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Empathy

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Stylianios Giamarelos*, Nina Vollenbröker**

EMPATHY

When we published our call for papers for this special issue of *Khōrein* in March 2025, empathy seemed to be under attack from all fronts: only a couple of weeks earlier, Elon Musk, then serving as Senior Advisor to the US President, had described empathy as “the fundamental weakness of Western civilisation,” a problematic “bug” that could be “exploited” and “weaponised” against it;¹ at the same time, the UK Government was debating major cuts to the disability benefit bill and plans to reduce the support for pupils with special educational needs; and the broader context of war, mass atrocities and the devastation of civilian life, from Ukraine to Gaza and beyond, did not leave much room for hope.

On the other hand, various designers, historians, and theorists who had deployed empathy to reflect on the embodied imagination of architects or their capacity to forge trust-based relations with diverse communities were also on the receiving end of sustained criticism. Advanced by scholars who work on the intersection of critical disability studies and architecture, such as Wanda Katja Liebermann, this strand of critique questions the validity of putting oneself in another’s situation, especially when this involves lived experiences of sensory difference, of bodily and neuro- diversity, or of socially formed subjectivities. Liebermann warns against empathy as a driving force of design practice, noting that it can easily become a thin veil of reasserting architects’ authority and spatial expertise over the inaccessible lived experiences of the diverse users of their buildings. This *empathic projection* risks infantilising and rendering

¹ E. Musk, quoted in Z. Wolf, “Elon Musk Wants to Save Western Civilization from Empathy,” *CNN News*, 5 March 2025, <https://edition.cnn.com/2025/03/05/politics/elon-musk-rogan-interview-empathy-doge>, (accessed 8 July 2026).

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entire groups and constituencies as incapable of co-shaping the design process, thus disenfranchising their agency—as Jordan Whitewood-Neal also underscores in his book review.

Liebermann's critique is rooted in the way in which empathic projection is employed in the first steps of architectural education. Design briefs encourage students to project themselves into various sites and social contexts, and to approach them almost as extensions of themselves. But this self-sustained immersive practice excludes any form of meaningful interaction with social groups whose embodied interaction with the built environment begs to differ from the students' own. As Liebermann characteristically notes, this "bodily-suppression training means that students struggle even to access and treat their own bodies as a valid reservoir of knowledge,"² let alone the variegated lived experiences of disability, deafness and neurodiversity as parallel sources of spatial creativity, aesthetic possibilities, and architectural knowledge production.

In her critique of empathy, Liebermann follows the argument of psychologist Paul Bloom.³ But similar arguments were to be found in the earlier work of 20th-century philosophers and theorists such as Hannah Arendt, who also favoured rational reflection over sentimental identification like Bloom, or Gayatri Chakravorty Spivak, who famously highlighted the impossibility of empathising with a marginalised group, such as subaltern women, when operating within the power structures of different institutions, languages, and positions of privilege.⁴ In a similar vein, Saidiya Hartman has more recently argued that empathic identification can become a form of violence, centring the spectator's feelings over the humanity of the marginalised: "As a consequence," she notes, "empathy fails to expand the space of the other but merely places the self in its stead."⁵ Under this light, empathy appears as a culturally and socially embedded practice that typically "sustains the very difference it may seek to overcome,"⁶ to conveniently summarise this strand of critique in Sara Ahmed's words.

² W. K. Liebermann, *Architecture's Disability Problem*, Routledge, New York, 2024, p. 67.

³ See P. Bloom, *Against Empathy: The Case for Rational Compassion*, The Bodley Head, London, 2016.

⁴ See G. C. Spivak, "Can the Subaltern Speak?," in C. Nelson and L. Grossberg (eds.), *Marxism and the Interpretation of Culture*, Macmillan Education, Basingstoke, 1988, pp. 271–313.

⁵ S. Hartman, *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America*, Oxford University Press, Oxford, 1997, p. 20.

⁶ S. Ahmed, *The Cultural Politics of Emotion*, Edinburgh University Press, Edinburgh, 2014, p. 30.

In the course of its centuries-long history in philosophical and architectural discourse, however, empathy has been discussed in more than one, *human* and *non-human*, guises. In earlier, 19th- and 20th-century architectural contexts, *Einfühlung* (empathy) extended from human beings to inanimate objects to inform aesthetic theories of visual form, as in the influential work of art historian Heinrich Wölfflin. This sort of architectural empathy survives in Louis Kahn's well-known address to the brick, which suggests that architects are able to put themselves in the situation not only of their fellow human beings but also of inanimate materials. Empathising with the non-human desires and aspirations of "a common ordinary brick [that] wants to be something more than it is," as Khan asserts, can therefore inform all-too-human designs.⁷

Wölfflin's 19th-century empathy-based aesthetic theory of form became the target of a radical critique by architect, historian, and theorist David Gissen in his recent study *The Architecture of Disability*. Bringing the two ways of addressing empathy in architecture (relating either to embodied differences or inanimate objects) together, his critique additionally indicates that the human and non-human versions of empathy are not necessarily distinct. According to Gissen, Wölfflin's theory suggests that built form is "the invigoration of matter against gravity" and human beings engage aesthetically with it through *physiological empathy*. As such, any formal divergence from symmetry in a building alludes to an analogous disfigurement of the human body which experiences and relates with the building body. "Through this empathetic relationship, one can see and make form represent some sense of human subjecthood," Gissen characteristically concludes.⁸ In this special issue, the varying degrees of this human/non-human entanglement form a spectrum for debating the future of empathy, especially in the 21st-century context.

In his review of *The Architecture of Disability*, Michael Faciejew underscores Gissen's own authorial projection on "people like me" as a politically operative "form of collectivization" that underpins the critical and theoretical analyses throughout the book. This authorial stance renders Gissen's personal lived experience with disability as a legitimate basis for "intersubjective" and "decentered" knowledge production in the field of architecture. Working along similar lines, Natalia Pérez Liebergesell

⁷ L. Kahn, cited in W. Lesser, *You Say to Brick: The Life of Louis Kahn*, Farrar, Straus & Giroux, New York, 2017, p. 11.

⁸ D. Gissen, *The Architecture of Disability: Buildings, Cities, and Landscapes beyond Access*, University of Minnesota Press, Minneapolis, 2023, pp. 83, 90.

and Ann Heylighen highlight the significance of embodied relatability as a precondition for the meaningful translation of empathy into specific design action or praxis. The two authors embark from the finding that building codes and universal guidelines for design fail to increase empathy among architects who customarily include accessibility legislation “among the 10 most irritating aspects of their profession.” As such, Liebergesell and Heylighen’s main question is “how to make information on human diversity accessible for designers” in a meaningful way that would involve empathy and understanding. Despite its well-known problems and critiques, the two authors argue, empathy remains necessary, because, in its absence, designers are not motivated to act in the direction of spatial justice. Since the purpose of abstract rules and universal guidelines is frequently unclear, such generic principles are typically perceived as strait-jackets to architects’ creativity. Hence, for Liebergesell and Heylighen, empathy becomes a prerequisite for re-humanising the common ground of embodiment, including the specific bodily needs and lived experiences, from which technical rules and guidelines stem in the first place.

Like Liebergesell and Heylighen, Melike Beşik and Bihter Almaç also respond to the critique of empathy as a practice that “sustains the very difference it may seek to overcome,” when it is reduced to simulating somebody else’s experience. While Liebergesell and Heylighen work with “resonant” commonalities as a way to arrive at “shared experiences of disablement on the basis of individual embodiment,” however, Beşik and Almaç work in the opposite direction. They aim to maintain the “ungraspability” of the other, especially in contested contexts that entail power asymmetries between the active authority of the empathiser and the passive transparency of the empathised. Their proposed “spatial attunement” renders drawing as a means of maintaining a relation which remains partially opaque and irreducible to a full understanding. Instead of fully exposing its subject matter, the specific practice of architectural drawing explored by Beşik and Almaç negotiates the terms and conditions under which exposure (and its counterpart, concealment) become possible and negotiable in the first place.

The same critique of empathy additionally informs Ela Egidy and Hélène Frichot’s attempt to relinquish empathy from its potential implications of control, in order to unleash its untapped potential for an open-ended encounter with unpredictable end results. Their proposed “surface empathy,” which “happens in the contact zone between a body and a material that operates according to its own logic, its own temporality,

and its own affective capacity to exceed whatever container attempts to hold and constrain it,” evokes historical empathic engagements that link the human with the non-human – this time, across much wider spatial and temporal spans. Through practising surface empathy, the two authors attempt to retrieve the lived experience and “material labour practices of women from nearly 500 years ago, cordoned off in the gendered enclosure of a convent.” In this context, a material experiment in the 21st century serves as a potential bridge that connects the two authors with the embodied experience of convertite book makers five centuries in the past. The specific background of the author-researcher—who is also a typographer engaging with practices of making—plays a key role in setting the process of surface empathy in motion: this shared background of tacit knowledge is a prerequisite for the book page to serve as the contact zone across space and time, since material labour, embodied experiences, and situated knowledges coalesce in the typographic practices and processes of making of both 16th- and 21st-century women. As such, Egidy and Fric-hot’s surface empathy does not necessarily reside in or originate from specific subjects or objects; rather, it challenges such simplistic boundaries, lying instead in the unstable relational conditions and potential encounters between affordances of matter-flows that are enabled by surfaces.

A close engagement with the non-human returns in Nerea Amorós Elorduy’s article, this time as a response to the perceived shortcomings of empathy as a human-centric practice that cannot address 21st-century challenges which also involve geographic and climatic factors. Based on her long-standing work in seven refugee camps in East Africa, Amorós Elorduy critically observes that architects’ supposedly empathic design processes are frequently short-lived or serve only for the purpose of knowledge extraction (as in the case of 10-day participatory workshops with a community, which is then abandoned by the designers who proceed to do the work as they understand it without giving back to said community). Evidently, such practices cannot account for the complex nexus of human and non-human actors and factors that are implicated in the 21st-century agendas of environmental and spatial justice. In this context, empathic design practices are equally limited by their exclusive association with human subjectivity which precludes an architect’s engagement with the non-human processes that sit at the heart of our present predicament. Amorós Elorduy’s proposed alternative—“situated empathy” or “relational attentiveness”—is instead characterised by an interdisciplinary “ability to recognise and engage with the networks

of relations through which spatial environments are produced” that rests on collective processes of knowledge production. In this context, empathy is no longer an individual act but a collective and collaborative epistemic practice of distributed agency between human and non-human actors and networks, including “the ecological, material and historical conditions that shape spatial life” and their own “behaviours, affordances, and effects.”

What unites the above critical responses to the (entangled) human and non-human sides of empathy is a conviction that there is a future for it in the 21st century. As such, these articles chime with Liebermann: despite advancing one of empathy’s sharpest critiques, even she notes that “a critical projection into another’s experience *could* serve as a starting point for imagining potential users’ sensory and spatial experience.”⁹ She proposes the Ed Roberts Campus by Leddy Maytum Stacy Architects as a positive example of empathy in design. Her account of this project and the radical participatory design process that underpins it shows that empathy does not come first; it can work only if it is based on a lived experience of direct engagement with another’s different bodily/sensory engagement with space.¹⁰

In their article, Nina Vollenbröker, Kerstin Sailer, and Jos Boys, in collaboration with the DisOrdinary Architecture Project, further advance the argument that empathy needs to be maintained as a method of staying with this difference. In its absence, the consideration of diverse bodyminds and their intersections with the built environment is reduced to the simplistic terms of ensuring access, a single problem of convenient circulation that needs to be fixed. But this approach flattens any meaningful differences in the diverse spatial experiences and embodied knowledges whose complexity enriches one’s understanding of the full spectrum of the human condition, including the spatial creative practices and implications that might ensue from them. By contrast, when it is employed as a method of sustaining solidarity with the different bodyminds that use and imagine architectural spaces, empathy also becomes a way to do justice to disabled spatial knowledges, experiences, and creative imaginaries. Using empathy as method, the authors identify several spatial inequities and disparities in meeting the access needs of diverse bodyminds in an officially “accessible” refurbished building. This leads

⁹ W. K. Liebermann, *Architecture’s Disability Problem*, p. 67. Emphasis in the original.

¹⁰ *Ibid.*, p. 100.

the authors to conclude that the real problem lies in the distribution of power within systemic and institutional structures through which such differentials remain unaddressed.

Working in the bigger picture of this direction, historians of disability such as David Serlin have positively employed notions of empathy to argue for a distinct variety of modernism that developed in parallel with its more well-known didactic (i.e. normative) variant in the 20th century. Moving away from empathic projection and its discontents, Serlin focuses on retrieving histories of modernist architects' *empathic relationships* with different communities.¹¹ In this context, empathy becomes another lens through which established understandings of architectural movements (such as those of modernism and postmodernism) appear as reductive. Building on this recent work, in his article for this special issue, Serlin presents Giuseppe Quaroni and Marcello Piacentini's *Il Progetto Ophelia*, an asylum project in Benito Mussolini's Italy, as "a potent example of architecture's capacity to embody multiple and often contradictory forms of modernity." His focus is now more clearly on the *emotional circuitry that forges an empathic bond* between architect and user. While Vollenbröker and her co-authors use empathy as a method that goes hand in hand with solidarity to negotiate diverse embodiments and their intersections with the built environment, Serlin's longer-term purview shows how such design negotiations unfolded historically. His study underscores how disabled people were indeed conducive to the development of "dialectical forms of architectural empathy" in all their roles as "subjects," "objects," or "mediums" of the related design practices.

For Serlin, then, empathy becomes a prerequisite for igniting the processes of co-design. In this context, empathy does not operate in the self-same terms of a closed individual circuit, where one sees only oneself projected on the mirror of another's experience. Rather, empathy holds transformative potential, because the key to the whole process is bi-directional reciprocity. This mutuality makes all the difference between practising empathy *for* rather than *with* others, as Serlin helpfully notes. When discussing *Il Progetto Ophelia*, he proposes a useful distinction between a practice that uses the structures of empathy instrumentally rather than really exercising it to transgress its conventional adoption as a euphemism for inclusivity. Adopting this second approach to empathy

¹¹ D. Serlin, *Window Shopping with Helen Keller: Architecture and Disability in Modern Culture*, University of Chicago Press, Chicago, 2025.

in architectural design practice enables one to address deeper structural imbalances, embedded hierarchies, and power asymmetries that render the architect as the subject who designs and the intended recipient as an instrumentalised object that can only be mastered and controlled by the architect's design practice and expertise.

If Egidy and Frichot's surface empathy challenges conventional distinctions between human subjects and inanimate objects, Serlin therefore proposes another way in which human empathising can also break down the closed system of dichotomies between (architect-) subjects and (recipient-) objects. He outlines an open system of flat hierarchies, of designs that are mutually co-produced by architects and recipients motivated to act on their recognition of and identification with somebody else and their suffering. The empathy-and-solidarity schema that Vollenbröker and her co-authors foreground in their article therefore finds its further theoretical elaboration in Serlin's work, which outlines how it all becomes possible in practice. As Serlin notes, the crucial question is how one wants to see the world transforming after identifying with another's experience: do they aim to alleviate suffering by building a shared and equitable world or do they only attempt to reinforce this suffering alongside their superior position in power hierarchies? In his interview with *Khôrein*, Eduardo Souto de Moura further underscores the stance towards the collective as an architect's fundamental responsibility.

A clear example of Serlin's instrumentalised empathy, which only applies its structures superficially without really exercising it to transform oneself, is provided by the response that Andri Gerber and Elena Gavagnin receive from ChatGPT-4o when they first prompt it to reflect on its capacity for architectural empathy: "Artificial intelligence has no empathy, because it has no subjective experience. [...] AI can simulate empathy—e.g., saying 'I'm sorry you're going through that'—but this is learned from patterns in language, not from genuine care." The two authors' thought and practical experiments with AI's capacity for architectural empathy, given its disembodied connection to the physical world, showed that AI's related capacities are at present restricted to "assembling" and "collating the description of several static places" to turn it into "a journey through these;" in practice, AI cannot yet take another physical position literally, let alone walk in the shoes of another subjectivity metaphorically, in the same three-dimensional space.

In his interview with *Khôrein*, Nicolas Bourriaud further underscores the perils behind the current tendency to empathise with AI in the same

way that human subjecthood has previously fetishised other inanimate objects by projecting its all too human feelings on to them. If the political sphere is to survive the introduction of this fetishised AI and its instrumentalised “machine to human” relations, Bourriaud contends, human agency needs to be reclaimed within an alternative “human and others” system of relations. This seems to be the only way to sustain the relational field that is necessary for responding afresh to the recurring fundamental question of politics: namely, how to live together.

A year and a half after the publication of our call for this special issue of *Khôrein*, empathy remains under attack. The world has additionally witnessed the deployment of the “automatised deadly weapons,” against which Bourriaud warns, in the recent bombardments of Iran. Over the past months, debates around introducing age-based social media bans in the UK and other countries have also highlighted how these platforms severely hamper children and young people’s ability to relate to the community around them: “instead of truly being ‘with the other,’ they remain with themselves,” as Susanne Schmetkamp characteristically mentions in her interview with *Khôrein*. Indeed, the publication of this issue virtually coincides with the release of the “instant #1 *New York Times* bestseller” *Suicidal Empathy: Dying to Be Kind* by Gad Saad.¹² Like his earlier writings that influenced Musk’s position on this topic, this recent book is also endorsed by the world’s first trillionaire as an account of “the core weakness” of Western civilisation, which is apparently “doomed” if empathy is left unaddressed. Amorós Elorduy’s conclusion suggests that diminishing funding practices, alongside the priorities and expectations for research outputs and findings that can become universally applicable as a standard set of architectural tools and practices, already do not encourage nuanced and long-term empathic approaches. Schmetkamp also underscores the problematic wider framework of neoliberal capitalism that promotes short-term growth at all costs and unwavering individual self-optimisation. In such a hostile context that constantly reinforces similar assumptions, this special issue of *Khôrein* shows instead why empathy might now be more relevant than ever. Resisting the tendency to instrumentalise it by paying lip service to its structures instead of really practising empathy to transform ourselves is the only way to share the more inclusive world that human and non-human beings deserve.

¹² G. Saad, *Suicidal Empathy: Dying to Be Kind*, HarperCollins, New York, 2026.

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Natalia Pérez Liebergesell*, Ann Heylighen**

RESONANCE ACROSS CRITICAL USERS:
AN INVITATION TO APPROACH DIVERSITY
IN ARCHITECTURAL DESIGN *QUALITATIVELY*

ABSTRACT: The demand for an inclusive society responding to diverse needs and ways of being poses a major challenge for designers. Approaches such as Universal Design, Inclusive Design, or Design for All intend to respond to this challenge. However, the uptake of these approaches has been limited in architectural practice; they are often critiqued for being prescriptive, disregarding individual differences, or lacking adequate formats to inform designers about the latter. Inspired by these critiques, we see potential in focusing not on what sets people apart (their particularities), but rather on similarities or overlaps, i.e. resonances, across them, and how these can help designers address the challenge in inclusive designing. Considering resonances through a critical user lens aims to foster awareness not just of *that* design can enable or disable aspects of everyday life, or of *how many* people are affected—thus approaching diversity in quantitative terms—but also of *how important* these aspects are. In other words, it highlights the extent to which design affects people’s vital activities, thereby approaching diversity qualitatively. Moreover, we see possibilities in making resonances explicit as a way to increase the capacity of designers to empathize with experiences of the disabled community, and further abandon the idea that disability is something that affects “others.”

KEYWORDS: resonance, architecture, universal design, inclusive design, design for all

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INTRODUCTION

Despite growing awareness that society is inherently diverse, responding to and accommodating this diversity in architectural design remains a challenge.¹ How architects can design for imaginary users, particularly disabled ones, seems to be especially testing. In the past decade, debates around Universal Design (UD), Inclusive Design (ID), and Design for All (DfA)² have questioned how far these approaches can address particularities of a diverse population.³ Launched in the second half of the 20th century, UD/ID/DfA were initially considered conceptually strong and easy-to-understand approaches striving to respect and include human diversity. Their advocates point out that they make good business sense, and have compelling social and legal drivers.⁴ The uptake of UD/ID/DfA in architectural practice has been limited.⁵ They are critiqued on at least four levels: (1) they are associated with “top-down” prescriptive and standardized formulas outlining concrete specifications, and thus felt to be ineffectual.⁶ They fail to increase designers’ knowledge of, or empathy for, users, or an awareness of people’s diverse experiences in relation to their socio-material environments. Also, a certain difficulty in measuring, or assessing, when UD/ID/DfA is achieved, or for whom it is relevant, adds to these approaches’ limited appeal in architecture. (2) Promoting an egalitarian notion of “design for all” *regardless* of people’s abilities or

¹ P. Meuser, *Accessible Architecture*, DOM Publishers, Berlin, 2012; K. Mulligan, A. Calder, H. Mulligan, “Inclusive Design in Architectural Practice: Experiential Learning of Disability in Architectural Education,” *Disability and Health Journal*, 11, 2, 2018, pp. 237–242.

² Despite their different place of origin and some semantic distinctions, these three approaches share a similar purpose. In this paper we therefore refer to them collectively as UD/ID/DfA.

³ See for example: C. Edwards, G. Harold, “DeafSpace and the Principles of Universal Design,” *Disability and Rehabilitation*, 36, 16, 2014, pp. 1350–1359; or M. Winance, “Universal Design and the Challenge of Diversity: Reflections on the Principles of UD, Based on Empirical Research of People’s Mobility,” *Disability and Rehabilitation*, 36, 16, 2014, pp. 1334–1343.

