently colored than the adjacent ones, imbuing the space with a differentiated intimate feel. Furthermore, the designers fine-tuned the degree of privacy by using an opaque parapet, opposed to the see-through banisters elsewhere in the building. While being *in* that space, George

remarks: “you feel like you have your own private space. It’s cozy. It’s more private, almost. So, we were trying to create a balance with having sightlines, visual sightlines, but also some privacy. And so this design is an attempt to, you know, enclose this space, but also keep it open, visually”.

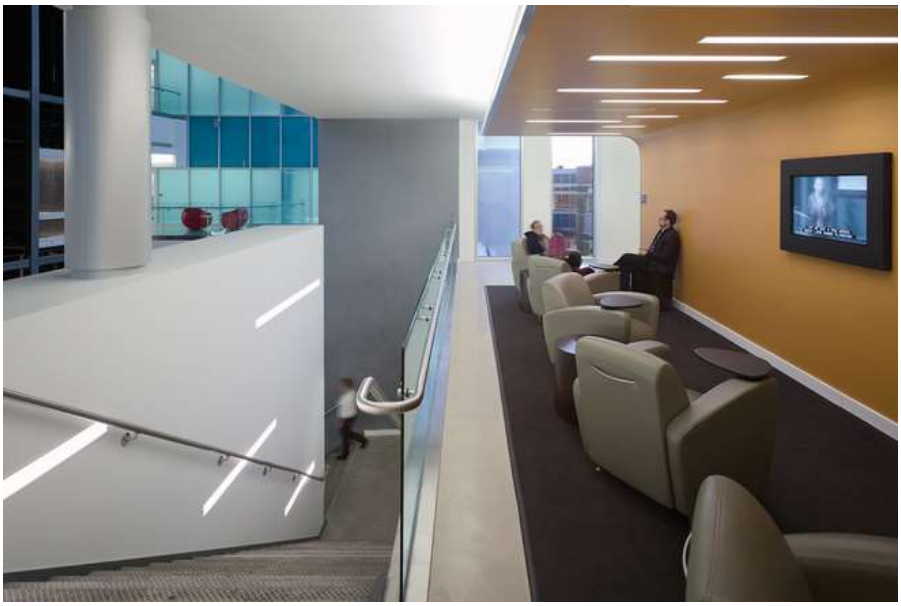

Figure 4. First floor lounge. © Prakash Patel

At a certain point during the tour George has a seat on a swiveling chair. His encounter with the piece of furniture gives rise to explaining his experience of it and making its intended affordances physically explicit. Sitting comfortably, George rests both of his arms on the lowered armrests and swivels from side to side in a way that his torso faces different directions. Eventually, he uses sign language to communicate that: “we were very careful when we chose the furniture. We actually brought in many different chairs for mockup and it was important to make sure it was comfortable for people to be able to move their arms to communicate. (…) Armrests can be barriers. And then also the swivel is important so that you can move the whole body”. The ultimate

purpose, in this case, is for the ergonomic chair to promote face-to-face interaction by allowing the signer to be mobile in a resting position.

George and the other designers interpreted the concepts of "light" and "color" stipulated by the RFP in their own way: "we talked about what color should be right; easy on the eyes, nothing *razzle-dazzle* that would be visually distracting. So, we talked about (…) muted colors, which allow the people to stand out." They put effort in lowering glare from direct sunlight by inserting a film between the glass panels of the atrium. To reduce glare from artificial lighting, they used recessed light fixtures, thereby also avoiding traditional, repetitive down-facing lights suggestive of institutional attributes.

Discussion and Conclusion

George has a specific way of using his vision deriving from his embodied experiences of being d/Deaf. Moreover, being an architect leads him to design highly vision-centered architecture responsive to his d/Deaf ways of being. The modernist interpretation of vision as distancing and alienating, and the pronounced anti-ocularcentrism of certain architectural critics, differs markedly from George's d/Deaf ways of seeing and conceiving architecture. The insights gained through our case study fit within larger critiques of the anti-ocularcentric reflex in contemporary western thought and the myriad other ways to interpret vision and the senses in relation to architecture (Jay 1993; Malnar and Vodvarka 2004; Pallasmaa 2005, 22). The SLCC supports these critiques, and reflects a way of seeing that celebrates interpersonal engagement and eye contact, visual intelligibility of space, bodily movement, multi-perspectival vision, and attention to architecture's symbolic meaning.

With George and the SLCC we selected an information-rich case that is unique. During the interviews, George stressed that his views (literally and figuratively speaking) do not represent the entire d/Deaf community, and that his and the design team's

interpretation of what he considers d/Deaf ways of being is just one of many possibilities. George is therefore not representative for all d/Deaf people, nor do d/Deaf people have standard ways of appreciating architecture.

The SLCC and its configurations respond, however, to the wishes, claims and experiential knowledge of a wider d/Deaf community, which were formalized within the consultative processes prior to construction. The highly spatial dynamics of sign language and the importance attached to "reading" hands as well as facial and bodily expressions, for instance, certainly influence the layout of the SLCC. Even its most large-scale part – the atrium – suggests exceptional attention towards maintaining spatial communication pathways within visual distances. Hansel Bauman (2013, 5) highlights that rooms can "become the page on which the language is written, the architecture becomes part of the language". In the SLCC, the space in between [~the material] is a space of opportunity designed with as much care and intention as its material boundaries. The idea of space not being empty ties in with Peter-Willem Vermeersch's (2013) study of how blind architects perceive and conceive space. He concludes that within the empty space of visual boundaries, they perceive different kinds of sensory spaces and transitions. Similarly, George's vision-centered perception is structured and layered differently than hearing-centered perception. The boundaries between public and private spaces can be considered through degrees of exposure of visual communication. For example, transparent glass panels that block movement or aural communication may still allow for visual, i.e., public, communication. Contrarily, visual enclosure enhances visual and conversational privacy, regardless of the transmission of sound or vibration.