⁴ Centre for Excellence in Universal Design, “The 7 Principles of UD,” <http://universaldesign.ie/What-is-Universal-Design/The-7-Principles/>, (accessed 9 February 2021); M. Story, J. Mueller, R. Mace, *The Universal Design File: Designing for People of All Ages and Abilities*, NC State University, Center for UD, Raleigh NC, 1998.

⁵ V. Van der Linden, H. Dong, A. Heylighen, “From Accessibility to Experience: Opportunities for Inclusive Design in Architectural Practice,” *Nordic Journal of Architectural Research*, 2, 2016, pp. 33–58; H. Wauters, P.-W. Vermeersch, A. Heylighen, “Reality Check: Notions of Accessibility in Today’s Architectural Design Practice,” in Y.-K. Lim *et al* (eds.), *Design’s Big Debates. The Design Research Society’s 2014 conference*, Design Research Society & Umeå Institute of Design, 2014, pp. 1482–1491.

⁶ C. Edwards, G. Harold, “DeafSpace and the Principles of Universal Design”; K. H. Smith, W. F. E Preiser, *Universal Design Handbook*, McGraw-Hill, 2011.

characteristics, as worded in the UD principles, is found to be confusing and contradicting.⁷ The idea of “one size fits all” was initially aimed to circumvent specialist design for minority segments of the population, yet, in doing so, these principles leave little room for particularities. They are said to *reduce* diversity by universalizing individual differences and their attributed “one size fits all” character.⁸ Scholars argue for replacing the expression “regardless of” (people’s abilities or characteristics) in UD formulations by “taking into account” or “with consideration for.”⁹ (3) Studies show that architects often reason that it is unrealistic and unmanageable to “design for all” and give up prematurely.¹⁰ Being unequipped is often used as an argument resulting in *ignoring* much of the range of human diversity. Designers are likely to encounter limitations in designing for human diversity in its entirety, yet these limitations have not been articulated, studied, or fully exploited. (4) UD/ID/DfA also find their uptake in architectural practice notably hampered by the lack of adequate information formats illustrating aspects of human diversity needed in architectural design.¹¹

Critiques on UD/ID/DfA are giving way to particularistic approaches, sometimes referred to as “design for one,”¹² which aim to

⁷ See, for example: M. Bianchin, A. Heylighen, “Fair by Design. Addressing the Paradox of Inclusive Design Approaches,” *The Design Journal*, 20 (sup1), 2017, pp. S3162–S3170; M. Winance, “Universal Design and the Challenge of Diversity.”

⁸ A. Hamraie, “Universal Design Research as a New Materialist Practice,” *Disability Studies Quarterly*, 32, 4, 2012; A. Hamraie, “Universal Design and the Problem of ‘Post-Disability’ Ideology,” *Design and Culture*, 8, 3, 2016, pp. 285–309; A. Hamraie, *Building Access: Universal Design and the Politics of Disability*, University of Minnesota Press, Minneapolis, 2017; B. Ingstad, S. Reynolds Whyte, *Disability and Culture*, University of California Press, Berkeley, 1995.

⁹ C. Edwards, G. Harold, “DeafSpace and the Principles of Universal Design”; M. Winance, “Universal Design and the Challenge of Diversity”; R. Imrie, R. Luck, “Designing Inclusive Environments: Rehabilitating the Body and the Relevance of Universal Design,” *Disability and Rehabilitation*, 36, 16, 2014, pp. 1315–1319.

¹⁰ A. Hamraie, “Universal Design and the Problem of ‘Post-Disability’ Ideology”; A. Heylighen, V. Van der Linden, I. Van Steenwinkel, “Ten Questions Concerning Inclusive Design of the Built Environment,” *Building and Environment*, 114, 2017, pp. 507–517.

¹¹ E. Guffey, *Designing Disability: Symbols, Space, and Society*. Bloomsbury Publishing, London, 2018; A. Heylighen, J. Schijlen, V. Van der Linden, D. Meulenijzer, P.-W. Vermeersch, “Socially Innovating Architectural Design Practice by Mobilising Disability Experience. An Exploratory Study,” *Architectural Engineering and Design Management*, 12, 4, 2016, pp. 253–265.

¹² See for example: M. Kimmelman, “How Design for One Turns Into Design for All,” *The New York Times*, January 24, 2018, <https://www.nytimes.com/2018/01/24/arts/design/cooper-hewitt-access-ability.html>.

respond to a specific demographic¹³ or reflect an individual's needs or desires.¹⁴ One of their strengths is that they are rooted in a nuanced understanding of individuals' experiences and relationships with their environments that is said to be missing in UD/ID/DfA. However, they have led some critics to propose that their application may result in the creation of separate societies; a ghettoization of spaces for minority communities (e.g. facilities for disabled people).¹⁵ Furthermore, beyond the difficulties in designing for an infinite number of particularities, particularistic approaches are likely to exclude *someone* and thus create the very problem they set out to solve. Hence, it remains a challenge to effectively design built environments responding to the needs and/or ways of being of a diverse population.

This paper starts from the observation that considering human diversity is a fundamental condition of good design. Still, an effective approach—tailored to architecture and explicitly considering the varied abilities and ways of being of users from the outset—has been understudied and underdeveloped. Several scholars argue that UD/ID/DfA require greater investigation and discussion and underline the need to further explore tensions between universalist and particularistic approaches.¹⁶ Motivated by these challenges in present-day architectural practice and inspired by the main critiques on UD/ID/DfA, we propose not to find a compromise between universal and particularistic approaches, but to tackle the problem from a different angle: rather than considering differences between users, or their uniqueness, we see potential in focusing on similarities or overlaps, i.e. resonances, across critical users (explained henceforth), and how designers can deliberately integrate these. By exploring the concept of *resonance* across critical users, we substantiate what has been a core aspect of UD/ID/DfA but has hardly received scholarly attention so far.¹⁷

¹³ H. Bauman, "DeafSpace," in D. Bauman, J. Murray (eds.), *DeafGain*, University of Minnesota Press, Minneapolis, 2014, pp. 375–401; C. Edwards, G. Harold, "DeafSpace and the Principles of Universal Design"; M. Winance, "Universal Design and the Challenge of Diversity."

¹⁴ E. Guffey, *After Universal Design. The Disability Design Revolution*, Bloomsbury Publishing, London, 2023.

¹⁵ H. Bauman, "DeafSpace"; C. Edwards, G. Harold, "DeafSpace and the Principles of Universal Design"; M. Kimmelman, "How Design for One Turns Into Design for All."

¹⁶ C. Edwards, G. Harold, "DeafSpace and the Principles of Universal Design"; A. Hamraie, "Universal Design and the Problem of 'Post-Disability' Ideology"; M. Winance, "Universal Design and the Challenge of Diversity."

¹⁷ Even though often considered as vague and overly homogenizing (e.g., E. Erdtman, K. Rasmus-Gröhn, P.-O. Hedvall, "Let Us Move beyond Word Battles and Separatism:

Revisiting resonance allows us to start addressing two interrelated questions: why, and to whom, inclusive designing matters (motivation and relevance) and how to make information on human diversity accessible for designers (empathy and understanding). It can be argued that an imbalance between motivation, relevance, and understanding often leads to designers encountering difficulties, or not seeing the point, in implementing readily available information on human diversity. Heylighen *et al.*, for instance, point out that the application of inclusive design in architecture is notably hampered by its (perceived) prescriptive character, resulting in a lack of motivation¹⁸ and understanding of the reasons behind certain requirements.¹⁹ Architecture, several scholars point out, is often practiced in a self-referential way, i.e., designers refer to their own bodies as a source of knowledge.²⁰ An effective approach to inclusive design thus necessitates, as an entry point, relatable experiences of “others” connecting to and resonating with that of the designer(s). Resonance puts the focus on shared experiences of disablement on the basis of individual embodiment of impairment. Several scholars and companies (e.g., Microsoft²¹) mention the concept of resonance “in passing” but do not elaborate on its mechanisms of transferability, its applicability, and explicit implementation in architectural practice.²²

Strategies and Concerns Regarding Universal Design in Sweden,” *Equality, Diversity and Inclusion: An International Journal*, 41, 9, 2022, pp. 15–29; R. Imrie, “Universalism, Universal Design and Equitable Access to the Built Environment,” *Disability and Rehabilitation*, 34, 10, 2012, pp. 873–882; M. Winance, “Universal Design and the Challenge of Diversity”), UD/ID/DfA were in fact conceived to be lively and evolving, and open to revisions and adjustments from a contemporary lens (e.g., E. Steinfeld, B. Tauke, “Universal Designing,” in J. Christopherson (ed.), *Universal Design: 17 Ways of Thinking and Teaching*, Husbanken, Oslo, 2002; M. Story, J. Mueller, R. Mace, *The Universal Design File: Designing for People of All Ages and Abilities*, NC State University, Center for UD, Raleigh, 1998).

¹⁸ In a survey among Flemish architects, accessibility legislation was listed among the 10 most irritating aspects of their profession. See: NAV, *Ons vak in vorm: het eerste architectencongres* [Our professional in shape: the first architects congress], 2012.

¹⁹ A. Heylighen *et al.*, “Ten Questions Concerning Inclusive Design of the Built Environment.”

²⁰ R. Imrie, “Architects’ Conceptions of the Human Body,” *Environment and Planning D: Society and Space* 21, 1, 2003, pp. 47–65. See also D. Gissen, *The Architecture of Disability. Buildings, Cities, and Landscapes beyond Access*, University of Minnesota Press, Minneapolis, 2022.

²¹ See: A. Shum, K. Holmes, K. Woolery, et al., “Inclusive Microsoft Design,” 2016, <https://www.microsoft.com/design/inclusive/>, (accessed 5 July 2026).

²² See, for example: H. Froyen, E. Verdonck, D. De Meester, A. Heylighen, “Universal Design Patterns for Stoma Care Away-from-Home,” *Australasian Medical Journal*, 1, 13, 2009, pp. 213–215; N. Pérez Liebergesell, P.-W. Vermeersch, A. Heylighen, “Designing for a Future Self: How the Architect Stéphane Beel Empathises with Wheelchair Users,”

Focusing on resonance thus enables us to tackle a known challenge, i.e. inclusive designing, from a new lens. Our objective is to draw attention to a way of approaching design that builds on the strengths of UD/ID/DfA, circumventing their past and current critiques and limitations.

In the remainder of this paper, we zoom in on the concept of resonance in (architectural) design, and outline lessons learned from a series of empirical studies conducted on design practices of architects with personal disability experience. We then discuss the potential of a critical user approach and further address the integration of other key concepts—such as affordance and empathy and their relevance in inclusive designing. Ultimately, we outline key challenges and conclude with final thoughts.

RESONANCE EXPLAINED

The term resonance finds its origin in acoustics. It is defined as an overlap of frequency by which energy adds to the energy that is already there, i.e. it is amplified. Collins Dictionary refers to resonance as “sound produced by a body vibrating in sympathy with a neighbouring source of sound.”²³ In literature and semantics, resonance is frequently used in a figurative sense: resonance implies an emotional effect produced by something that strongly reminds you of something related to your own experiences and feelings. If something resonates with you, you have a connection to it with your character, and it makes sense to you at a deep level. The effect of such connection is typically an increase in one’s motivation around the event, person, or object that resonates with us.

In considering human diversity in design, few references to the concept of resonance exist. Graham Pullin and Alan Newell describe it as situations “where the needs of the people who have a particular disability coincide with particular able-bodied users in particular contexts.”²⁴ Contextual factors and activity restrictions often affect people not classified as disabled yet overlap with the experiences of those who are:

The Journal of Architecture, 26, 6, 2021, pp. 912–937; G. Pullin, *Design Meets Disability*, MIT Press, Cambridge, Mass., 2009.

²³ Collins English Dictionary, “RESONANCE Definition and Meaning,” 2025 https://www.collinsdictionary.com/dictionary/english/resonance#resonance__1, (accessed 5 July 2026).

²⁴ G. Pullin, A. Newell, “Focussing on Extra-Ordinary Users,” in C. Stephanidis (ed.), *Universal Access in Human Computer Interaction. Coping with Diversity*. UAHCI 2007. Lecture Notes in Computer Science, vol. 4554, Springer, Berlin, 2007, p. 256.

If we have our hands full, our ability to carry out a task demanding dexterity is affected; if we are preoccupied by one thing, our ability to see something else may be compromised; if we are tired, distracted, upset, or unable to speak a local language, we may acquire at least symptoms of a reduced cognitive ability.²⁵

This view, Pullin further stresses, seeds the idea that different people, disabled and non-disabled, may have shared needs in particular circumstances, despite their differing needs, experiences, abilities, and identities at other times. In its core, we understand resonance in design as a dynamic concept where designers identify and capitalize on shared human needs and/or ways of being, i.e., consciously utilize common grounds across diverse and selected (i.e. critical) user groups. It can be argued that considering resonance in (architectural) design has the potential to motivate designers to connect, and empathize, with an array of diverse (e.g. disability) experiences based on overlaps they recognize as familiar to their own, and move them into “inclusive action.”

INCIDENTAL EXAMPLES OF RESONANCE IN DESIGN

To our knowledge, few examples exist where designers have considered resonance from the outset. Rather, some designs’ intended stakeholders have “incidentally” resonated with those of a broad population after their launch. Most examples of resonance can be found in product and interaction design. For example, the OXO potato peeler was initially designed for a person with arthritis, yet was found to be useful and comfortable by a broader population.²⁶ In the same vein, text messaging (originally TTY) was aimed to facilitate communication between non-hearing people;²⁷ and predictive text was developed for those with dexterity impairments.²⁸

²⁵ G. Pullin, *Design Meets Disability*, pp. 91–92.

²⁶ V. Lanston, “Behind the Design: OXO’s Iconic Good Grips Handles,” 31 January 2017, <https://www.oxo.com/blog/behind-the-scenes/behind-design-oxos-iconic-good-grips-handles>, (accessed 5 July 2026); G. Pullin, A. Newell, “Focussing on Extra-Ordinary Users.”

²⁷ Gallaudet University Archives, “How TTYs Made Telephones Accessible to the Deaf—Awareness, Access and Change,” Gallaudet University, <https://gallaudet.edu/museum/exhibits/history-through-deaf-eyes/awareness-access-and-change/how-ttys-made-telephones-accessible-to-the-deaf/>, (accessed 5 July 2026).

²⁸ J. L. Arnott, M. Y. Javed, “Small Text Corpora in Character Disambiguation for Reduced Typing Keyboards,” *Proceedings of RESNA 13* (Washington DC), 1990; Microsoft, “What Predictive Text Teaches about Writing,” Microsoft, 6 October 2023, <https://www.microsoft.com/en-us/microsoft-365-life-hacks/writing/>

Initially, these designs occupied a specific market niche, and were designed specifically for/by a distinct group of individuals, yet became popular and marketable for a broader population as quotidian products. In spatial design, likewise few examples of resonance can be found; a step-free passage between train/metro/bus and platform/street, initially aimed to increase accessibility for those with limited mobility, has been found to offer easy boarding/alighting to an extensive array of passengers. What is more, it has been concluded that the installation of level thresholds decreases boarding time, in turn increasing the frequency of vehicles and generating more profit. So-called “special design,” critical for a few, delivers a long-term societal and economic return following an initially costly accessibility investment.²⁹ Another example is that of loggias: Carlos Pereira *et al.* explore the (sensory) qualities of loggias for people with and without visual impairments. For some people with visual impairments, they explain, building façades provide multisensory clues essential for orientation and/or finding a building entrance: “the sound of voids in the building façade, such as the sound of a loggia or an open door is recognizable.”³⁰ Moreover, they argue that loggias have the visual advantage in light regulation for sighted people, providing time and space for ocular adaptation; they protect from glare and allow for efficient shelter to sun, wind, and rain exposure. A last example is that of tactile pavements, initially aimed at providing people with visual impairments a distinctive surface detectable with their feet or cane and alerting them to changes or dangers. Nowadays, these surfaces oftentimes assist those using mobile phones or those who are otherwise distracted.³¹

what-predictive-text-can-teach-us-about-writing-style, (accessed 5 July, 2026); A. Newell, “The Future of ICT,” in P. J. Clarkson, S. Keates, R. Coleman, C. Lebbon (eds.), *Inclusive Design: Design for the Whole Population*, Springer, Berlin, 2003.

²⁹ O. Herwig, *Universal Design: Solutions for a Barrier-Free Living*, Birkhäuser, Berlin, 2008; X. Karekla, N. Tyler, “Reduced Dwell Times Resulting from Train-Platform Improvements: The Costs and Benefits of Improving Passenger Accessibility to Metro Trains,” *Transportation Planning and Technology*, 35, 5, 2012, pp. 525–543; M. Bordas Eddy, *Universal Accessibility: On the Need of an Empathy-Based Architecture*, PhD Thesis, Tampere University of Technology, 2017.

³⁰ C. Pereira, T. Heitor, A. Heylighen, “Exploring Multisensory Qualities of Loggia Spaces for Urban Resilience to Climate Change,” *Modular Journal*, 2, 2, 2019, p. 13.

³¹ W. Feuerman, “Consciousness and Distraction in the Digital Age,” *Conscious Cities Antology 2018: Human-Centered Design, Science, and Technology*, 2018. <https://www.ccities.org/consciousness-and-distraction-in-the-digital-age>, (accessed 5 July 2026).

EMPIRICAL BACKGROUND

Our path towards considering resonances and exploring their potential in (architectural) design draws to a large extent from a series of empirical studies we conducted within the framework of an overarching study on the design practices and outcomes of architects with personal disability experience.³²

The overarching study was built up around four case studies. Each case study focused on a triad of one architect with personal disability experience, at least one person from their surroundings, and at least one of their materialized designs. Data were collected by conducting several semi-structured interviews, visiting the materialized designs under study guided by the respective architect, observing them, and inventorying design media. Permission to conduct the study was obtained from the KU Leuven Social and Societal Ethics Committee. Before the interviews, consent was obtained in written form. The option was given to remain anonymous throughout the study or in any publications, yet was not chosen.³³

During fieldwork, we observed how Natalia's (the first author's) own embodied experiences as a wheelchair user partially overlapped with some experiences of the mobility and sensory impaired architects of the study, and how their experiences, in turn, overlapped with that of yet other people they considered in their designs.

For instance, in the context of the case study on the design practice of American architect George Balsley,³⁴ we visited the Sorenson Language and Communication Center (SLCC) in Washington DC. During the visit, Natalia could benefit from seeing through transparent banisters initially designed to extend visual reach for Deaf people to be able to see and communicate across space, even from a seated position. Likewise, Natalia could detect significant resonances both between Deaf people using their hands to communicate while being in motion and her own use of hands to propel her wheelchair; and between the subsequent challenges

³² N. Pérez Liebergesell, *The Difference Disability Makes: Learning about Interactions with Architectural Design from Four Architects Experiencing Disability*, PhD Thesis, KU Leuven, 2020.

³³ More details on how this research was carried out, including approach, methods and ethical considerations, can be consulted in N. Pérez Liebergesell, *The Difference Disability Makes*.

³⁴ N. Pérez Liebergesell, P.-W. Vermeersch, A. Heylighen, "Through the Eyes of a Deaf Architect: Reconsidering Conventional Critiques of Vision-Centered Architecture," *The Senses and Society*, 14, 1, 2019, pp. 46–62.

Deaf people and wheelchair users face in juggling any other simultaneously occurring activities involving hands. Beyond, struggles regarding the use of hands while being in motion and needing to perform other activities (such as opening doors) may also resonate with someone with a limb-amputation, pushing a suitcase, using a cane or walker, holding a child, operating a phone, carrying a beverage, etc. Hence, many of the design considerations initially aimed to support Deaf people's actions and/or ways of being, such as transparent banisters, automatic doors, mobile furniture arrangements, broad hallways, or rounded and see-through corners, also benefitted Natalia as a wheelchair user—and potentially an even wider spectrum of people and circumstances—albeit for different reasons. Stéphane Beel, a Belgian architect whose design practice we studied in tandem with one of his designs, the *Koninklijk Museum voor Midden-Africa* (KMMA)³⁵ in Tervuren (Belgium),³⁶ stressed that architects should address the various possibilities offered by one design challenge. For instance, a ramp should not be built specifically for wheelchair users to use but serve a broader spectrum of people, and for more than one purpose. Otherwise, designers tap into “specialized design” (often perceived as stigmatizing and/or accentuating differences among people by separating them) and thus compromise the quality of the overall design. Moreover, the case study on Beel's design practice, as well as a case study conducted on the design practice of Sydney-based architect William Feuerman,³⁷ concluded that both architects had developed an ability to relate to other people's situations; the empathy they showed stemmed from a partial bodily overlap between their experiences and that of people with similar conditions as their own (e.g. regarding mobility, balance, or other sensory issues they experienced). These overlaps, in turn, produced a disposition to understand other people's situation, and beyond, allowed for inclusion-oriented effects in their design approaches and outcomes analogous to resonance.

Lastly, during our case study, Barcelona-based architect Marta Bordas Eddy expressed that architects should design from the worst-off

³⁵ After completion of research fieldwork, the museum's name was changed to *AfricaMuseum*.

³⁶ N. Pérez Liebergesell, P.-W. Vermeersch, A. Heylighen, “Designing for a Future Self: How the Architect Stéphane Beel Empathises with Wheelchair Users,” *The Journal of Architecture*, 26, 6, 2021, pp. 912–937.

³⁷ N. Pérez Liebergesell, P.-W. Vermeersch, A. Heylighen, “Urban Chandelier: How Experiences of Being Vision Impaired Inform Designing for Attentiveness,” *Journal of Interior Design*, 46, 1, 2021, pp. 73–92.

situation, as it is likely to also benefit others and resonate with a broader population, while the other way around does not always work.³⁸ When Marta's partner Joel was asked how he, as a person who walks, experienced the house designed by and primarily for her, he stressed: "that the house was designed for her doesn't mean anything bad for me; I believe it's actually the contrary [...] at the level of the design it's a very nice house, very convenient, very practical and comfortable."³⁹ Hence, conclusions drawn from these four case studies have drawn our attention to considering the potential of resonance in architectural design.

CRITICAL USERS

Studying and applying overlaps across the entire population may prove unrealistic and unworkable in architectural terms. Hence, if resonance is to be applied in architectural design, architects need to consider which resonances between whose experiences are taken into account in the first place. How is a target population selected, and which aspects of their experiences and/or ways of being are to be taken into account?

Rather than considering user-diversity to the fullest, we propose to start by considering only a fraction by exploring the notion of critical user.⁴⁰ Critical users—also called lead or extreme users—are users who do not feel indifferent towards certain designs; they are at the limit of needing something to be *one* way. In other words, critical users are those who find it difficult to, or cannot, attain their vital needs and/or ways of being to what the (built) environment affords. For them, the presence or absence of certain design elements or qualities is of vital importance and thus considered in absolutes—activities and/or ways of being are either

³⁸ N. Pérez Liebergesell, P.-W. Vermeersch, A. Heylighen, "Designing from a Disabled Body: The Case of Architect Marta Bordas Eddy," *Multimodal Technologies and Interaction*, 2, 1, 2018, pp. 1–17; see also: M. Bordas Eddy, *Universal Accessibility*.

³⁹ N. Pérez Liebergesell *et al.*, "Designing from a Disabled Body," p. 11.

⁴⁰ J. Cassim, H. Dong, "Critical Users in Design Innovation," in P. J. Clarkson, S. Keates, R. Coleman, C. Lebbon (eds.), *Inclusive Design: Design for the Whole Population*, Springer, London, 2003; P. Hannukainen, K. Hölttä-Otto, "Identifying Customer Needs: Disabled Persons as Lead Users," *Proceedings of the ASME 2006 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference*, Volume 4a, 2006, pp. 243–251; G. Pullin, A. Newell, "Focussing on Extra-Ordinary Users"; S. Raviselvam, K. L. Wood, K. Hölttä-Otto, K. Nagarajan, "A Lead User Approach to Universal Design – Involving Older Adults in the Design Process," *Studies in Health Technology and Informatics*, 229, 2016, pp. 131–140; E. Von Hippel, "Lead Users: A Source of Novel Product Concepts," *Management Science*, 32, 7, 1986, pp. 791–805.

enabled or disabled by design. “Non-critical” user groups might experience some (built) environments as (un)pleasant or (un)comfortable, yet vital activities are not significantly compromised. To some extent, a critical user approach matches several voices in literature arguing the necessity to “design from the worst-off,”⁴¹ to consider “man at his weakest,”⁴² or to “solve one, extend to many.”⁴³ The notion of the critical user approaches diversity qualitatively by foregrounding “how important” rather than quantitatively “how many” (i.e., the number of people affected). This would bring to the fore not only *that* socio-material environments dis- or enable people, but also to what extent designs influence people’s vital activities essential for life—hence the qualitative aspect of the critical user approach. The idea is thus to reach as many people as possible—but starting from a critical few.

In a similar vein, Pullin and Newell put forward the idea of considering, and involving, older people in design, for they often have varied impairments at once, e.g. reduced mobility, strength, memory, and cognitive abilities.⁴⁴ While impairment may not by itself be considered an inclusion criterion for critical users, being disabled—e.g., by the built environment—is likelier to occur in the presence of impairment (or rather, in the *interaction* between some people and some designs). Moreover, several scholars argue, and our previous studies corroborate, that many people with impairments possess an attentiveness towards aspects of the (built) environment which designers frequently ignore but which can be relevant for architectural design.⁴⁵ Besides the level of people’s adaptability (how they can adapt their wants and needs to different options), the level of attentiveness (awareness of how their bodies and (built) environments

⁴¹ M. Bianchin, A. Heylighen, “Just Design,” *Design Studies*, 54, 2018, pp. 7; M. Bordas Eddy, *Universal Accessibility*, p. 42.

⁴² A. Aalto, *Rationalism and Man*, Lecture at Swedish Craft Society, Stockholm, 1935, in A. Aalto, “Rationalism and Man,” in G. Schildt (ed.), *Alvar Aalto in His Own Words*, Otava, Helsinki, 1997, p. 103.

⁴³ A. Shum *et al.*, “Inclusive Microsoft Design.”

⁴⁴ G. Pullin, A. Newell, “Focussing on Extra-Ordinary Users.”

⁴⁵ See, for example: H. Bauman, “DeafSpace”; J. Boys, *Doing Disability Differently*, Routledge, Abingdon, 2014; R. Butler, S. Bowlby, “Bodies and Spaces,” *Environment and Planning D: Society and Space*, 15, 4, 1997, pp. 411–433; M. Dischinger, “The Non-Careful Sight,” in P. Devlieger *et al.* (eds.), *Blindness and the Multi-Sensorial City*, Garant, Antwerp, 2006; G. Pullin, *Design Meets Disability*; P.-W. Vermeersch, A. Heylighen, “Rendering the Tacit Observable in the Learning Process of a Changing Body,” in N. Nimkulrat, K. Niedderer, M. Evans (eds.), *Proceedings of EKSIG 2013: Knowing Inside Out – Experiential Knowledge, Expertise and Connoisseurship*, Loughborough University, Loughborough, 2013.

interact) may also be a relevant inclusion factor in the way critical users are considered. It should be emphasized that starting from critical users does not aim to select people *representing* larger groups (which is neither desirable nor realistic), but to consider overlapping consensus—resonances—between people who have “the most” extraordinary/radical requirements for ordinary aspects of life and “the rest” of the population.

Product designers often consider critical users when mapping out interactions between users and products.⁴⁶ So far, however, critical users have rarely been considered in architectural design. During the product design process, Pullin and Newell argue, involvement of extreme users shows potential in acting as an effective source of inspiring “provocation”—rather than an often-assumed constraint or nuisance.⁴⁷ Considering critical users from the outset makes managing, understanding, and relating to the needs and ways of being of a relatively small group of people easier than attempting to design for all the particularities of an inherently diverse population. In fact, Eric von Hippel stresses that one need not identify critical users illuminating an entire design but select them purposefully with respect to as few—or as many—attributes as considered relevant.⁴⁸ Additionally, we argue that critical users may not be critical in all aspects of life, but rather on a small number, or even one, and that they may be highly dependent on the environment they are in. Involving critical or lead users on the extreme of environmental awareness is useful to unearth unarticulated behaviors, desires, and needs that may be (or become in the future) relevant to the rest of the population.⁴⁹ Pullin and Newell encourage a certain directionality in inclusive designing, i.e., to start by considering the margins/extremes (design for a few critical) and subsequently move to the centre (design for many). The aim is, then, to embed such “radical” design within the mainstream—not the other way around. Bordas Eddy articulates this idea in a similar way: if one were to design for the average, as often happens, entire segments of the population are being left out.⁵⁰ If one were to design for the extremes, a broader

⁴⁶ J. Cassim, H. Dong, “Critical Users in Design Innovation”; H. Dong, P. J. Clarkson, J. Cassim, S. Keates, “Critical User Forums – An Effective User Research Method for Inclusive Design,” *The Design Journal*, 8, 2, 2005, pp. 49–59; Von Hippel, “Lead Users: A Source of Novel Product Concepts.”

⁴⁷ G. Pullin, A. Newell, “Focussing on Extra-Ordinary Users.”

⁴⁸ Von Hippel, “Lead Users: A Source of Novel Product Concepts.”

⁴⁹ A. D. Peacock *et al.*, “Co-Designing the Next Generation of Home Energy Management Systems with Lead-Users,” *Applied Ergonomics*, 60 (April), 2017, pp. 194–206.

⁵⁰ M. Bordas Eddy, *Universal Accessibility*.

part of the population could benefit—or, at the very least, their vital needs and/or ways of being would unlikely be compromised.⁵¹

In considering critical users, the questions remaining are: what is the bare minimum that human beings require to function (capability), and what role does (architectural) design play?

The capability approach, developed by Amartya Sen⁵² and introduced in the United Nations Development Program since 1990, holds promise in defining those “vital activities and ways of being.” Capabilities are described as what people are effectively able to do, or be, based on what they value. These beings and doings are called “functionings.” Examples of the latter could be being healthy, resting, being part of a community, or being mobile.

While many scholars have re-examined and further developed Sen’s ideas,⁵³ it is worth mentioning that Ilse Oosterlaken analyzed relationships between Sen’s theory and its relevance in design.⁵⁴ Capabilities, she explains, are highly dependent on one’s characteristics, what one values in life, but also on the *context* one is in, whether it be spatial, social, cultural, etc. Capabilities are not something people *have*; they are *produced* by material and institutional support. The context can be considered a conversion factor in the sense that it holds the potential to contribute to enable human action and functioning. For example, a bicycle affords transportation to a person who has the bodily fitness and skill to use it, but there are also other things involved that transcend the artifact, like a proper infrastructure to ride it, policies put in place, or the cultural meaning and acceptance of riding a bicycle. The bike’s intrinsic value

⁵¹ In their analysis and promotion of the economic impulse for accessible tourism, Peter Neumann and Werner Allemeyer combine quantitative and qualitative layers: barrier-free environments, they stress, are absolutely essential for around 10% of the population, while they are considered necessary/important for between 30 and 40% of people, and comfort-enhancing for 100% of the population. P. Neumann, W. Allemeyer, *Ökonomische Impulse eines barrierefreien Tourismus für alle: Langfassung einer Studie im Auftrag des Bundesministeriums für Wirtschaft und Arbeit*, Münstersche geographische Arbeiten 47, Inst. für Geographie der Westfälischen Wilhelms-Univ., Münster, 2004.

⁵² A. Sen, “Rights and Capabilities,” in *Resources, Values, and Development*, Blackwell and Harvard University Press, Oxford / Cambridge MA, 1984.

⁵³ See, for example: M. C. Nussbaum, *Women and Human Development: The Capabilities Approach*, Cambridge University Press, Cambridge, 2000; I. Robeyns, *Wellbeing, Freedom and Social Justice: The Capability Approach Re-Examined*, Open Book Publishers, Cambridge, 2017.

⁵⁴ I. Oosterlaken, “Human Capabilities in Design for Values,” in J. van den Hoven, P. Vermaas, I. van de Poel (eds.), *Handbook of Ethics, Values and Technological Design*, Springer, Dordrecht, 2013.

includes to move freely and at will, and this, in turn, contributes to the instrumental value, including reaching one's workplace. Architectural design could indeed be considered a conversion factor dis/allowing certain capabilities necessary for functioning.

Another theory that lends itself well for the purposes of defining vital aspects of life is that of Abraham Maslow's hierarchy of needs⁵⁵ (also widely revised and developed by scholars such as Pieter Desmet and Steven Fokkinga, or Belal Dahiam Saif Ghaleb).⁵⁶ Maslow's theory suggests that people are motivated to fulfil basic needs before they move on to more advanced needs. Other scholars often display Maslow's five basic needs as a pyramid,⁵⁷ organised from bottom to top as follows: physiological, security and safety, social belonging, esteem, and self-actualization. The ones at the bottom of the pyramid are considered deficiency needs to be fulfilled to avoid unpleasant consequences, and thus basic for a person's wellbeing, while the ones at the top are called growth needs and stem from a desire to evolve as a person. Maslow's theory has been criticized for being based on a Western ideology, without accounting for cultural differences in (ordering) human needs.⁵⁸ More recently, it has been expanded to include also other needs, and some have argued that human needs do not follow any hierarchical logic, rather, needs are individual (i.e., differing from person to person), interrelated, additive, and can change over time.⁵⁹

⁵⁵ A.H. Maslow, "A Theory of Human Motivation," *Psychological Review*, 50, 4, 1943, pp. 370–396.

⁵⁶ P. Desmet, S. Fokkinga, "Beyond Maslow's Pyramid: Introducing a Typology of Thirteen Fundamental Needs for Human-Centered Design," *Multimodal Technologies and Interaction*, 4, 3, 2020, 38; B. D. S. Ghaleb, "Towards A Dynamic Model of Human Needs: A Critical Analysis of Maslow's Hierarchy," *International Journal of Multidisciplinary Approach Research and Science*, 2, 3, 2024, pp. 1028–1046.

⁵⁷ S. King-Hill, "Critical Analysis of Maslow's Hierarchy of Need," *The STeP Journal*, 2, 4, 2015, pp. 54–57.

⁵⁸ G. Hofstede, "The Cultural Relativity of the Quality of Life Concept," *Academy of Management Review*, 9, 3, 1984, pp. 389–398.

⁵⁹ See, for example: B. D. S. Ghaleb, "Towards A Dynamic Model of Human Needs"; A. J. Hale *et al.*, "Adapting Maslow's Hierarchy of Needs as a Framework for Resident Well-being," *Teaching and Learning in Medicine*, 31, 1, 2019, pp. 109–118; D. Kenrick *et al.*, "Renovating the Pyramid of Needs: Contemporary Extensions Built Upon Ancient Foundations," *Perspectives on Psychological Science*, 5, 3, 2010, pp. 292–314. Insights from the empirical studies mentioned above, as well as Natalia's first-hand experience of being a wheelchair user, suggest that basic needs could be expanded to also consider e.g. privacy/anonymity needs, or the need of 'being alone together'; see: A. Heylighen, M. Annemans, K. Coomans, *et al.* 2020. "Room for Being Apart Together: How Spatial Organization

In any event, all design practices are articulations of human needs, and the design outcome thus affects the need fulfilment of every single person.⁶⁰ By way of example, we consider physiological needs, and one of their architectural counterparts, i.e. bathrooms. We do so for two reasons: (1) bathrooms are widely known and used, and easy to understand in architectural terms, and (2) to this day, basic physiological needs for diverse users are still ordinary exclusions referenced in scientific and opinion articles around the globe; having access to bathrooms recurrently becomes a “make-or-break” reason for social gatherings, finding and/or maintaining a job, selecting a holiday destination, etc.⁶¹ Regarding the use of bathrooms, people depending on (wheeled) mobility devices, or people requiring assistance are considered critical, as they are unlikely able to adapt to different (e.g. smaller) options (Figure 1). No matter what skills they learn, if a bathroom stall does not allow for the mobility device (e.g. wheelchairs) to pass and/or turn, or for people’s assistance to support them, these are situations that negate the use of a toilet for what one may consider a vital aspect of life. Other user groups may benefit from big stalls just as well, but they are likelier able to adapt to different options. A conflict across critical users regarding bathrooms could be the conflicting toilet height between that needed by some wheelchair users (often higher than usual), and some people of short stature (often lower than usual). Likewise, a conflict could occur between left-transferring and right-transferring (wheelchair) users. How conflicts like these could be dealt with is discussed below. Whereas considering bathroom design from a critical user lens would indeed tackle a basic need, one shall not overlook experiences of—and meanings attached to—bathrooms beyond considering purely functional aspects. That is, how their presence, designation, and design can have ramifications on other needs such as safety, social belonging, or even self-actualization (e.g., by how accessible bathrooms make private, employment, or socio-cultural life im-/possible). Moreover, further angles on human diversity could be offered by acknowledging the cultural specificity of bathroom use.

Affords Social Interactions across Different Contexts,” presented at the *Sensing Spaces, Perceiving Place – ANFA 2020 Conference* (on-Line), 14 September 2020.

⁶⁰ P. Desmet, S. Fokkinga, “Beyond Maslow’s Pyramid.”

⁶¹ J. Brookes, “To Pee or Not to Pee? That Is the Question ... for Disabled Tourists and Islanders,” *OnTheWight*, 13 April 2021, <https://onthewight.com/to-pee-or-not-to-pee-that-is-the-question-for-disabled-tourists-and-islanders/>, (accessed 5 July 2026); A. F. Nielsen, “The Role of Toilets in Public Spaces: An Interview Study with Individuals Experiencing Gastrointestinal Issues,” *Social Science & Medicine*, 362, 2024, 117408.

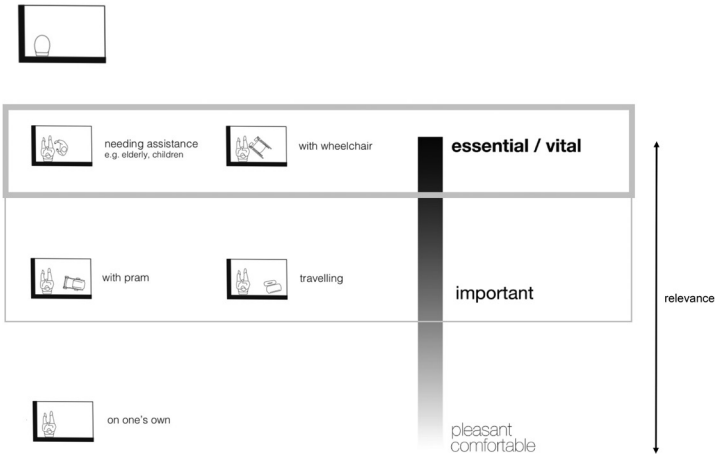


Figure 1. Representation of a Western bathroom stall and classification in order of relevance. The stall affords transfer space on the right side for several critical users. Illustration by the authors, 2026.

RESONANT AFFORDANCE AMONG CRITICAL USERS

Previously mentioned empirical research has aided identifying at least two types of resonances relevant in (architectural) design: (1) bodily resonance, referring to overlaps of needs and/or ways of being across different people; and (2) design resonance, i.e. design elements or qualities that serve for more than one purpose at once. For instance, a bodily resonance could be that of a wheelchair user and a Deaf person using sign language both needing their hands as they move (and communicate) through space. A design resonance would be automatically opening doors benefitting both of them, albeit for different reasons.

The concept of affordance, a term coined to describe people's possibility to act according to their abilities and what the environment offers,⁶² lends itself to connect both types of resonances. Affordances allow establishing relationships between properties of an object and characteristics of a person encountering that object, and what actions they identify as possible. For example, an automatically opening door affords for people needing their hands while being mobile their passing. A "resonant affordance" may thus be considered that which links several critical users' vital functionings to (architectural) artefacts.

The application of resonance in design could be modulated so as to respond to particulars of groups of individuals depending on what the design sets out to do. How the resulting architecture responds to particularities beyond critical users remains open for the designer(s) to expand as the context demands. An example could be the abovementioned SLCC in Washington DC;⁶³ that this building was designed particularly for, and with, Deaf people, and considered besides functional features also socio-cultural ones, does not make it e.g. wheelchair-inaccessible—rather the contrary, as was argued above. Architects can initially design (built) environments based on resonances—so that they cover critical users' needs and/or ways of being—and particularize them for specific user groups.

PERSPECTIVES ON DISABILITY AND EMPATHY

We started from the question how architects can design for imaginary users, particularly disabled ones, as their perspectives have been considered

⁶² J. J. Gibson, *The Senses Considered as Perceptual Systems*, Houghton Mifflin, Boston, 1966; D. Norman, *The Design of Everyday Things*, Basic Books, New York, 2013.

⁶³ See N. Pérez Liebergesell *et al.*, "Through the Eyes of a Deaf Architect."

especially hard to grasp in relation to architecture. We turn to the field of cognitive science and philosophy as we build on the concept of empathy. Foregrounding resonances across critical users may be a promising route to (1) recognize and use design's potential to respond to manifold human needs and ways of being without falling back on specialized design (perceived as) benefitting only a few; and (2) provide designers comparable experiences of disablement relatable to their own to assist them to empathize with whom they design for, and thereby overcome the impression that disability happens to "others."

The idea that the material context holds the power to dis- or enable a person recalls the social model of disability.⁶⁴ The social model contrasts with the medical model, which focuses on the disabling effects of an individual's impairment, and has often been critiqued for offering little insight into some disabled people's identity and experiential universe.⁶⁵ While it remains relevant to explore and revise meanings and experiences of disability from ever-changing contemporary lenses, the social model of disability holds the potential to make designers aware of their share of responsibility in enabling or disabling the people they design for. *Every* design decision has the potential to include or exclude someone. Designers may be insufficiently informed about the perpetuation of spatial injustice and derived accountability.⁶⁶ The inclusion of contextual factors—such as architecture—in the very definition of disability, Pullin points out, "speaks volumes of blurring boundaries between disabled and able-bodied, not just in terms of a grey scale or continuum between the two, but also because changing environmental factors and social contexts make disability contextual, even dynamic, for each individual."⁶⁷ In these terms, disability may be considered universal, from Latin *universalis*, i.e. belonging to all, or occurring everywhere.

⁶⁴ M. Oliver, *Social Work with Disabled People*, MacMillan, London, 1983.