From a d/Deaf person's perspective, visual boundaries and transitions can be determined by degrees of visual permeability, visual distances that are comfortable to the eyes, and/or distinct visual properties such as light or contrast. Bahan (2008, 14) explains

that conflicts – or boundaries – may arise when obstructions make visual pathways "inaccessible transporters of visual elements and language modalities". Beyond delimiting new boundaries, Vermeersch (2013) also advances that what is usually considered empty space between visual boundaries, is actually filled with light, temperature and sound, which can be designed deliberately.

The connection between motion and vision is not unprecedented (e.g., Le Corbusier 1927), yet, through George and the design of the SLCC, the relation between the moving body and (sign) language builds on visuo-kinetic aspects. Conversing while moving requires directing visual attention to the conversational partner(s) *and* the environment. Encountering unforeseen or ambiguous features or elements that require manual operation would therefore disrupt conversation. Contrarily, if the body can flow uninterruptedly, so can (sign) language.

How George gains directionality through the built environment's narrow-and-wide/solids-and-voids logic ties in nicely with Don Norman's (2013) concept of discoverability, i.e., the ability to (visually) discover design affordances without unnecessary signage. George appreciates implicit information that allows him to know where to go. Moreover, as a d/Deaf architect, he is more attentive to provide information that is appealing to and considerate of people's intuitive ways of seeing. Considering even broader implications, the SLCC illustrates how buildings in general can sustain language, mediate interpersonal communication, and facilitate social behaviors.

Within critics' somewhat reductionist ways of referring to vision, Pallasmaa makes a timid distinction between focused and peripheral vision: focused vision "confronts us with the world, whereas peripheral vision envelops us in the flesh of the world" (2005, 14). Therefore, architecture that sustains a focused and static gaze implies outsideness, while omnidirectional, embodied, and emotive encounters with space make

people insiders and participants. Related to the foregoing, studies have shown that most d/Deaf people attend to their peripheral field, reflections, shadows, and dorsal clues by nature (Sirvage 2014). Besides enhanced attention to the peripheral visual space, d/Deaf people's learned visual ways of being can be expanded to spatial processing and rapidly presented visual information tasks (Bahan 2008; Megreya and Bindemann 2017; Merabet and Pascual-Leone 2010; Bavelier et al. 2000; Finney and Dobkins 2001). These sets of learned behaviors are passed on and "carried over into the cultural lives, values, consciousness, social spaces, and literature of signers" (Bahan 2008, 11). When designed with attention for omnidirectional vision and accommodating (visual) experiences of being *in place*, architecture has the potential to put the viewer back into their full consciousness of being in the world. While the SLCC aims to maximize sightlines and allow for smooth communication between signers, it also introduces areas with distinct differentiation of character, use or form, e.g. public *versus* private, circulation *versus* gathering/resting space, or high versus lows ceilings. Distinguishing spaces in such a way furthermore produces contrasting light effects and sensations of temperature and sound appealing to multisensory perception.

George's d/Deaf ways of seeing, as well as the SLCC, contribute to destabilizing the indiscriminate critique of the architectural gaze and invite us to reconsider conventional understandings of vision-centered architecture. By using George's visual experience as design content, the SLCC offers insight into vision's social dimension, which can be connecting rather than alienating.

Besides being inclusive and expressive of d/Deaf ways of being, the relevance of vision-centered architecture presented here expands outside "designing for the d/Deaf" in that it points to how buildings can mediate communication and (human) interaction. The visual qualities of d/Deaf culture, Per Koren Solvang and Hilde Haualand (2014) point

out, may have a universal potential. Just like Zumthor (2006, 68) suggests that architecture modifies viewing habits, attending to the vision-centered architecture of the SLCC might suggest new ways of seeing unknown to hearing people. Our case study thus proposes that the "d/Deafening" of buildings can be beneficial to reconnect human beings with their surroundings and with each other. Even though the SLCC included user perspectives to some extent during the formulation of the RFP and in the development stages, further research would benefit from studying user perspectives *post hoc* in relation to how the building aligns (or not) with a wide spectrum of (d/Deaf) ways of being and/or modes of communication.

Besides nuancing the critique of vision and vision-centered architecture, the distinct features of the SLCC – material and symbolic – shed a different light on d/Deafness through the architectural language. Even before the SLCC's construction, Gallaudet University already recognized that architecture can convey a message. Moreover, since the SLCC was completed 10 years ago, several other ways of interpreting and materializing vision-centered architecture have been developed under the umbrella of DeafSpace ("DeafSpace" n.d.). A more immersive d/Deaf-centered approach expands nowadays to d/Deaf stakeholders' participation in the design process with promising results relevant for design (practice) and disability and d/Deaf studies. As such, the SLCC fits within the wider discussion of how a building can shape the perception of oneself, and can stir feelings of belonging, sense of community and cultural identification. Whilst Augé (1992, 77–78) describes non-places as spaces which are not relational, historic, or concerned with identity, George and his fellow designers' interpretation and materialization of the aforementioned (visual) qualities are fully situated within their cultural and historic context, and aim for connection with place and with each other.

[1] The lowercase d/uppercase D divide between deaf and Deaf generally indicates different ways of self-identification: being audiologically deaf with limited or no affectation to one's behavior, socio-linguistic, and cultural sense of belonging, *versus* considering Deafness more than an audiological state, normally marked by the use of sign language. Recognizing d/Deafness as dynamic and complex, we have opted to use the writing style "d/Deaf", aiming to address the wide range of aural and identity-diversity this article may be relevant for.

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Declaration of Interest

The authors declare no conflict of interest.

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