⁶⁵ D. Goodley, "Learning Difficulties', the Social Model of Disability and Impairment: Challenging Epistemologies," *Disability & Society*, 16, 2, 2001, pp. 207–231; M. Oliver, "The Social Model of Disability: Thirty Years On," *Disability & Society*, 28, 7, 2013, p. 7; T. Shakespeare, N. Watson, "The Social Model of Disability: An Outdated Ideology?," in *Research in Social Science and Disability*, vol. 2., 2001, pp. 9–28; R. Thorneycroft, "Screwing the Social Model of Disability," *Scandinavian Journal of Disability Research*, 26, 1, 2024, pp. 286–299.

⁶⁶ L. Stafford, L. Vanik, L.K. Bates, "Disability Justice and Urban Planning," *Planning Theory & Practice*, 23, 1, 2022, pp. 101–142; A. Ulahannan, S. Birrell, P. Herriotts, "Inclusive Streetscapes: Embedding Disabled People's Lived Experience into Street Accessibility," *Wellbeing, Space and Society*, 8, June 2025, 100261.

⁶⁷ G. Pullin, *Design Meets Disability*, p. 91.

Nonetheless, the (perceived) difference between able-bodied and disabled people is often accentuated by architecture, e.g. by “special,” accessible entrances through side-doors. It has been argued that people’s identity and sense of place is shaped not only by social interactions, but also by interactions with the material world of objects and buildings that surround them.⁶⁸ Besides their material properties, the messages objects and buildings convey thus deserve careful attention, specifically, how they depict disabled people. In relating common associations of disability with architecture, we turn once more to Bordas Eddy by way of example. In her view, architects should communicate through affordances (Figure 2), rather than through entitlement:

If you have a bigger bathroom, and a smaller one, instead of saying “this is for the disabled” and “this is for whoever,” maybe you should say “this is big” and “this is small.” We should communicate the architectural space without necessarily referring to the users; that is, describe the facilities and whatever is inside and not so much the people.⁶⁹

The same goes for bathroom stalls that afford extra space for e.g. transfers; an alternative to entitling solely wheelchair users to use such stalls (even though they might be used by, or usable to, a broader set of individuals than just wheelchair users), could be communicating that a bathroom stall offers space on one or both sides. In this way, architectural design shows great potential to reduce possibilities for (disability-related) othering.

Several voices bring forth the need for information on human diversity in architectural design to be descriptive, rather than prescriptive, and inspirational and consisting of possibilities, rather than composed by strict rules one must adhere to.⁷⁰ Design guidelines and legislation often fall short in explaining the reasons behind certain requirements,

⁶⁸ D. Littlefield, “Milky Voids – The Reinterpretation of a Mining Building,” in D. Littlefield, S. Lewis (eds.), *Architectural Voices: Listening to Old Buildings*, Wiley-Academy, London, 2007; N. Pérez Liebergesell, P.-W. Vermeersch, A. Heylighen, “The Hidden Unwelcome: How Buildings Speak and Act,” *Journal of Interior Design*, 46, 3, 2021, pp. 3–10; S. Steets, “Taking Berger and Luckmann to the Realm of Materiality: Architecture as a Social Construction,” *Cultural Sociology*, 10, 1, 2016, pp. 93–108.

⁶⁹ M. Bordas Eddy in N. Pérez Liebergesell *et al.*, “Designing from a Disabled Body,” p. 6.

⁷⁰ See, for instance: E. Verdonck, H. Froyen, “Universal Design Patterns: Designing a Web-Based Tool with Architects,” in P. Leclercq, A. Heylighen, G. Martin (eds.), *CAAD Futures 2011: Proceedings of the 14th International Conference on Computer-Aided Architectural Design*, Les éditions de l’Université de Liège, Liège, 2011.



Figure 2. Examples of communication through entitlement (left: commonly used) and communication through affordance (right: proposal) in Western bathroom stalls. Illustration by the authors, 2026.

presumably because information is presented in a highly technical way, at the expense of a deeper human understanding, and perceived as narrowing down design freedom. The information contained in these documents, and the formats in which they are presented, pose a major challenge to putting empathy in motion, i.e. it hampers designers' capacity to put themselves in the shoes of those they design for. Consequently, people whose situations are radically different from a designer's own are often kept at a distance and/or categorized as "not-like-me."

The case study conducted on Beel's design practice⁷¹ assisted in recognizing the potential of resonance with regard to empathy in design processes; it allowed corroborating several scholars' conclusions insofar empathizing presupposes a bodily commonality or overlap in order to be successful.⁷² Beel's design and mindset showed that some designers may be affected by experiences of feeling disabled without having an impairment—or only having partial/temporary impairment. Empathy, we argue, requires a certain degree of identification and incorporation of the other into self, in order to trigger an affective response (i.e., being moved into action). One cannot empathize with no-body, with figures or technical information, rather, *some-body* is needed to empathize with.⁷³ Unearthing resonances between selves and others, even if only partially, is expected to allow transforming abstract information into concrete and enactable narratives, which scholars mention to be necessary to feel motivated to connect with "the other."⁷⁴ Relating resonances across embodied selves may thus be a promising route to overcome limits of empathy in design processes.

CONFLICTS

Conflicts across a diverse population are likely to occur; what is vital for one person can come into conflict with what is vital for another. For

⁷¹ N. Pérez Liebergesell *et al.*, "Designing for a Future Self."

⁷² See, for example: P. Bloom, *Against Empathy*, Ecco, New York, 2016; L. Finlay, "Reflexive Embodied Empathy," *The Humanistic Psychologist* 33, 4, 2005, pp. 271–292; M. Merleau-Ponty, *Phénoménologie de La Perception*, Routledge & Kegan Paul, London, 1962; E. Stein, *On the Problem of Empathy*, 3rd edition, ICS Publications, Washington, D.C., 1989.

⁷³ D. Zahavi, *Self and Other*, Oxford University Press, Oxford, 2014.

⁷⁴ A. Heylighen, A. Dong, "To Empathise or Not to Empathise?," *Design Studies*, 65, November 2019, pp. 107–124; M. Kouprie, F. Sleeswijk Visser, "A Framework for Empathy in Design," *Journal of Engineering Design*, 20, 5, 2009, pp. 437–448; N. Pérez Liebergesell *et al.*, "Designing for a Future Self."

instance, a curb can hinder access for someone getting around on wheels but offer a vital clue for a blind person regarding orientation. Hence it is as important to acknowledge when overlaps of critical aspects of life do not occur; these conflicts are a necessary consideration within an inclusive mindset, i.e. being knowledgeable how far inclusive designing can go.

Myriam Winance argues that “instead of envisaging the inclusion of diversity via the universality of a product, a common world should be constructed through the diversification of the resources it contains and the variations in the forms of relationships between the person and the object or environment.”⁷⁵ On the one hand, diversification might be a realistic consideration where limits, or conflicts, among critical users are encountered. If both, ramp and curb, are vital for different critical users, designers may opt to separate (i.e., duplicate) their routes, and avoid overlapping them. Another example that refers to the aforementioned height of toilets: if one toilet positioned at a certain height does not sufficiently respond to a variety of statures and abilities, it is advisable to offer a variety of toilets positioned at different heights. Conflicts, or incompatibilities, of vital needs across critical users can thus give way to multiple designs. Universality in architectural terms has often been interpreted as “sameness,” either regarding the design outcome, or regarding people’s experiences of the latter. Sometimes, however, it is not feasible to have just one design addressing everyone’s needs and/or ways of being; rather, a series of particular options are needed.

Nevertheless, it shall also be acknowledged that diversification of resources might not always be the most sustainable option, and oftentimes deemed redundant in architectural terms. For instance, multiple doors/door types for diverse building users might not only imply discrimination, but may involve a great degree of resource consumption. There is thus an evaluative component whereby designers need to consider when conflicts across critical users present, and how best to address them.

CONCLUDING REMARKS: FROM SPECIAL TO UNIVERSAL, TO RESONANT

Universal Design emerged in the US in the mid-1980s as a reflex to the implementation of accessibility standards required by law. Rather than integrating accessible features in architectural design to prevent

⁷⁵ M. Winance, “Universal Design and the Challenge of Diversity”, p. 1335.

discrimination, it became apparent that strictly following standards primarily aimed at “solving problems” resulted in special, separate, expensive, and usually ugly features⁷⁶—thus essentially creating a different kind of discrimination. Hence, Universal Design was born as a critical reaction to disability-specific design.

Since then, critiques on both, accessibility standards and Universal Design (and subsequently ID and DfA) have continued; the former for its high specificity (e.g. “for wheelchair users”) and for compromising so-called design freedom; and the latter for its low specificity (e.g. “for all”) and for presupposing a process of reduction of diversity. Some critiques on UD/ID/DfA and accessibility standards found in literature point towards dissonances between experience, practice, terminology, and theoretical ideals.⁷⁷ Even though relevant, the latter are oftentimes non-operational, unrealistic, and/or not fully capturing the realities of architectural practice.⁷⁸

Exploring the potential of resonances is presented as a reaction to these critiques. Resonances do not get rid of particulars; they do not strip the user of their unique features, rather, allow addressing a manageable selection of them. Ultimately, resonances correct the expression “regardless” that has triggered discussion and substitute it with the idea of “inclusive of / with attention for” design supporting vital aspects of life. Resonances are specific to a number of particulars, making these manageable and actionable in architectural practice. How much designers want to add to a critical minimum remains open for them to consider.

A significant collection of legislation documents, guidelines, books, and articles exist around accessibility and UD/ID/DfA. Having access to this oftentimes considered unappealing information, however, guarantees for neither an accessible nor inclusive outcome. While readily available, narratives on experiences of being disabled by built environments often seem to be “meaningless” to architects, i.e. difficult to relate to or grasp. Information cannot become meaningful on its own, but depends

⁷⁶ M. Story *et al.*, *The Universal Design File*.

⁷⁷ E. Erdtman *et al.*, “Let Us Move beyond Word Battles and Separatism”; R. Imrie, R. Luck, “Designing Inclusive Environments”; E. Steinfeld, B. Tauke, “Universal Designing.”

⁷⁸ Y. Afacan, C. Erbug, “An Interdisciplinary Heuristic Evaluation Method for Universal Building Design,” *Applied Ergonomics*, 40, 4, 2009, pp. 731–744; M. Lamirande, “Aspects of Designing Inclusively from Practitioner Perspectives,” *Architecture*, 2, 3, 2022, pp. 497–517; M. Zallio, P. J. Clarkson, “Inclusion, Diversity, Equity and Accessibility in the Built Environment: A Study of Architectural Design Practice,” *Building and Environment*, 206, 2021, 108352.

on the structures attributing meaning to it (e.g., design processes, and the people involved therein) and the medium making it tangible (e.g., architecture).

Resonances allow to conceptually tackle this issue by re-negotiating familiarity and strangeness/meaninglessness. Bringing forward similarity-in-difference may support designers to relate to critical users' experiences by recognizing some/parts of them as resonating with their own. In its core, this is what empathizing is, i.e. the ability of temporarily putting oneself in the place of the other, and making sense of other people's situations and/or ways of being. The act of empathizing is said to be more likely successful when parts of the self are recognizable in the other, i.e., when an embodied relationship between self and the other is established.⁷⁹ Moreover, empathy is linked to affective resonance; it is characterized as the *sharing* of an affect.⁸⁰ Spelling out resonances between temporary and permanent disabling situations created by design may help "humanizing" technical information, and making it relatable. The resulting resonant design could aid blurring the boundaries between adapted, assistive, or specialized design (often experienced as stigmatizing) and mainstream design—what has been a core aspect of Universal Design since its inception.

Rather than attempting to "design for all" from the outset, we see potential in limiting the users to be considered in design to only a few, i.e. the most critical ones, and invite designers to take notice how they resonate with the rest of the population. Resonances aim to "achieve the ordinary," i.e. work out conventional and vital demands of extraordinary users. Beyond asking "what counts as difference," an equally relevant question may be "what counts as similarity," and how designers can work around it deliberately.

Ultimately, considering UD/ID/DfA from the perspective of resonances opens up new lines of discussion among the scientific community by conceptually providing insight into how to reconcile universality and particularity. Future research could benefit from identifying resonances in architectural practice, and analysing what effects their application produce. Likewise, we have taken a relatively narrow approach towards capabilities, i.e. the fulfilment of pre-defined capabilities and the

⁷⁹ P. Bloom, *Against Empathy*; E. Stein, *On the Problem of Empathy*.

⁸⁰ K. Stueber, "Empathy," in E.N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*, Metaphysics Research Lab, Stanford University, Stanford, 2019.

role of architecture therein, in order to define critical users. Future research could benefit from considering architecture in itself as a contributor to re-defining, and expanding, such capabilities.

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SPATIAL ATTUNEMENT TO POLITICAL VIOLENCE: A DRAWING PRACTICE IN ARSLAN YATAĞI ALLEY

ABSTRACT: This article develops spatial attunement as an architectural way of working with political violence. It begins from a critique of empathy as a distribution of interpretive authority: after violence, empathy can quickly decide what the scene means, whose vulnerability becomes legible, and which details are treated as background. The case study is Arslan Yatağı Alley in Istanbul, a narrow service alley that became a site of police violence during the 20th Istanbul Feminist Night March on March 8, 2022. As a cramped space shaped by service infrastructure and surveillance, the alley concentrates affect and movement into a pressured corridor, where spatial arrangements participate in the event's unfolding and aftermath. The article is practice-based and focuses on a single drawing from *The Disinherited Fitment*. Drawing is used here as a method of attention rather than depiction: it stays with residues, fitments, and routines that carry the afterlife of the encounter. Spatial attunement is developed through a triangulation of practices—architectural ethnography, site writing, and allegorical drawing – that work through fragments and indirect relation. The resulting work shifts emphasis away from bodies-as-image and toward infrastructural and affective residue: pipes, AC units, drains, thresholds, broken surfaces, and their charged arrangements. Following Sara Ahmed's critique of empathy as a mode that can re-center the interpreting subject, the paper positions spatial attunement as an alternative to empathy; a political spatial practice of

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expanding what can be known about an event through the alley's material record, and by holding proximity and limit together as conditions of architectural engagement.

KEYWORDS: spatial attunement, ungraspability, being undone, cramped space, allegorical architecture, architectural ethnography, political space, architectural drawing

INTRODUCTION

Empathy is often upheld as a virtuous act, or even as a substitute for structural understanding. Despite its good intentions, empathy frequently operates through an asymmetrical distribution of power; the empathiser remains intact while the other is rendered knowable, and therefore usable, to judge or to validate one's own position. To empathise is to imagine access to an experience that is not one's own, an act that risks reducing the other to a container of legible emotions, temporarily borrowed and later released. As Sara Ahmed argues, empathy "sustains the very difference it may seek to overcome."¹ Rather than dissolving distance, empathy manages it and preserves a hierarchy in which the authority to feel, interpret or represent may remain unevenly distributed.

In this article, *spatial attunement* names a situated way of attending to a political event after it has passed. It follows the material, affective and infrastructural relations through which the event continues to act in space. The emphasis moves from empathic access to the partial and uneven conditions through which the event can still be approached. It becomes spatial through relations among bodies, remnants and thresholds; and it becomes attunement by holding these relations without resolving them into a complete explanation. Recent feminist new materialist work on embodied methods helps to position attunement as a practice. Fullagar et al. frame attuning to affect as a form of feminist experimentation shaped through bodies, movement, materiality, vulnerability and uncertainty.² This shifts attunement from a descriptive sensitivity to an embedded mode of engagement. The term is also grounded in Ahmed's notions

¹ S. Ahmed, *The Cultural Politics of Emotion*, Edinburgh University Press, Edinburgh, 2014, p. 30.

² S. Fullagar et al., "Embodied Movement as Method: Attuning to Affect as Feminist Experimentation," *Somatechnics*, 11, 2, 2021, pp. 174–190.

of ungraspability³ and being undone.⁴ Ungraspability marks the limit of making lived experience fully accessible to an external observer, while being undone names the unsettling of one's own position through contact with another. Together, they frame attunement as an ethical practice shaped by loosened interpretive control.

The concept is worked through a drawing/practice-based investigation of Arslan Yatağı Alley in Istanbul—a service alley that became a site of police violence during the 20th Istanbul Feminist Night March on March 8, 2022. Here, the question is how interpretive authority is distributed in and after the event. An empathy-based method might attempt to bridge this asymmetry by imagining access, 'seeing from the other side,' even through the alley's nonhuman arrangements. However, such simulation risks proposing the researcher as the one who can enter, translate and therefore secure the scene. The work suspends empathic authority to examine what architectural practice can do in the aftermath of political violence, when intimacy is pursued without presuming access to the other's experience. As a co-authored work, this article is shaped by two situated positions. One is the first researcher, participator, and witness of the march in 2022; the second is the speculator of this research to expedite the probabilities of architectural design research as a critical spatial inquiry where common research methods odd the micro-narratives, singularities, and allegorical one out.

The paper focuses on a single drawing from the project *The Disinherited Fitment*.⁵ Drawing on *architectural ethnography*⁶—as articulated by Momoyo Kaijima, Laurent Stalder, and Yu Iseki—the drawing operates as a mode of situated observation, and in the case of this paper; service systems in Arslan Yatağı Alley. Jane Rendell's critical spatial practice of *site writing*⁷ further supports this approach by offering a way of engaging with a site without demanding authority over it. Alongside this, Penelope

³ S. Ahmed, *The Cultural Politics of Emotion*, pp. 30–31.

⁴ *Ibid.*

⁵ This project was originally developed as part of Melike Beşik's master's thesis, titled *Architectures of Elusion: Narrating the Plurality of Political Spaces*, completed at the Architectural Design Masters Programme at Istanbul Technical University between 2022 and 2024, under the supervision of Assoc. Prof. Dr. Bihter Almaç and Assoc. Prof. Dr. Meltem Aksoy. For an earlier discussion of this project through the notion of detail as political witness, see Melike Beşik, Bihter Almaç, "The Disinherited Fitment: Detail as Political Witness," *UOU Scientific Journal*, 10, 2025, pp. 36–45.

⁶ M. Kaijima, L. Stalder, Y. Iseki, *Architectural Ethnography*, Toto Publishing, Tokyo, 2018.

⁷ Jane Rendell, *Site-Writing: The Architecture of Art Criticism*, I. B. Tauris, London, 2010.

Haralambidou's concept of *allegorical architecture*⁸ enables an indirect relation to the site rather than transparent depiction. Together, these practices are integrated to sustain a mode of *spatial attunement* that is the main proposal of this paper.

This approach shifts the focus of representation away from bodies as image and toward infrastructural and affective residue: pipes, AC units, drains, thresholds, and the charged arrangements they form. It works through restraint as the identifiers are withheld and not settled into a finished scene. The drawing asks whether *spatial attunement* can function as a political spatial practice in the aftermath of police violence, and what it means to examine the street's own record of an event whose effects persist for protesters at the level of the body. Distance becomes part of the method, one that resists the pull to fix the other into a stable object of recognition.

20TH FEMINIST NIGHT MARCH IN ISTANBUL AND ARSLAN YATAĞI ALLEY

Since 2003, the Feminist Night March in Istanbul has taken shape as a recurring event of anti-patriarchal and LGBTQ+ resistance.⁹ Over time, it became closely associated with İstiklal Street, long regarded as the city's primary and most visible space for protest. Following the intensified police repression that marked the aftermath of the 2013 Gezi Park Protests, and the banning of the LGBTQ+ Pride March in 2015, the Feminist Night March gradually assumed a heightened political significance as one of the last large-scale public demonstrations in Istanbul.¹⁰ From 2014 onward, police intervention was recurring at the march. That year marked the first instance of direct police violence, accompanied by the blocking of access to Taksim Square, which had previously served as the march's final destination.¹¹

In subsequent years, restrictions escalated and police presence became increasingly central to the spatial organisation of the event. In 2019, most

⁸ P. Haralambidou, "The Fall: The Allegorical Architectural Project as a Critical Method," in J. Rendell *et al.* (eds.), *Critical Architecture*, Routledge, London / New York, 2007, p. 234.

⁹ S. Büyükgöze, "Strategies of Discrediting: Attacks on Feminist Activists in Turkey," *Gender & Development*, 31, 1, 2023, pp. 197–215.

¹⁰ S. Büyükgöze, "Feminist Gece Yürüyüşü," *FeministBellek*, October 19, 2023, <https://feministbellek.org/feminist-gece-yuruyusu/> (accessed 20 August 2025).

¹¹ *Ibid.*

routes leading to Taksim were closed, and the march attended by thousands was forcibly dispersed by police intervention.¹² From this point onward, access to İstiklal Street was no longer permitted. The pattern intensified in 2020, when the 18th Feminist Night March was officially banned by the Istanbul Governor's Office.¹³ The march still took place in nearby Siraselviler Street even though protesters were subjected to police violence and detentions. In 2021, the 19th Feminist Night March followed the same restricted route (Figure 1). Although the press statement was read on Siraselviler Street, participants transformed any accessible street into a temporary protest space.

In 2022, the 20th Feminist Night March was again banned from entering the avenue.¹⁴ Although organizers announced Siraselviler Street as the meeting point, access to the area was blocked from multiple directions. Protesters were forced to gather on Cihangir Street instead, yet even this location became inaccessible prior to the march. Public transportation was disrupted, metro stations were closed, bus routes diverted, and all vehicular access was cut off. Surrounding streets were heavily barricaded and controlled by police. As a result, many participants were unable to reach the gathering point. Protesters, including one of the authors, navigated indirect routes through neighbourhoods, using social media applications as a real time tool for coordination and safety. Even in these conditions, the protestors reconfigured the city through improvisation: declarations were read from rooftops, slogans echoed from parked cars, and the streets were filled with banners and voices¹⁵ (Figure 2.).

The 20th Feminist Night March took place in the immediate aftermath of Turkey's withdrawal from the Istanbul Convention, the international treaty on preventing and combating violence against women that had first been adopted in Istanbul in 2011.¹⁶ Announced in July 2021, the withdrawal shaped the march as a space of collective mourning

¹² BBC Turkish, "8 Mart Feminist Gece Yürüyüşü'nde Polis Müdahalesi," *BBC Türkçe*, March 9, 2019, <https://www.bbc.com/turkce/live/haberler-turkiye-47494157>.

¹³ Istanbul Governor's Office, "İzinsiz Gösteri ve Yürüyüş Çağrısı Hakkında Basın Açıklaması" [Press release], *Republic of Türkiye Istanbul Governor's Office*, March 8, 2020, <https://www.istanbul.gov.tr/izinsiz-gosteri-ve-yuruyus-cagrisi-basin-aciklamasi>.

¹⁴ Istanbul Governor's Office, "Basın Açıklaması 2022/17" [Press release], *Republic of Türkiye Istanbul Governor's Office*, 2022, <http://www.istanbul.gov.tr/basin-aciklamasi-2022-17>.

¹⁵ DW, "Feminist Gece Yürüyüşü yasağa rağmen yapıldı," <https://www.dw.com/tr/feminist-gece-yuruyusu-yasağa-rağmen-yapıldı/a-61057343>, (accessed 20 August 2025).

¹⁶ Council of Europe, "Council of Europe Convention on Preventing and Combating Violence against Women and Domestic Violence (CETS No. 210), Signatures



Figure 1. 19th Feminist Night March in Siraselviler Street. Photograph by Meltem Akyol.¹ Reproduced with permission.

¹ *Evrensel*, “İstanbul’da 8 Mart Feminist Gece Yürüyüşü: Kadınlar Karaköy’e Yürüdü,” March 8, 2021, <https://www.evrensel.net/haber/427664/istanbulda-8-mart-feminist-gece-yuruyusu-kadınlar-karakoye-yurudu>.



Figure 2. 20th Feminist Night March in Cihangir Street.

Source: Mart Feminist Gece Yürüyüşü Facebook account.¹ Reproduced with permission.

¹ Image source: Mart Feminist Gece Yürüyüşü Facebook account, <https://www.facebook.com/istanbulfeminist/photos/a.2132003406964284/2132005450297413/>, (accessed 14 October 2025).

and anger, marked by the memory of the hundreds of women who had been killed or disappeared in the year that followed.¹⁷ At the same time, the march did not appear through a single affective tonality. Grief and rage coexisted with bright makeup, humorous banners, improvised parade outfits and familiar Turkish pop songs echoing through the streets. Such tools are not unique to the Feminist Night March in Istanbul, yet their specificity lies in the spatial and political settings under which they emerge. In the Istanbul context, these expressions unfold within a protest culture repeatedly displaced by bans, barricades and police intervention. Thus, more playful expressions do not soften the political urgency of the protest, where seemingly opposing affects are held together under conditions of spatial pressure.

The Feminist Night March has always been shaped through the material formations of public assembly: streets, pavements, squares, routes and the possibility of moving together. These spaces do more than to host collective action as they are gathered, animated and reorganised by it. Following Judith Butler's notion of public assembly¹⁸ as a bodily practice that also depends on, and reconfigures, material environments, the march can be read as a spatial practice that continually remakes the conditions of its own appearance. In Istanbul, this relation became increasingly strained as the march was pushed away from İstiklal Street through barricades, closed metro stations, diverted routes, and police control. The change in site was therefore also a change in the conditions under which bodies could gather and move together.

The site at the centre of this paper is Arslan Yatağı Street (Figure 3), a narrow service alley that sits outside the city's established cartographies of political visibility and spatial authority. The March 8 celebration venue, RX Nightclub, is located here, only a short walk from İstiklal Street. The account of that night draws on the situated field experience of one of the

and Ratifications," <http://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/210/signatures>, (accessed 20 August 2025).

¹⁷ From that day until one year later, at least 302 women were murdered and at least 254 others died under suspicious circumstances. Medyascope, "İstanbul Sözleşmesi'nden çıkılmasının ardından en az 302 kadın öldürüldü, en az 254 kadın şüpheli şekilde hayatını kaybetti," <https://medyascope.tv/2022/04/03/istanbul-sozlesmesinden-cikilmasinin-ardindan-en-az-302-kadin-olduruldu-en-az-254-kadin-supheli-sekilde-hayatini-kaybetti/>, (accessed 20 August 2025).

¹⁸ J. Butler, *Notes Toward a Performative Theory of Assembly*, Harvard University Press, Cambridge, Mass. / London, 2015.



Figure 3. Arslan Yatağı Alley. Photograph by the author.

authors, who witnessed police groups and barricades blocking access to the nightclub entrance shortly after the main protest concluded.

In response, protesters spontaneously occupied the alley. Music was played, songs were sung loudly, bodies gathered to dance, and slogans were shouted in a playful and collective manner. This moment was abruptly interrupted when police forces attacked the crowd with pepper spray. The alley, which had not been designated as part of the official march route, suddenly became a site of confrontation within the 20th Feminist Night March. As people dispersed, practices of care quickly emerged. Milk, lemon, and antacid water were shared to relieve burning skin and eyes. Within a brief span of time, the alley accumulated overlapping states of violence and solidarity.

Following this, Arslan Yatağı Alley was approached as a *cramped space*, a politically charged condition articulated by Gilles Deleuze and Félix Guattari.¹⁹ A cramped space is defined by compression where political subjectivity does not take shape through visibility or articulation.²⁰ Here, collective presence does not settle into a representable public as it remains difficult to grasp or name. The alley's infrastructural clutter intersects with a brief surge of protest and becomes a *cramped space*. It does not function as a prepared setting for protest. Rather, protest takes shape contingently, without being authorized or stabilized by spatial or political legitimacy. This dissonance is what makes Arslan Yatağı Street a suitable ground for the project. Its cramped spatial condition gathers bodies, affects and infrastructural elements without relating them into a unified political scene.

FIELD MAPPING AND MINOR MONOLOGUES

The concept of architectural ethnography, articulated by Kaijima, Stalder and Iseki,²¹ positions drawing as a practice of observation and documentation more than as a tool of design projection. Within this framework, spatial narratives emerge through the interaction of both human and non-human participants. Here, ethnographic drawing works as a situated

¹⁹ G. Deleuze, F. Guattari, *Kafka: Toward a Minor Literature*, University of Minnesota Press, Minneapolis, 1986, p. 17.

²⁰ N. Thoburn, "The People Are Missing: Cramped Space, Social Relations, and the Mediators of Politics," *International Journal of Politics, Culture, and Society*, 29, 4, 2016, pp. 367–381.

²¹ K. Kaijima, L. Stalder, Y. Iseki, *Architectural Ethnography*.

mode of attention that foregrounds the author's bodily exposure to the alley; allowing contact, hesitation, and perception to shape what becomes drawable and writable. As we suggest elsewhere, in this kind of spatial making the architect becomes a recorder;²² yet what is recorded is a polyphony of uncertain witnesses, where distinctions between recorder and recorded loosen. The service fitments operate alongside bodies as co-present actors within this *cramped space*. Walking through the alley, pausing, photographing and annotating generate a record that does not yet enact *spatial attunement*, but establishes the conditions through which attunement later becomes possible.

Field mapping operates here as a preparatory mode of architectural ethnography. The mapping (Figure 4) establishes a zone of reference that holds the specificity of this cramped space. Fitments appear as co-attendants: cameras that record and deter, units that hum and vent, pipes that route flows, surfaces that absorb residue. The approach aligns with Jane Bennett's insistence that material arrangements exert force and distribute agency across a scene.²³ Matter organizes perception and orientation within space. A CCTV camera, for instance, does not merely appear in the drawing; it repositions the viewer within a terrain of surveillance.

The mapping brings together dispersed elements of Arslan Yatağı Alley—stairs, gutters, and paving stones—with device-oriented components such as security cameras and AC units. These are set alongside residue textures and brief pauses traced through architectural ethnographic observation. The drawing operates as an observational constellation that slips away from immediate coherence and does not offer a plan or a totalizing view. Within the work, graphic elements articulate distinct modes of attention. A yellow wash traces the body's orientation as it moves through the alley. Green typographic arcs carry notes taken on site. Photo cut-outs of CCTV cameras, air-conditioning units, fire escapes, and broken paving stones point to non-human presences encountered during observation.

Jane Rendell's critical spatial practice of *site writing*²⁴ was used as another way of approaching the site and the event. Drawing on her articulation of the concept as a navigation between critical reflection and spatial experience, writing here accepts ambiguity as a necessary state. The work

²² B. Almaç, "Rangers: Houses Battling with the COVID-19 Pandemic," *UOU Scientific Journal*, 2, 2021, p. 54.

²³ Jane Bennett, *Vibrant Matter: A Political Ecology of Things*, Duke University Press, Durham, 2010.

²⁴ J. Rendell, *Site-Writing*.

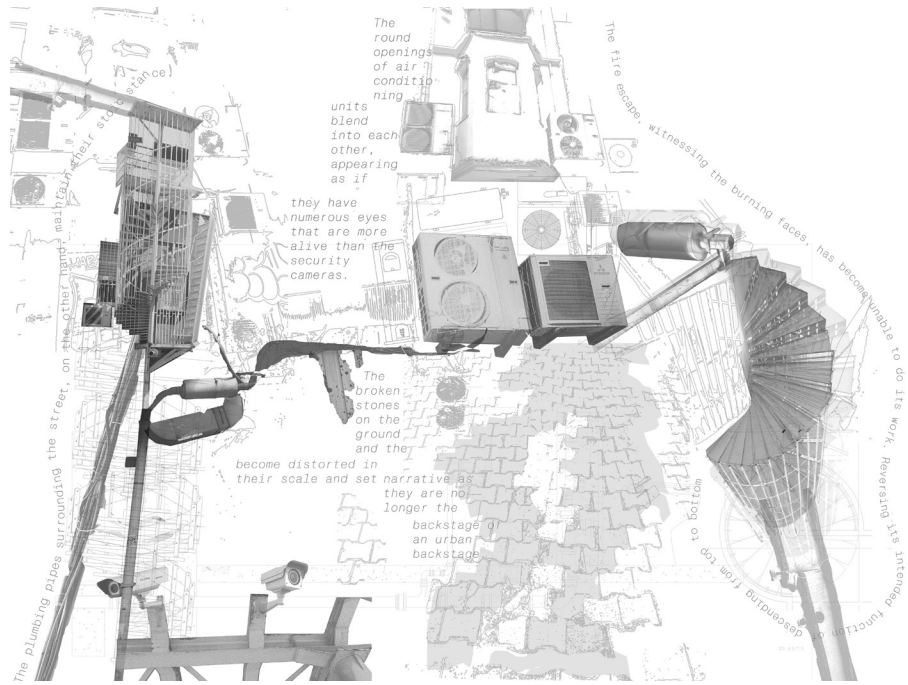


Figure 4. Field mapping of Arslan Yatağı Alley.
Produced by Melike Beşik (2023).

does not seek to stand in for political narration. Just as drawing, writing also operates to attend to the settings that are meant to remain unseen, through which the event continues to inscribe spatially. These texts are referred to as minor monologues (Figure 5, Figure 6).

The writing transcends being a descriptive tool to recount the event or to attempt to speak in place of others. Some fragments are written in the vicinity of specific service elements. These minor monologues suggest a way of thinking with them, meaning allowing the researcher's own position to become *undone* through contact. The heat, exposure or exhaustion no longer clearly belongs to the researcher or to the site. This specific practice of writing contains the necessary hesitation and misalignment that later become the initial ground from which the main drawing practice of *spatial attunement* unfolds.

A DRAWING PRACTICE OF SPATIAL ATTUNEMENT

The Disinherited Fitment (Figure 7) is the project through which this paper examines Arslan Yatağı Alley and its infrastructural and residual elements. Although the drawing does not directly represent the bodies exposed to police violence, it follows how that violence is retained in the material settings of the alley.²⁵ Architectural elements become witnesses and carriers of the event, allowing disinheritance to take form through what is usually overlooked or treated as displaced within architectural thought and making.

The Disinherited Fitment as drawing threads on a fine line between architectural representation conventions and a drawing practice that obfuscates inherent representation tactics such as clarity, exposition, order, control. The drawing act here is not treated as a tool of empathy—if empathy is understood as an attempt to enter or approximate another's experience. It asks how the established codes of architectural representation,

²⁵ A precedent for this approach can be found in Julie Mehretu's (2012) *Mogamma* (A Painting in Four Parts), where political upheaval is tackled through the spatial force of public squares and the accumulation of architectural fragments. The series gathers Tahrir Square together with other charged sites of public occupation and allows different histories of protest to enter the same graphic zone. Its layered process, built through overlapping drawings and architectural registers, treats the political event as something that grows through accumulation rather than appearing as a fixed image. *Mogamma* suggests drawing as a tool in which architecture and political disturbance stay in entangled relation. The *Disinherited Fitment* carries this concern into another scale and position, to the cramped service alley, where the material realities carry the political event.



Figure 5. Minor Monologues; security camera, graffiti,
the broken paving stones, water drops. Produced by the
author.

the fire escape

a silent witness to the fiery burn
on countless faces,
finds itself in a bit of a conundrum here.
Instead of gracefully guiding folks from top
to bottom,
it's doing a flip,
trying to haul those below upwards
in its acrobatic attempt.

I often feel akin to an escape stair,
a regular escape
a mental one
lingering here for years in
anticipation
of a fire that may never occur.

Serving as a refuge
for the everyday escapes
inbetween the fleeting moments
of a few cigarette puffs.

to be perched above it all,
a sense of dominance
surpassing even the watchful
gaze
of the cameras in front

the skin

There is a need of approval to be in pain
otherwise it is just suffering
-messy signals,
to the nerves,
to the brain

the brain does not feel pain
but rather serves as the means to make me feel
pain
There is envy that state of being an observer,
doing what is necessary
without really getting involved.
and staying completely detached
is it a skill to develop?

to feel the pain of pepper spray
while the brain enjoys the back
hisses of a lover

after all
skin is where you start

and where you end.

The four elements could match
the senses. Seeing - fire, hearing
- air, taste and smell - water,
touching - earth.
~~if it were up to me to decide~~
~~skin touch should have been~~
~~see - it should have been red~~

AC units

everything has eluded awareness. Is
this water truly H₂O? Could hydrogen
and oxygen be playing tricks on me?
I've long recognized that the bitter
liquids-causing-chaos-are-not-water
at all. Curiously, no one has ever fled
desperately—from my bodily
secrections. Perhaps there's nothing
to escape from.

With my other half inside the building
or lost,
, all that remains is a sense of mourning.

The circular openings on the tech-
nical blueprints of the air condi-
tioning units get tangled up
as if
they've sprouted a multitude of
eyes.
They're causing such a ruckus that
even the security cameras
are taking
an unscheduled
break.

Figure 6. Minor Monologues; the fire escape, the skin,
AC unit. Produced by the author.

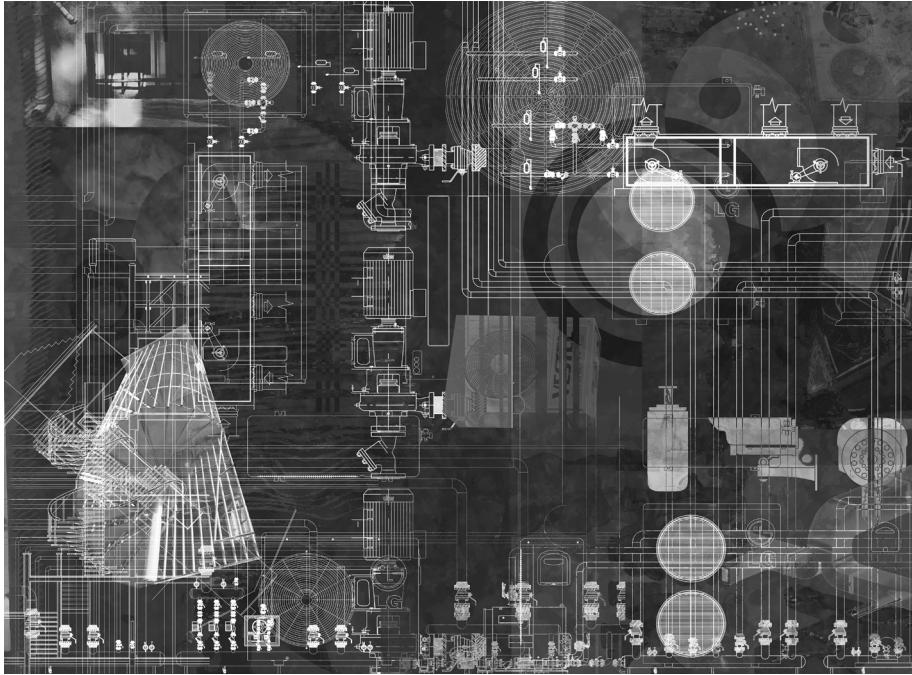


Figure 7. The Disinherited Fitment. Produced by Melike Beşik (2023).

including technical drawings, sections and elevations, can remain in relation to political violence without claiming access to the bodies exposed to it. Produced mostly through architectural drawing software, the drawing redirects technical drawing away from constructional resolution (Figure 8, Figure 9, Figure 10). Infrastructural elements extracted from Arslan Yatağı Street are moved out of their expected positions, layered with photographic and hand-drawn surfaces, and placed within unstable relations of scale, texture and proximity. Fullagar et al.'s suggestion of attuning to affect as feminist experimentation²⁶ helps to frame attunement as a mediated material practice of knowledge production. This also clarifies why the violated body does not need to become the primary object of representation – the drawing shifts attention from the exposed body as image to the spatial and infrastructural conditions through which exposure is mediated. The site's material elements do not testify in a documentary sense, yet they hold relations that cannot be fully translated into speech. In this sense, the drawing becomes a practice of unlearning architectural representation's usual desire for clarity.

Ahmed's critique of empathy helps to clarify this ethical position.²⁷ The drawing keeps relation open through distance, fragmentation and partial contact. Ungraspability²⁸ emerges through partial overlaps, obscured fragments and interrupted continuities. Being undone²⁹ also enters the work as part of the method, as the researcher's control over the site is loosened by the very elements she follows. *Spatial attunement*, in this context, becomes a drawing method that depends on limits: the limit of knowing, the limit of representation and the limit of drawing as an architectural tool.

Haralambidou positions allegory as a mode of architectural experimentation that engages otherness through an imaginative register and can unsettle an existing work, site, or drawing by exposing its underlying syntax.³⁰ In *The Disinherited Fitment*, allegory brings forms of relegation close to one another: architectural elements pushed into the city's backstage, and bodies made politically vulnerable within the same cramped space. The infrastructural elements of the street become central to this allegory because they already occupy a disinherited position within

²⁶ S. Fullagar et al., "Embodied Movement as Method," pp. 174–190.

²⁷ S. Ahmed, *The Cultural Politics of Emotion*, pp. 30–31.

²⁸ *Ibid.*

²⁹ *Ibid.*

³⁰ P. Haralambidou, "The Fall."

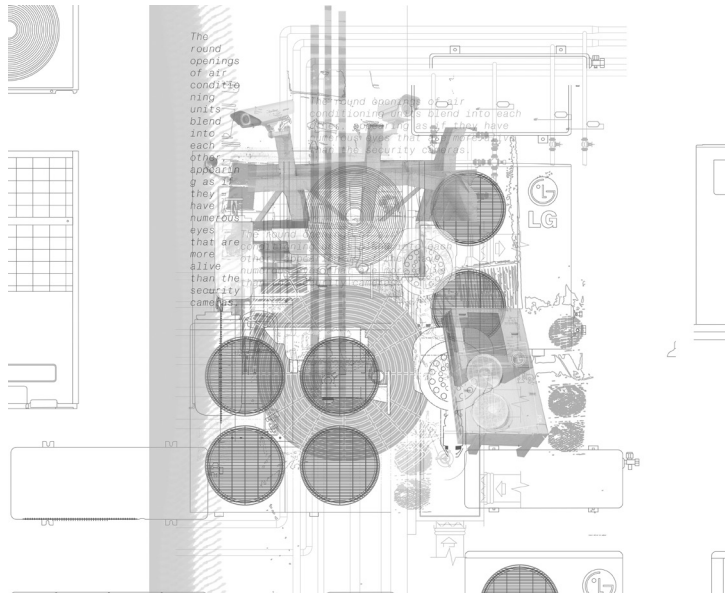


Fig 9. Initial excerpts from the drawing: HVAC Units, CCTV Cameras. Produced by Produced by Melike Beşik (2023).

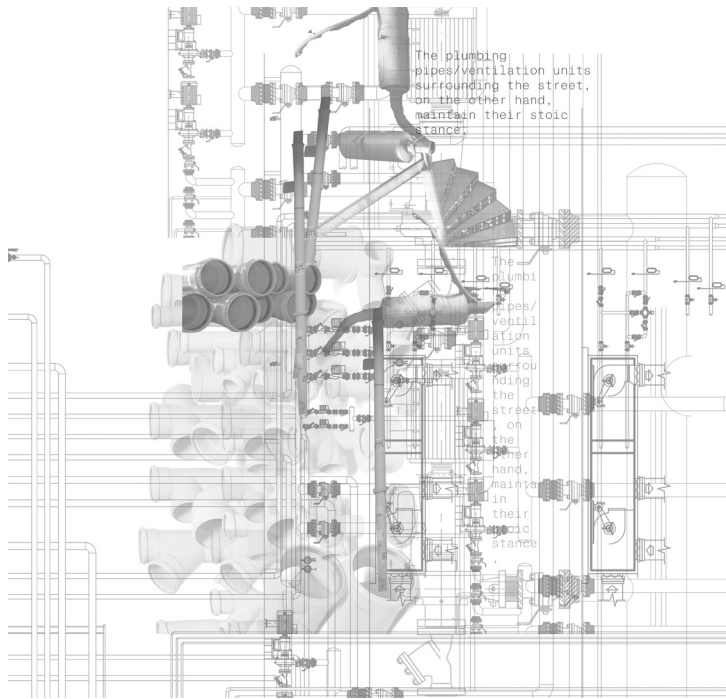


Figure 10. Initial excerpts from the drawing: plumbing pipes. Produced by the author.

architectural thought. Architecture, as Hélène Frichot et al. note, is always infrastructural in that it “maintains relations between individuals, places, and objects.”³¹ Brian Larkin further argues that infrastructures are political and cultural arrangements that shape the circulation of power, rather than neutral technical supports.³² Furthermore, Maria Puig de la Bellacasa draws attention to care, maintenance, and more-than-human labour as forms of work that sustain everyday life while remaining undervalued or unseen.³³ Under such framework, the service elements allegorically become material participants in the spatial condition of the event. They sustain the surrounding buildings, organize visibility and circulation, trace decay, and mark the backstage of urban life. By centring these service fitments, the drawing brings forward what architectural practice tends to displace in order to appear coherent.

The allegorical relation is formed through the layering of technical linework, photographic fragments, repeated details, distorted scales, tonal fields, and interrupted surfaces. Elements usually rendered with clarity become fragmented and made to leak into one another: the fire escape turned upside down; ventilation systems that lead nowhere; water pipes cut short; security cameras expand and distort scale, unsettling the relation between watcher and watched. Colour enters the drawing as pressure rather than code. It cuts through the technical scaffold, overwhelms certain areas, recedes behind others, and leaves parts exposed. Photographic cut-outs of CCTV cameras, AC units, fire-escape parts, paving stones, and other site elements anchor the work to specific objects while keeping their relations unstable.

Spatial attunement is practiced through this suspension. The drawing stays with remnants, oblique relations, broken continuities, and infrastructural fragments. It allows the event to remain difficult, without turning difficulty into vagueness. Attending the street’s architectural elements becomes a way of being undone by them. This undoing is registered through ruptures, loosened conventions, unstable scales, and interrupted surfaces. The researcher enters a relation in which her interpretive control is unsettled. The drawing holds the researcher, the viewer, the

³¹ H. Frichot et al. (eds.), *Infrastructural Love: Caring for Our Architectural Support Systems*, De Gruyter, Berlin / Boston, 2022, p. 12.

³² B. Larkin, “The Politics and Poetics of Infrastructure,” *Annual Review of Anthropology*, 42, 2013, p. 329.

³³ M. Puig de la Bellacasa, “Encountering Bioinfrastructure: Ecological Struggles and the Sciences of Soil,” *Social Epistemology*, 28, 1, 2014, p. 27.

exposed bodies, and the infrastructural elements of Arslan Yatağı Street within the same unsettled spatial field.

CONCLUSION

This paper has argued for a shift in architectural response to political violence: from empathic identification toward a more restrained practice of attention. Empathy often appears to promise ethical closeness, yet it can leave the interpreter's position untouched, allowing another's experience to become available for recognition, narration, or moral confirmation. *Spatial attunement* has therefore been proposed as an alternative mode of practice—not a way of claiming access to another's experience, but a way of questioning how architecture may attend to what remains difficult to grasp.

Arslan Yatağı Street gives this problem a specific spatial and political form. During the 20th Istanbul Feminist Night March, an overlooked narrow urban backspace gathered festivity, police violence, bodily exposure, care and dispersal. Its service fitments shift attention from the violated body as image to the material arrangements that continue to hold the event. The Disinherited Fitment carries this problem as a drawing practice. Displacement, tonal pressure, and interruption produce a form of implicated attention. The viewer is placed within a charged field where fragments, surfaces, devices and traces continue to act on interpretation.

Spatial attunement as a drawing practice turns incomplete access into a disciplinary position rather than a lack to be overcome. Feminist accounts of attunement became operative through the drawing's refusal to resolve, complete, or stabilize the event. The researcher is also drawn into this unsettled relation, no longer positioned as the one who explains the site from outside, but as someone whose own authority is disturbed by contact with its residues.

From here, the paper offers a different proposition for architectural practice after violence. Drawing can stay with violence's spatial afterlife through forms that hold both proximity and distance. The Disinherited Fitment locates this afterlife in the alley's marginal elements, where the event is not preserved as a stable memory but continues through displaced, partial and material relations. Architecture, in this sense, does not arrive after violence to clarify what happened. It remains with the unsettled conditions through which the event keeps altering how a site can be seen and approached.

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Ela Egidy*, Hélène Frichot**

TENDING TO SURFACES: MATERIAL EMPATHY, BACTERIAL CELLULOSE, AND THE CORPUS OF THE CONVERTITE

ABSTRACT: Over the last two decades, a rethinking of how we engage with materials has worked to disrupt hylomorphic habits of thought; the assumption that matter is passive and mute, worth little without the active shaping capacity of form. This essay enters that conversation through a concept we call “surface empathy,” a “feeling with” rather than a “feeling for” that arises through sustained contact with material surfaces that carry their own logic, their own temporality, and in the case of an experiment presented here, their own capacity to exceed what is intended to contain them. Such empathy does not originate in a subject, nor is it grounded in an object. It is produced on the surface itself. We develop this concept across three material substrates brought into conversation over a five-century span: Eva Hesse’s 1969 sculpture *Contingent*, which for our purposes functions as a heuristic point of departure; the printed books of the penitent nuns of the Convertite in sixteenth-century Venice; and, inspired by the material labour of these nuns, the contemporary cultivation of bacterial cellulose as a fleshy printing substrate. Thinking through making rather than making through thinking, and following the material where it leads, we read these cases alongside a new materialist orientation influenced by the legacy of philosophers Deleuze and Guattari, specifically their accounts of expressive matter-flows, percept, and affect. In doing so, we relocate empathy onto the surface, contributing to critical bibliography, book history, and creative practice-led research.

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KEYWORDS: Surface empathy, new materialism, critical bibliography, book history, bacterial cellulose, women printers (the Convertite, early modern Venice), practice-led research, Deleuze and Guattari (affect and percept), embodiment, Eva Hesse, feminist materialism, container technologies

“Matter is pitiful; form is terrible; in the sculptural work, negation is luminous and contingent.”¹ So opens the poet Lisa Robertson’s “7.5 Minute Talk for Eva Hesse (Sans II).” Hesse was acutely aware of the contingent nature of her works, even naming one after this sense of provisionality—*Contingent* (1968–1969). This title substantiates Hesse’s self-awareness concerning her process of submitting the work’s very being to chance by following the expressive capacities of the materials themselves. *Contingent* is made from cheesecloth, fibreglass, and latex, a sculptural composition that is almost entirely surface. Suspended as seven oversized bandage-like strips, once separated materials comeingle as fleshy sheaths into one decaying substance. On the repetition of elements, Hesse remarks: “If something is absurd, it’s much more exaggerated, more absurd if it’s repeated.”² In the installation, eight flaccid, elongated sheets are suspended by meathooks, strung one after another like flayed animal skins. They sag limply like fleshy echoes of once living bodies, scraped, stretched, and hung to dry. They are reminiscent, we argue, of the medieval ritual of parchment preparation, which will become relevant in what follows. Hesse’s work *Contingent* has the appearance of surfaces in the process of becoming pages prepared for writing. We learn with her approach to the contingent encounter of materials on the surfaces she has prepared.

Hesse was a sculptor whose material preferences—latex, fibreglass, and rope—have few things in common. If any sense of commonality persists between these mixed media, it lies in their refusal to hold, in perpetuity, the forms that have been coaxed out of them by their maker. Their “negation is luminous,”³ as Robertson remarks, and this luminosity is not fixed but contingent, dependent on circumstance and on the specific material decisions made on the way to their becoming sculptures.

¹ L. Robertson, *Nilling: Prose Essays on Noise, Pornography, the Codex, Melancholy, Lucretius, Folds, Cities and Related Aporias*, Book*hug, Toronto, 2012, p. 43.

² L. R. Lippard, *Eva Hesse*, New York University Press, New York, 1976, p. 209.

³ Robertson, *Nilling*, p. 43.



Figure 1. Eva Hesse, *Contingent*, 1969, cheesecloth, latex, fiberglass, overall 350.0 h × 630.0 w × 109.0 d cm, each panel 30 kg. National Gallery of Australia, Canberra, purchased 1973 (accession no. 74.395.A-H). © The Estate of Eva Hesse. Courtesy Hauser & Wirth.

These materials carry the weight of themselves on their surfaces; they sag and hang and show the viewer exactly what they have been subjected to following Hesse's manipulations. As a substratum, the composed materials are subject to the pull of gravity and the weight of time. To say that negation is contingent is to say that opposing forces are not predetermined or inevitable but processual and open-ended.

We want to hold Robertson's idea of matter being pitiful and stretch and mould it into something else. This essay attends to pitiful matter in a different register, bringing three distinct works into conversation. In addition to our encounter with Hesse, this thought experiment gathers books printed by penitent nuns in sixteenth-century Venice alongside a contemporary practice of cultivating bacterial cellulose for use as a fleshy printing surface to reproduce a thirteenth-century text, *Liber gratiae*,⁴ by medieval visionary Mechthild of Hackeborn.⁵ While the Convertite books and the bacterial cellulose constitute our two cases, Hesse's *Contingent* functions heuristically rather than as a case study, that is to say, we learn with her material experimentation.

Contingent permits the interdependence of seemingly antithetical materials, rigid fibreglass and pliable latex. Hesse engages directly with negation, describing her desire for the work to be "non-work." She continues, "It is the unknown quantity from which and where I want to go. As a thing, an object, it accedes to its own non-logical self. It is something it is nothing."⁶ Hesse's material synthesis, and articulation of her intentions, provides us with a model of making that rewards indeterminacy, impermanence, and attention to materials.

In what follows, all of these substrates—Hesse's *Contingent*, the convertite's books and the bacterial cellulose—are interleaved under consideration of an emergent collaboration with materials in the act of making. These instances were selected in support of a case for what we call "surface empathy." This is a term we use to describe a "feeling with" as opposed to a "feeling for" or "feeling into" that arises throughout the

⁴ Translation: "The book of spiritual grace," M. von Hackeborn, *Liber gratiae spiritualis visionum et reuelationum beatae Mectbildis virginis deuotissimae, ad fidelium instructionem*, Tipografia del Monastero delle Convertite; al segno della Speranza, Venetiis, 1558.

⁵ This article focuses specifically on the bacterial cellulose surfaces as a printing substrate, but this is one phase of a larger project. The second phase involves the reproduction of the text itself and the remaking of the typeface used by the Convertite to print *Liber gratiae spiritualis* in 1558. This is a collaborative project and involves type designer, Alice Savoie, who is designing a digital reinterpretation of this typeface for use in the project.

⁶ L. R. Lippard, *Eva Hesse*, p. 131.

process of material collaboration. Material empathy, we argue, is an event encountered not only in but *across* the surface. We acknowledge here a history of ideas pertaining to empathy, *Einfühlung*, or “feeling into.” From the German philosopher Robert Vischer who coins *Einfühlung* to describe the imaginative projection of human feelings onto the natural world; to Theodor Lipps, a German philosopher of aesthetics who discusses the human subject’s projection of feeling onto the object of perception; to the British writer Vernon Lee’s critical empathy, where empathy is moved by subconscious bodily responses resulting in how the human subject feels themselves into observed forms.⁷ Lipps also acknowledges how the world intrudes or imposes itself on human perception. Yet, allowing for philosophical variations and subtleties, in each instance, the human perceptual apparatus takes precedence, and empathy moves in one direction, toward the object observed. What we are after is less a feeling-into than a feeling-with that is more reciprocal, where matter is not a mute surface accepting our perceptual projections but speaks back.

As such, the surfaces we are considering here come together with the shared idea of refusal. They show the time of their making and their resistance to human intention. At the same time, they also carry on their surfaces the history of the bodies that made them and, in the case of the nuns, the institutions that enclosed them. They produce, in whoever holds or tends to them, a form of encounter that is not predetermined and cannot be fully controlled. This open-ended encounter can be understood as a kind of surface empathy experienced in intimate contact with material admixtures. It is not the empathy of projection, of a subject who throws their feeling against a passive object in the hope of finding a version of themselves reflected back. It is something that happens on the surface itself, in the contact zone between a body and a material that operates according to its own logic, its own temporality, and its own affective capacity to exceed whatever container attempts to hold and constrain it.

The Convertite’s books and the experiments with bacterial cellulose in a vat, which is a form of holding container; a “container technology,” constitute our two cases. Between them, across five centuries, they describe approaches concerned with tending to surfaces. By which we mean

⁷ V. Lee, *The Beautiful: An Introduction to Psychological Aesthetics*, Cambridge University Press, Cambridge, 1913; R. Curtis, R. G. Elliott, “An Introduction to *Einfühlung*,” *Art in Translation*, 6, 4, 2014, pp. 353–376.

how we care for and tend to surfaces by paying attention to their capacities for expression. These surfaces are not tended to in isolation but held in close relation to one another.

While there is formal resonance between the two cases we discuss and Hesse's materials, we do not want to draw comparisons based merely on superficial connections. Hesse's material collaborations model the kind of material attention our argument requires. We learn with her and transfer this learning into a material consideration of the works we introduce here. That is to say, Hesse's work is used as the connective tissue that holds our idea of "surface empathy" together. To tend to pitiful matter is to follow what a surface is already doing rather than to impose an *a priori* idea upon it. It is this quality of tending, of sustained responsiveness to a material's own logic and temporality, that is carried across these otherwise disparate cases.

SURFACE EMPATHY AGAINST HYLOMORPHISM

A seemingly novel approach to how we think with materials has been erupting over the last twenty years or so, and interestingly one of the first voices championing this rethinking emerges in architecture. In 2006, some years before subsequent collections dedicated to "new materialism" emerge, the architectural scholar Katie Lloyd Thomas argues that: "In a typical account of 'hylomorphism' such as Aristotle's, matter, or 'hyle', is given shape by form, or 'morphe'. Matter in itself is inert and undifferentiated; it is the servant of form and gives it presence. It does not determine form."⁸ She further remarks that the habitual ascription of architect as "mythic form giver" means that the collective labour of those who gather to construct an edifice is obscured and devalued. From political theorist Jane Bennett's vibrant matter⁹ to theoretical physicist Karen Barad's agential intra-actions; in edited collections on feminist materialisms by Stacy Alaimo and Susan Hekman,¹⁰ as well as discussions under the rubric of new materialisms by Diana Coole and Samantha Frost,¹¹

⁸ K. Lloyd Thomas (ed.), *Material Matters: Architecture and Material Practice*, Routledge, Oxon, 2006, p. 3.

⁹ J. Bennett, *Vibrant Matter: A Political Ecology of Things*, Duke University Press, Durham, 2010.

¹⁰ S. Alaimo, S. Hekman (eds.), *Material Feminisms*, Indiana University Press, Bloomington, 2008.

¹¹ D. H. Coole, S. Frost (eds.), *New Materialisms: Ontology, Agency, and Politics*, Duke University Press, Durham, 2010.

material matters have been changing form. To follow this flow, “new cartographies,” such as those mapped by Iris van der Tuin and Rick Dolphijn track a material turn back to thinkers like Rosi Braidotti and Manuel DeLanda, both influenced by the philosophers Gilles Deleuze and Félix Guattari. These reorientations together aim to disrupt hylomorphic habits of thought which assume that matter is passive and mute, and worth nothing much without the active shaping capacity of form and idea (*eidos*).

To counter this old assumption, one recalcitrantly embedded in the form/matter binary, an anti-hylomorphic orientation seeks to revalue the liveliness of matter-flows. An anti-hylomorphic drift follows a long undercurrent back to philosophical precursors such as Dutch seventeenth-century philosopher Spinoza and the Hellenistic Roman poet and philosopher Lucretius, while an ethos of “following the material” can be attributed to the collaborative work of Deleuze and Guattari, who introduce a late twentieth-century audience to a processual philosophy of expressive matter-flows. They ask: “So how are we to define this matter-movement, this matter-energy, this matter-flow, this matter in variation that enters assemblages and leaves them?”¹² They suggest that matter-flows are expressive, event-like, transformative, processual; that forms are not fixed, and that matter is not homogenous. They recommend that we surrender to the matter-flows and follow where they lead. At much the same time, feminist philosopher of science Donna Haraway introduces her concept of “material-semiotics,” suggesting that matter is not meaningless, but in its lively relationality part and parcel of making meaning. She writes: “Self-knowledge requires a semiotic-material technology to link meanings and bodies.”¹³ Especially relevant to our discussion she also argues that: “Feminist embodiment, then, is not about fixed location in a reified body, female or otherwise, but about nodes in fields, inflections in orientations, and responsibility for difference in material-semiotic fields of meaning.”¹⁴

We follow these thinkers, which means we follow the material of our case studies in a way that acknowledges the complex relation that constitutes material processes of formation over time. Formation, rather than

¹² G. Deleuze, F. Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, University of Minnesota Press, Minneapolis, 1987, p. 407.

¹³ D. Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies*, 14, 3, 1988, p. 585.

¹⁴ *Ibid.*, p. 588.

the imposition of stable form, materialisation, rather than the passivity of mute matter: these are our conceptual-material, or “semiotic-material” emphases and we argue that their zone of contact is on the surface.

In this context, the poet Robertson’s description of pitiful matter with which we opened can be read as an indictment of the hylomorphic gaze rather than a description of matter’s actual condition. Matter only appears pitiful when you’ve already decided it needs form to rescue it. Much as Deleuze scholar Daniel W. Smith writes, the question moves away from a form/matter binary to explore the relationship of “materials and forces—making these forces visible through their effects on the flesh.”¹⁵ We will return to this consideration of flesh in what follows.

For now, we see how Hesse’s triangulation of these three ideas of process, content, and materiality seem to pre-empt the contemporary debates on matter-flows raised above. Her triangle suggests a dynamism between the three constituent parts, how they maintain their distinction, yet necessarily hang together. Materiality in process transforms an idea of content that itself processually transforms over time in contact with material experimentation.

THE CORPUS OF THE CONVERTITE

We now move between two specific sites, one historical and one experimental. The first, a historical account, develops a research project dedicated to the printed output of the convent of Santa Maria Maddalena alla Giudecca, known as the Convertite, in sixteenth-century Venice. The Convertite, translating to “the converted,” was a penitential community of women who were classified under the term *meretrice*—women deemed sexually deviant by the Venetian state. They were former sex workers or those who had sex outside of marriage, consensual or as a result of sexual violence.¹⁶

Between the years 1557 and 1561 the convent of the Convertite housed a printing press that was operated by the nuns who lived there. During this brief five-year period, these women produced at least twenty-five printed

¹⁵ D. W. Smith, “Author’s Preface to the English Edition,” in G. Deleuze, *Francis Bacon: The Logic of Sensation*, Continuum, London / New York, 2003, p. xi.

¹⁶ *Meretrice* is frequently translated as prostitute, a term which conflates the varied lived experiences of these women. This is a reductive and inadequate translation and as such I will retain the Italian *Meretrice* rather than “prostitute”. L. J. McGough, *Gender, Sexuality, and Syphilis in Early Modern Venice: The Disease That Came to Stay*, Palgrave Macmillan, Basingstoke, 2010, p. 28.

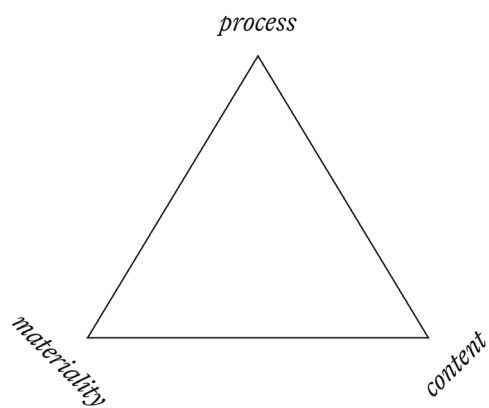


Figure 2. Ela Egidy, diagram for Eva Hesse, after a 1968 notebook in which Hesse reflected on *Sans II*. Lippard, *Eva Hesse*, p. 129.

works in both Latin and the vernacular. This collective of nuns was one among a handful other women engaged in printing in Italy at the time prior to 1560.¹⁷ Unlike some of their female contemporaries, they did not operate the press as widows following a husband's death but worked collectively as a part of a religious community; they ran the sole female-operated printing press in Italy at this time. Despite the fact that the women of the Convertite were among some of the earliest female printers in Italy, their printed works have remained largely overlooked.

The second, experimental site pertains to the material practice undertaken by one of the authors of this article cultivating bacterial cellulose as a substrate for reprinting fragments of a text the Convertite nuns printed in 1558. Taken together across a five-century span, these sites express what we, the authors, call surface empathy; a responsiveness that develops through sustained contact with material surfaces that carry their own logic, their own temporality, and their own capacity to exceed whatever containers produced them.

Importantly, the bacterial cellulose laboratory was installed¹⁸ in order to think and feel with the material labour practices of women from nearly 500 years ago, cordoned off in the gendered enclosure of a convent. It is challenging to imagine the embodied experience of this collective of women, and the research that pertains to the broader project has struggled to employ contemporary feminist theories of the body and embodiment to make comment on the nuns' collective labour. Recognising the limits of making comment on their experience in another historical moment, and in another cultural milieu, the bacterial cellulose laboratory became a space in which to attempt to extend an empathetic feeling-with of a contemporary twenty-first-century researcher, Ela Egidy, toward these sixteenth-century nuns, whose feelings and thoughts remain otherwise inaccessible, or lost to history, except for those historical documents that speak about them, rather than with them, to represent their voice and situated knowledges. The overarching research project is concerned not only with detailing a critical bibliographic history of their

¹⁷ The other female printers working in Italy at this time, all of whom were widows of printers, are as follows, with dates of attributable works: Catarina de Silvestro (1518–1525), Naples; Girolama Cartolari (1543–1559), Rome; Antonina, listed by first name only as widow of Enrico di Colonia (1505), Siena; Elisabetta, listed by first name only as widow of Giorgio Rusconi (1525–1527), Venice. A. Erdmann, *My Gracious Silence: Women in the Mirror of 16th Century Printing in Western Europe*, Gilhofer & Ranschburg, Luzern, 1999.

¹⁸ This laboratory was installed in a disused storage space within the Faculty of Fine Arts and Music, Southbank Campus, University of Melbourne.



Figure 3. Bacterial cellulose grow lab, showing bacterial cellulose sheets strung up to dry, Faculty of Fine Arts and Music, Southbank Campus, The University of Melbourne. Image by Ela Egidy.

output but also with how the women themselves figure in the making of these books through their penitential typographic labour.¹⁹

“Body” figures in this research in a number of ways, and for the purposes of this essay, the focus is on the corporeal registers of the book in contact with the bodies of the penitent nuns. Books themselves are bodily objects; indeed, the nomenclature of their constituent parts borrows directly from anatomical language. Books have a head and a foot, as well as a spine; books wear jackets, they are a *corpus*,²⁰ and the core content of a book itself is referred to as its “body”, that is, the text. The word manuscript comes from the Latin, meaning written (*script*) by hand (*manus*). Although the authorial trace of handwriting, as in a manuscript, is absent from a printed work, the very description of the work undertaken in this period highlights the body’s role in the production, the “hand-press”. In the hand-press period (1450–1800) it is through the hand that the comingling of text and body occurs, and while there is a repetition of forms—through the use of mechanical type—the hand of the compositor and printer is no less present.²¹ It is evident in its very terminology that the setting of type and printing of works in this period was understood as a very bodily process.

A correlation between the book and the body is made explicit in a number of their works. For instance, on the title page under their imprint appears the words “*In coenobio sanctae Mariae Magdalenae per monialium poenitentium manus*” (In the convent of Saint Mary Magdalen by the hands of the penitent nuns). These books are hand composed, and this role of the hand of the nun who sets the manuscript was clearly of significance to the makers as well as the buyers of these works. In addition to this line on the title page, the body of the maker is also made legible through a chance encounter during archival research, the discovery of a stray hair that has been imprinted alongside the text into pages of the books made by the nuns. This tracing of a printed hair appears across at least four copies of Peter Lombard’s *Summa theologiae* (1559).²²

¹⁹ E. Egidy, “Bodies and surfaces: Prototypographic practices of the nuns of the Conventite” (PhD thesis in progress, University of Melbourne). This research is supported by the Commonwealth through an Australian Government Research Training Program Scholarship.

²⁰ B. Cummings, *Bibliophobia: The End and the Beginning of the Book*, Oxford University Press, Oxford, 2022, p. 275.

²¹ *Ibid.*, p. 273.

²² The case of this printed hair and hair and the role of the body is discussed in significant detail in a chapter of a forthcoming publication, Routledge Critical Companion to Body

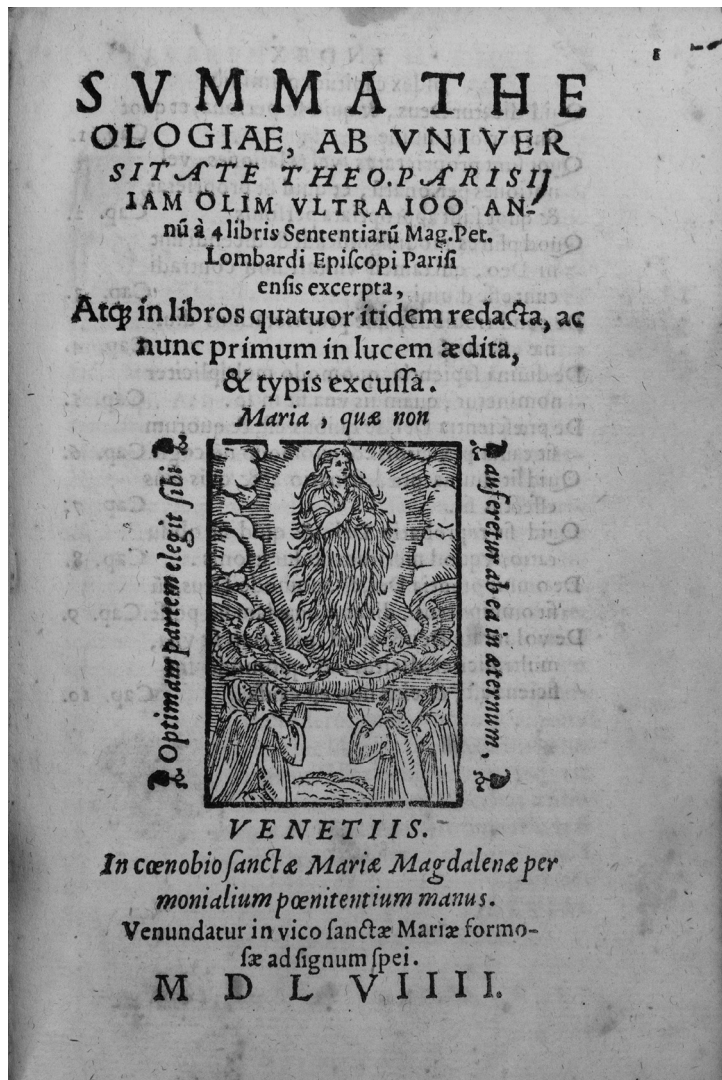


Figure 4. Petrus Lombardus, *Summa theologiae*,
ab uniuersitate theo., title page, Tipografia del Monastero
 delle Convertite, 1559, EDIT16 CNCE 33230.
 Biblioteca Diocesana Luciano Monari, Brescia.
 Image by Ela Egidy.

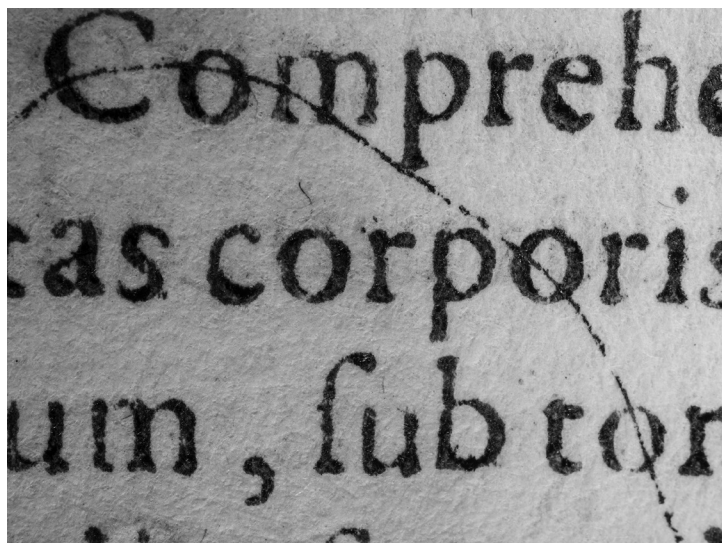


Figure 5. Printed hair strand found at folio 23r, Petrus Lombardus, *Summa theologiae, ab vniuersitate theo.*, Tipografia del Monastero delle Convertite, 1559, EDIT16 CNCE 33230. Biblioteca Vallicelliana, Rome. Image by Ela Egidy.

This relationship between the book and the body is long established. Books are for touching—their very format is designed to be held in the hands of their readers. Within Catholicism, *corpus* is understood both in terms of transubstantiation and as a collection of an author's works.²³ The approach to reading these books as bodily, with an emphasis on understanding the labour of their makers through the lens of embodiment, emerges from a feminist theoretical tradition that places the nuns within an early modern historical context, read in consideration of sexual difference, labour, and their penitential surroundings.

It is within critical bibliography, broadly understood as the study of books informed by critical theory, that this kind of embodied, theoretically committed reading finds its scholarly grounding. A growing body of researchers is actively pushing the field of book studies toward refusing objective standpoints in the study of texts.²⁴ J. D. Sargan's work on "Trans Codicology" is a compelling instance of important scholarship. Writing that "books are records of people and as such they present a contact point between our own experiences and those of our premodern counterparts," Sargan treats the book as a relational object through which trans presence, obscured by the "enforced cis heterosexuality of the historical record" can be detected, felt, and recovered.²⁵

Even though Brian Cummings does not take a critical theoretical approach to his study of the history of the book, he does alert us to the connection between the book and questions of embodiment. He identifies what he calls a "deeper question," one that sits beneath familiar debates about faith and the printed word, and that is "the commensurability of the history of the book with the history of human embodiment and identity."²⁶ The case of the nun printers of the Convertite is an interesting one in which to think these ideas through, explicitly in the relationship between faith and the printed word. The body is present in their printed outputs in recondite ways.

Matters in Architecture, Routledge, 2027. *P. Lombardus, Summa theologiae, ab vniuersitate theo. Parisi. iam olim ultra 100 annum a 4 libris sententiarum mag. Pet. Lombardi episcopi Parisiensis excerpta, atque in libros quatuor itidem redacta, ac nunc primum in lucem aedita, & typis excussa*, Tipografia del Monastero delle Convertite; al segno della Speranza, Venetiis, 1559, 23r.

²³ B. Cummings, *Bibliophobia*, p. 266.

²⁴ See *Criticism*, 64, 3 (2022) "New Approaches to Critical Bibliography and the Material Text" for a number of profound contributions to the field.

²⁵ J. D. Sargan, "What Could a Trans Book History Look Like? Toward Trans Codicology," *Criticism*, 64, 3, 2022, p. 571.

²⁶ B. Cummings, *Bibliophobia*, p. 273.

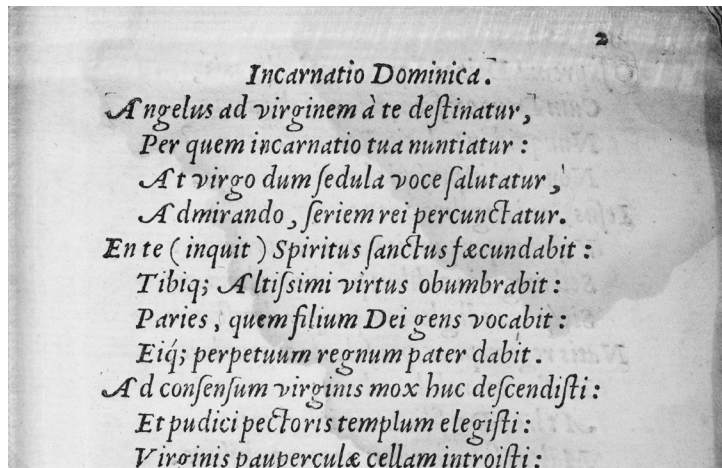


Figure 6. Folio 2r, Saint Anselmus, *Iesu Christi Dei*,
 Tipografia del Monastero delle Convertite, 1558,
 EDIT16 CNCE 34358. Biblioteca Antica del Seminario
 Vescovile di Padova. Image by Ela Egidy.

Given the institutional context in which these sixteenth-century women undertook their labour, inside a penitential convent, their works must be read in relation to their spiritual redemptive practice which is substantiated by the importance placed on the body within Catholicism, and Christianity more broadly. This is further amplified with the explicit association in the late medieval and early modern period of women with the body, contrary to men who are equated with the spirit, and subsequently the equation follows that spirit is elevated over matter.²⁷

Following Italian feminist activist Silvia Federici, we can understand the female body as historically shaped by regimes of labour and enclosure, particularly within institutions like the convent, where women's productive and reproductive capacities were regulated.²⁸ For the Convertite nuns, typographic labour was an embodied process in both senses. It was a repetitive, manual, penitent task embedded within a system of discipline and confinement. And it was a situated practice through which their religious and social identities were materially constituted. Their daily acts of setting type, inking formes and operating the press, to produce texts constituted a corporeal ritual, one that reflected institutional control while also enacting a form of self-making. Their printed books, bearing traces of their bodily presence, whether a strand of hair, their name on the title page, or the slight irregularities of hand production, are material remnants of their embodied devotional labour.

The books produced by the Convertite convent are particularly interesting because the hands that made them are ever present. Printing at this time was always a manual task, but in their works, parts of the body are explicitly named; they do not remain hidden in the mechanics of the reproduction, as is the intention of printing. The labour of women, cast out as *meretrices* but remade as penitents, is foregrounded into the very opening of almost every printed text they made. Each page carries the evidence of this labour. Printing is impression, pressure of inked type into paper. It is touch made visible on the surface of the page. In the Convertite's books, the marks of contact are everywhere. We are reminded of their hands in the over-inked headings that bleed into the page, in the fragile cast letters damaged by much use, and in a stray fallen strand of hair. These irregularities are not documentary evidence of poor

²⁷ D. Elliott, "Flesh and Spirit: The Female Body," in A. Minnis, R. Voaden (eds.), *Medieval Holy Women in the Christian Tradition c. 1100–c.1500*, Brepols, Turnhout, 2010, p. 13.

²⁸ S. Federici, *Caliban and the Witch*, Autonomedia, New York, 2004.

presswork, but the traces of specific bodies at work. Books hold on their surfaces the vestiges of the hands that made them and it is with these surfaces and their material expression, between nun-body and book-body, that a surface empathy is aroused. These sixteenth-century objects are early modern records of female bodies, penitence, and the material practice of making.

The bacterial cellulose experiments that follow in the next part of this essay, become a prosthetic, an empathetic gesture tending toward the material practice of the nuns by way of a form of remaking. This component of the research is undertaken through creative practice and is akin to what Tim Ingold calls “the art of enquiry.”²⁹ Such practice recognises the knowledge unique to creative practitioners who think “through making” rather than make “through thinking.” These material experiments generate the surface through which the empathetic encounter occurs.

BATCH 22: MATERIAL ABJECTION

Acrid smell.

The smell was not designed in. When I tend to the bacterial cellulose growing in the studio, the smell that the culture produces is sweet, sickly, and pungent; it seeps through cracks. It seeps under doors and into adjoining rooms. It is overwhelming. It cannot be contained by the architecture that houses it, by the studio walls, by closed windows, by any of the ordinary technologies we use to separate inside from outside. This is not a minor inconvenience of the process. It is the material’s most insistent assertion of its own logic, a logic that exceeds whatever container I have built to hold it. Zoë Sofia (Sofoulis) has argued that container technologies are generative rather than passive, that they shape what they hold and condition the development of the materials so contained.³⁰ But what my practice with the bacterial cellulose has forced me to understand is that the container’s logic is always being exceeded by the material it is supposed to hold. The pellicle conforms to the shape of its containment as it grows, and yet it produces something, this smell, this uncontainable atmospheric presence, that the container was never designed to hold.

Batch 22: Thirty grams of black tea, three litres of water, three hundred and fifty-five grams of sugar, one and a half litres of kombucha

²⁹ T. Ingold, *Making: Anthropology, Archaeology, Art and Architecture*, Routledge, London, 2013, p. 6.

³⁰ Z. Sofia, “Container Technologies,” *Hypatia*, 15, 2, 2000, pp. 181–201.



Figure 7. A sheet of bacterial cellulose strung up to dry, cultivated by Ela Egidy. Image by Ingrid Rhule.

starter. Mix together one part *camellia sinensis*, more commonly known as black tea, twelve parts sucrose, one hundred parts naturally filtered water, and fifty parts *Komagatacibacter xylinus* starter culture. Leave this to sit for an undetermined period of time. The time changes based on the temperature of the room. I have time. And this time I give to tending these vats. Like other living things, *K. xylinus* needs warmth to thrive. The larger the container used to hold the mixture, the harder it is to anticipate the surface consistency and thickness of what will eventually form. Stretching the growth time out or speeding it up does not seem to make much of a difference. You cannot really bend it to your will, especially when growing this in a makeshift studio environment as opposed to pristine lab conditions. Adjusting the strength or type of the tea makes very little difference. The pellicle forms on the surface where oxygen touches the liquid. It grows and thickens over time. It is almost entirely water. The solid portion of the pellicle accounts for roughly one percent of its total weight. This material constitution is not incidental to its character. It is its character, and this characteristic is not so different to our own aqueous constitution. Astrida Neimanis writes that “As embodied beings, we are, primarily, bodies of water in a watery world.”³¹ The bacterial cellulose and me, both of us, are bodies of water.

When the pellicle has reached an optimum thickness, stretch it out onto a silicone mat. It loses so much of its weight as it dries that it shrinks itself, clinging to whatever surface it is attached to. You have to grow it to a certain thickness in anticipation of what will be lost, to ensure that enough substance remains. Wash it gently first. Let the water run over it. This takes away some of the yeast culture still attached to its underside. Thousands of little umbilical threads tethered there. They cling as I rip the pellicle from its liquid maker. I rinse it for a long time under cold running water, using a gentle neutral cleanser, trying to rid it of the smell. This never fully works. The smell is sweet and sick and pungent and uncontainable. It seeps out of the studio and into whatever is adjacent to it. It limits how long you can comfortably spend in an enclosed space with it. You cannot design this smell out of the process.

The pellicle is slippery. It is hard to hold. When you grip it tighter, it moves further out of your grasp. It is very strong, and it can heal itself, and yet it is also fragile in ways that are difficult to predict. I thought that

³¹ A. Neimanis, *Bodies of Water: Posthuman Feminist Phenomenology*, Bloomsbury Academic, London, 2019, p. 65.



Figure 8. Bacterial cellulose in the process of being washed. Image by Ingrid Rhule.

over time, as I got to know it, I would become better at adjusting and controlling it. But there are so many variables in a studio environment, as opposed to laboratory conditions, that each batch becomes its own thing. It was almost impossible to produce two sheets that were the same. Each one became a very different object. I was drawn to this surface because it held a formal resonance with vellum or parchment, that same quality of skin that has been separated from its living source by a forceful act of removal. It is also object in ways I had not anticipated. Slippery, reeking, and resistant to being held. I tried dyeing it during the growing process to produce a whiter sheet, but this did not work. I began bleaching it in a dilute water bath instead. This helped to lighten its colour and dry it out, though sometimes it made the surface brittle. Humidity and moisture changed its material behaviour continuously.

I could speed the growth up only so much. The material moved on its own time, and I had to move with it. As I tended to it, mixing it, checking on it, adjusting the conditions of its container, the lapping of the water at the edges of the tubs reminded me of the lapping of the Venetian lagoon. I think of the nuns of the Convertite when I tend these surfaces. I work to the material's time. I tried to control it, but in the end, it controlled me. Because it takes so long to cultivate, losing any of it is sad, especially when you spend so much time in its presence.

Tending these bacterial cellulose sheets is like tending to a garden, a garden that emits an overwhelming repugnant smell. It is very uncomfortable to sit in the bacterial cellulose laboratory for any period of time. The discomfort I feel in its presence is familiar. It reminds me of how I feel when I spend time in monastic libraries holding the Convertite's works. This is always an unsettling encounter, not only because of the long history of institutional abuse endemic to the Catholic Church,³² but also because of my awareness of the abuse the women of the Convertite suffered.

On 10 November 1561, the rector of the Convertite, Zuan Piero Leoni da Valcamonica, was found guilty of sexually abusing more than 20 nuns at the convent. He was tried by Venice's most powerful branch of government, the Council of Ten, and was executed for his many crimes. Reading about the countless women who suffered historical abuse at the

³² J. King, "Cardinal George Pell, Australia's most powerful Catholic, who was dogged by scandal – obituary," *The Guardian*, 11 January 2023, <https://www.theguardian.com/australia-news/2023/jan/11/cardinal-george-pell-australias-most-powerful-catholic-who-was-dogged-by-scandal-obituary>, (accessed 29 June 2026).



Figure 9. Bacterial cellulose in the process of being washed. Image by Ingrid Rhule.

hands of their keeper is an uncanny experience. The narratives of institutional abuse are familiar, but still hard to stomach. His death coincided with the cessation of the Convertite's printing practices and the immediate exodus of 90 to 100 nuns.

The smell becomes a pungent metaphor. The containers in this laboratory represent the convent itself, the spatial architecture that confined these nuns. The pellicle, their books. The things that were made in a controlled environment, designed to leave the convent's walls. The smell is everything else, the reeking excess that the container could not account for, the lived experience of the community of women that were locked inside with their abuser.

I am a typographer, a graphic designer with a proclivity towards the material representation of language. I have experience with letterpress printing and the implicit slowness this mode of practice entails. I engage with this history from below through the ways of knowing I have as a designer, as a person who makes things. The process of making facilitates a kind of "thinking with your hands." I come to these works not as a reader of their content but as someone who understands the conditions of their making, and it is through that understanding that a different kind of relationship becomes possible, one underpinned with this idea of material or what we are calling surface empathy. The resonance that exists between this bacterial cellulose and the works of the Convertite vibrates through the nature of the labour itself, an embodied, slow, and uncontrollable making that produces something despite, and also because of, the abject conditions of its growth.

TENDING TOWARD THE PAGE

What Egidy has encountered in working with the printed books of the Convertite nuns of sixteenth-century Venice and in cultivating bacterial cellulose as a contemporary printing substrate, reconfigures what can be understood by empathy, shifting it toward a delicate art of tending and feeling-with. Empathy, here, does not originate in a subject, nor is it grounded in an object. It is not something that is brought to the surface of a Convertite book nor embodied in a growing pellicle in a makeshift studio laboratory. It is produced at the surface itself, shimmering in the encounter, and it moves in unplanned directions that cannot always be controlled. As such, we must make the best of what happens to us in this sensory and conceptual encounter.

What we mean here can be supported by Deleuze and Guattari's discussion of percept and affect in their late, collaborative work *What is Philosophy?* This discussion expands their earlier introduction of matter-flows in *A Thousand Plateaus*. In the later work, matter-flows shift toward the potentialisation of matter, whereby the sensory becoming is figured as "otherness caught in a matter of expression."³³ Where does this potentialisation of matter occur, if not in the encounter on the surface of things? An encounter with the ragged pages that the nuns' hands have managed, an encounter with bacterial cellulose ventured with the aim of more closely approaching the nun's embodied experiences and labour.

Matter-flows, refigured as the "expression of matter," are run through with affect, which is emergent in the encounter of affecting and being affected. All the while, modes of life and environment-worlds are taken up in a great complex arrangement on a plane of composition, to use Deleuze and Guattari's lexicon. What circulates are compounds of sensation, and the aim, as Deleuze and Guattari stress, is to "wrest the percept from perceptions of objects and the states of a perceiving subject, to wrest the affect from affections as the transition from one state to another."³⁴ Percept and affect belong neither to a perceiving nor an affected subject, nor are they embedded in the perceived or affected object. Subject and object relations, which catch us up in unhelpful, even pitiful, binaries, are all too staid, as well as deceptively suggesting a stability of material relations. Instead, we are talking of a great and dynamic composition, a melodic symphony, as Australian feminist philosopher Elizabeth Grosz describes it, where: "Each living thing, including the human, is a melodic line of development, a movement of counterpoint, in a symphony composed of larger and more complex movements provided by its objects, the qualities that its world illuminates or sounds off for it."³⁵ In this context, empathy can be reconceptualised as an open-ended relationship between an unfolding subjectivity and a lively environment-world.

To explain this "expression of matter," Grosz directs our attention to the work of art, and here we can think with Hesse again: "Art works through and as materiality, but it is the event of sensation and its autonomous life that transforms a random material composition into a work

³³ G. Deleuze, F. Guattari, *What Is Philosophy?*, Columbia University Press, New York, 1994, p. 177.

³⁴ *Ibid.*, p. 167.

³⁵ E. Grosz, *Chaos, Territory, Art: Deleuze and the Framing of the Earth*, Columbia University Press, New York, 2008, p. 43.

of art, even though there can be no work of art without the particular materialities it has utilized.”³⁶ Matter is not always so vibrant, it needs sufficient support to hold its own, and as we witnessed in the opening paragraphs, matter can also be pitiful. A minor shift in this attitude, which suggests inadequacy and even contempt, could render the pitiful pitiable, and this is where empathy—situated as the dynamic encounter, affected and affecting, at the surface of sense—floods back in again. When Deleuze dedicates his logic of sensation to the British artist Francis Bacon, he writes of Bacon’s approach to the spasmodic flesh of the body as one of pity: “If there is feeling in Bacon it is not a taste for horror, it is pity, and intense pity: pity for the flesh, including the flesh of dead animals.”³⁷ This pity is not one of contempt, but one of profound feeling-with, that is to say, “the action by which something or someone is ceaselessly becoming-other (while continuing to be what they are).”³⁸ Such a concept of material empathy vibrates through each stratum discussed here. Through Hesse’s limpid fleshy sheathes, through the page to hand relation that the nuns have gifted us, in the encounter with the unruly vibrant expression of bacterial cellulose overwhelming its containment. It is toward and with this modality of surface empathy that we move.

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³⁶ *Ibid.*, p. 60.

³⁷ G. Deleuze, *Francis Bacon*, p. x.

³⁸ G. Deleuze, F. Guattari, *What Is Philosophy?*, p. 177.

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Nerea Amorós Elorduy*

SITUATED EMPATHY IN ARCHITECTURAL DESIGN AND RESEARCH AS ATTENTIVENESS TO ECOLOGICAL RELATIONALITY

ABSTRACT: In the early 2000s, empathy emerged as a central concept in architectural discourse through human-centred design, participatory practice, and social-impact frameworks. However, in many contexts, this approach remains narrowly defined as affective identification with users and is often operationalised through brief consultations and extractive participatory exercises. This article argues that affective identification is insufficient for architectural research and practice committed to equity, decolonisation, gender inclusivity, social justice, and ecosystem resilience. It proposes reframing architectural empathy as attentiveness to human–non-human assemblages rather than as emotional projection towards human subjects alone. The paper tests this proposition through empirical insights from a participatory research-by-design study of learning environments in seven long-term refugee camps in Rwanda, Uganda, and Kenya—sites characterised by climatic precarity, ecological stress, material improvisation, and continuous negotiation. Drawing on assemblage theory, actor-network theory, and relational theories of learning environments, it develops a model of empathy that is relational, procedural, reflexive, collective, and incremental, grounded in radical incrementalism and participatory action research. The article concludes that the future of empathy in architectural practice and research lies not in deeper emotional identification but in sustained ecological attentiveness,

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methodological reflexivity, and long-term accountability to human and more-than-human actors.

KEYWORDS: situated empathy, relationality, assemblage thinking, ecological attentiveness, architectural design and research

FROM HUMAN-CENTRED EMPATHY TO MORE-THAN-HUMAN ATTENTIVENESS

The Resurgence and Exhaustion of Empathy

Over the past two decades, empathy has become a widely invoked value in architectural and urban design discourse.¹ It features prominently in human-centred design, design thinking, participatory planning, and social-impact architecture, where it is typically framed as the designer's capacity to understand users' lived experiences and translate them into spatial solutions.²

An empathic approach to design has long been integral to participatory design and advocacy planning, particularly since the 1960s and 1970s, with their emphasis on redistributing decision-making power and involving communities in shaping their environments.³ This perspective has informed contemporary understandings of empathy as a form of implicit understanding and a means of enhancing collective creativity,⁴ embedded in practices of dialogue, facilitation, and mediation. Yet empathy was not always explicitly theorised within these traditions.

In architecture and urbanism, empathic design has increasingly sought to bridge the gap between designers and inhabitants, especially in low-resource or socially complex contexts, often positioning the architect

¹ E. B.-N. Sanders, P. J. Stappers, "Co-Creation and the New Landscapes of Design," *CoDesign*, 4, 1, 2008, pp. 5–18.

² D. A. Norman, *The Design of Everyday Things*, Basic Books, New York, 2013; T. Brown and B. Katz, "Change by Design," *Journal of Product Innovation Management*, 28, 3, 2011, pp. 381–383; M. Kouprie and F. Sleeswijk Visser, "A Framework for Empathy in Design: Stepping into and out of the User's Life," *Journal of Engineering Design*, 20, 5, 2009, pp. 437–448.

³ H. Sanoff, *Creating Environments for Young Children*, School of Design, North Carolina State University, Raleigh, 1995; S. A. Arnstein, "A Ladder of Citizen Participation," *Journal of the American Institute of Planners*, 35, 4, 1969, pp. 216–224.

⁴ T. French, G. Teal, "Design for Empathy within Participatory Design Approaches," in C. Kung, E. Lam, Y. Lee (eds.), *Cumulus Working Papers 33/16: Open Design for E-very-thing*, Hong Kong Design Institute/Cumulus Association, Hong Kong, 2016, pp. 233–236.

as a mediator who designs with users rather than for them⁵ and identifies latent needs that users may not easily articulate.⁶ Methodologies like empathy mapping, user personas, cultural probes, and immersive observation have become standard in design education and practice, especially through the global spread of design thinking.⁷ Across these strands, empathy functions both as a methodological entry point and an ethical stance in design practice.

In practice, however, time and resource constraints, underlying assumptions, biases, and political agendas often reduce empathy in these settings to representational or performative devices. It tends to operate through simplified user personas, short-term field engagements, and extractive research encounters, while participation is frequently limited to consultation that does not substantially redistribute decision-making power.⁸ Empirical studies of participatory processes in urbanism and architecture further show that relational qualities such as empathy require trust and communication, yet are difficult to sustain within institutional constraints and project timelines. Consequently, tools intended to instil and operationalise empathy in architectural practice and research may instead legitimise non-empathic—and sometimes harmful—power relations or design rhetoric. They also tend to overlook more-than-human actors, temporality, and the wider contextual conditions within which design takes place.

Critical scholarship across several disciplines has expanded the scope of empathy in ways that are useful for architecture and related built-environment disciplines. Several attempts have been made to formalise empathy as a structured process, distinguishing among empathic understanding, empathic design research, and empathic action,⁹ or framing it as

⁵ H. Sandman, *Empathy Matters: Architecture for the World's Majority*, doctoral dissertation, Aalto University Publication Series Doctoral Dissertations 50/2021, Aalto University, Helsinki, 2021.

⁶ D. Leonard, J. F. Rayport, "Spark Innovation through Empathic Design," *Harvard Business Review*, 75, 6, 1997, pp. 102–113.

⁷ T. Mattelmäki, K. Battarbee, "Empathy Probes," in T. Binder, J. Gregory, and I. Wagner (eds.), *Proceedings of the Participatory Design Conference 2002*, CPSR, Palo Alto, CA, 2002, pp. 266–271.

⁸ B. Cooke, U. Kothari, "The Case for Participation as Tyranny," in B. Cooke and U. Kothari (eds.), *Participation: The New Tyranny?*, Zed Books, London, 2001, pp. 1–15; A. Cornwall, "Unpacking 'Participation': Models, Meanings and Practices," *Community Development Journal*, 43, 3, 2008, pp. 269–283.

⁹ A. Surma-aho, K. Hölttä-Otto, "Conceptualization and Operationalization of Empathy in Design Research," *Design Studies*, 78, 2022, article 101075.

a complex relationship among designers, users, and contextual conditions rather than as an individual skill.¹⁰ Within architectural theory, Juhani Pallasmaa similarly critiques reductive understandings of empathy based on psychological projection.¹¹ He argues that architectural understanding emerges through embodied simulation, sensory engagement, and imaginative participation in the world. Architectural experience is grounded in the body's capacity to resonate with spatial atmospheres, materials, rhythms, and situations. Empathy therefore operates less as identification with another subject than as an embodied mode of attentiveness to relations among self, environment, and others. This perspective expands empathy beyond human-centred interaction and opens the possibility of understanding architecture as a field of ecological and relational engagement.

Others link empathy to care, further deepening its reframing as a situated and relational practice shaped by power, responsibility, and interdependence.¹² María Puig de la Bellacasa defines care as maintenance, repair, and ongoing commitment rather than episodic intervention.¹³ Cassini Nazir and Meah Lin argue that while empathy is a crucial design tool, it has limitations that can lead to bias, superficial understanding, or empathic failure when dealing with dissimilar others. Their work¹⁴ advocates for supplementing empathy with curiosity and care to achieve more responsible, ethical, and rigorous design research.¹⁵ Félix Guattari's three ecologies (mental, social, and environmental) are inseparable and co-evolving.¹⁶ Urban political ecology research uses this relational understanding of empathy, which includes non-human actors, to connect

¹⁰ A. Escobar, *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*, Duke University Press, Durham, 2018.

¹¹ J. Pallasmaa, "Empathic and Embodied Imagination: Intuiting Experience and Life in Architecture," in P. Tidwell (ed.), *Architecture and Empathy*, Tapio Wirkkala–Rut Bryk Foundation, Helsinki, 2015, pp. 4–18.

¹² S. Ahmed, "Collective Feelings: Or, the Impressions Left by Others," *Theory, Culture & Society*, 21, 2, 2004, pp. 25–42; J. C. Tronto, "Creating Caring Institutions: Politics, Plurality, and Purpose," *Ethics and Social Welfare*, 4, 2, 2010, pp. 158–171.

¹³ M. Puig de la Bellacasa, "Ethical Doings in Naturecultures," *Ethics, Place and Environment*, 13, 2, 2010, pp. 151–169.

¹⁴ C. Nazir, M. Lin, "Beyond Empathy: How Curiosity Promotes Greater Care," in K. Vaes, J. Verlinden (eds.), *Connectivity and Creativity in Times of Conflict*, Academia Press, Ghent, 2023, pp. 1–5.

¹⁵ C. Nazir, "Beyond Human-Centered Empathy: Tools and Techniques to Engage Curiosity," in C. M. Gray et al. (eds.), *DRS2024: Boston*, 23–28 June, Boston, USA, 2024, <https://doi.org/10.21606/drs.2024.1124>.

¹⁶ F. Guattari, *The Three Ecologies*, Athlone Press, London, 2000.

environmental justice, inequality, and ecological transformation.¹⁷ In parallel, urban theory in contexts of informality, inequality, and displacement shows that spatial practices cannot be reduced to user-centred narratives but are embedded in complex socio-political and material conditions.¹⁸

Empathy has also been framed as a political and epistemic practice. Paulo Freire's dialogical ethics positions knowledge as co-produced through mutual learning rather than extracted from subjects; empathy thus becomes a reciprocal relation between researcher and participant.¹⁹ Boaventura de Sousa Santos goes further by arguing for the recognition of plural epistemic traditions in which non-human actors, contexts, cultures, and histories participate in the co-production of knowledge.²⁰ Scholarship in science and technology studies and the environmental humanities likewise challenges anthropocentric framings of empathy by showing that built environments are co-produced through interactions among human and non-human actors, including infrastructures, materials, and ecologies.²¹ Architectural empathy can therefore be understood as an ethics of care across intertwined social, material, and environmental ecologies, extending beyond emotional projection towards human users to include dialogical openness and epistemic humility.²² Such an approach recognises the plurality of knowledge sources that co-construct spatial understanding.

Reframing empathy from feeling for other humans to attentiveness to humans, more-than-human actors, and their contexts resonates with multiple strands of relational and ecological thought. Donna Haraway's

¹⁷ I. Anguelovski *et al.*, "Equity Impacts of Urban Land Use Planning for Climate Adaptation: Critical Perspectives from the Global North and South," *Journal of Planning Education and Research*, 36, 3, 2016, pp. 333–348.

¹⁸ A. Simone, "Introduction: Remaking African Cities," in *For the City Yet to Come: Changing African Life in Our Cities*, Duke University Press, Durham, 2004, pp. 1–19; A. Roy, "The 21st-Century Metropolis: New Geographies of Theory," *Regional Studies*, 43, 6, 2009, pp. 819–830.

¹⁹ P. Freire, *Education for Critical Consciousness*, Continuum, London, 1973.

²⁰ B. de Sousa Santos, *Epistemologies of the South: Justice against Epistemicide*, Routledge, London, 2016.

²¹ B. Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, Oxford University Press, Oxford, 2005; D. Haraway, "Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin," *Environmental Humanities*, 6, 1, 2015, pp. 159–165; M. Puig de la Bellacasa, "Ethical Doings in Naturecultures."

²² J. C. Tronto, "Creating Caring Institutions"; V. Reyes, "Ethnographic Toolkit: Strategic Positionality and Researchers' Visible and Invisible Tools in Field Research," *Ethnography*, 21, 2, 2020, pp. 220–240.

call to “make-with, become-with, compose-with, the earth-bound”²³ emphasises cohabitation without mastery and responsibility without simplification. Jane Bennett’s account of thing-power foregrounds the liveliness of materials and their participatory role in events.²⁴ Tim Ingold’s work on the weather-world and on materials frames learning and inhabitation as movement through living environments rather than interaction with static objects.²⁵ Anna Tsing’s work on precarious assemblages shows how survival emerges from interspecies and intermaterial collaborations beyond centralised control.²⁶ My work on learning environments in displacement contexts in East Africa demonstrates that built and environmental elements actively structure learning trajectories and behavioural adaptation, thereby supporting a shift from sentiment-based empathy towards relational attentiveness.²⁷ Together, these perspectives reposition empathy in architecture and built environment research as relational attentiveness to more-than-human agents.

Pallasmaa’s conception of embodied imagination offers a useful intermediary position between phenomenological and relational approaches.²⁸ While phenomenology foregrounds lived experience and assemblage theory emphasises distributed agency, Pallasmaa suggests that meaningful architectural understanding emerges through bodily attunement to the world. Empathy is not simply directed towards other people but towards situations, atmospheres, materials, and ecological conditions. Architectural imagination becomes an act of entering into relations rather than representing them from a distance. This emphasis on attentiveness and embodied participation aligns closely with the notion of relational empathy proposed in this article.

These relational and communal perspectives of empathy resonate with emerging critiques within design research, where scholars argue that empathy, when framed primarily as an individual psychological capacity,

²³ D. Haraway, “Anthropocene, Capitalocene, Plantationocene, Chthulucene” p. 161.

²⁴ J. Bennett, “The Force of Things: Steps toward an Ecology of Matter,” *Political Theory*, 32, 3, 2004, pp. 347–372.

²⁵ T. Ingold, “Toward an Ecology of Materials,” *Annual Review of Anthropology*, 41, 1, 2012, pp. 427–442.

²⁶ A. Lowenhaupt Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*, Princeton University Press, Princeton, 2015.

²⁷ N. Amorós Elorduy, “Young Children’s Learning Environments in East African Refugee Camps,” in B. Gornik, Z. Medarić, M. Sedmak (eds.), *The Oxford Handbook of Child-Centered Approaches to Migrant Children*, Oxford University Press, Oxford, 2025, pp. 399–418.

²⁸ J. Pallasmaa, “Empathic and Embodied Imagination,” pp. 4–18.

risks overlooking structural conditions and collective processes. Calls to extend ethical concern beyond humans have also appeared in architectural thought, including arguments that designers and researchers should regard nature, materials, and the environment as worthy of ethical consideration.²⁹ Moreover, empathy towards nature, framed as reverence, can remain abstract unless it is operationalised through relational analysis and design methods.³⁰ Such positions are important in challenging anthropocentrism, yet the expansion of empathy alone is insufficient.³¹

Taken together, these positions suggest that empathy in architecture is a heterogeneous and contested concept rather than a stable methodological tool and point towards the need for a broader epistemological reframing. The challenge for architectural practitioners and researchers is to move from empathy as a moral stance to empathy as a spatial and epistemic practice.³²

First, empathy in architecture must be understood not only as an individual psychological capacity but importantly as a collective and institutional condition, shaped by governance structures, organisational practices, and distributions of responsibility.³³

Second, it must extend beyond its predominantly human-centred framing towards a more-than-human and spatially attuned practice, capable of engaging with the material, ecological, historical, cultural, and infrastructural processes through which environments are produced and experienced.³⁴

Third, empathy must be reconceived as a temporal and processual practice, sustained over time and attentive to processes of transformation, maintenance, and decay that shape built environments, particularly in contexts of historical marginalisation and structural vulnerability.³⁵ This temporal dimension is also implicit in design research that understands empathy not as a moment of insight but as a cyclical process of engagement, reflection, and re-engagement with users' lives, moving

²⁹ J. Bennett, "The Force of Things"; D. Haraway, "Anthropocene, Capitalocene, Plantationocene, Chthulucene"

³⁰ T. Ingold, "Bringing Things to Life: Creative Entanglements in a World of Materials," *Realities Working Paper 15*, University of Manchester, Manchester, 2010.

³¹ M. Puig de la Bellacasa, "Ethical Doings in Naturecultures."

³² B. de Sousa Santos, *Epistemologies of the South*.

³³ S. Ahmed, "Collective Feelings"; J. C. Tronto, "Creating Caring Institutions."

³⁴ B. Latour, *Reassembling the Social*; D. Haraway, "Anthropocene, Capitalocene, Plantationocene, Chthulucene"; M. Puig de la Bellacasa, "Ethical Doings in Naturecultures."

³⁵ A. Simone, "Cities and Change," in *For the City Yet to Come*, pp. 213–243.

beyond the do-no-harm principle towards processes that also benefit participants.³⁶

Empathy in architecture can therefore be redefined as an ongoing practice of attunement to socio-spatial assemblages: a distributed and relational capacity that emerges through interactions between human and non-human actors. This reframing opens a pathway towards approaches capable of engaging with complexity, uncertainty, and change. I explore its potential, risks, and limitations through a three-year research-by-design investigation of seven long-term refugee camps in Rwanda, Uganda, and Kenya, examining how their built environments function as additional educators for young children.

At a time when human interventions intensify climate change, social and political instability, cultural erasure, and conflict, assemblage thinking and actor-network theory³⁷ offer architecture and urbanism a set of conceptual tools for incorporating complexity into the study of context. They allow space to be conceived as composed of heterogeneous actors—human, material, ecological, cultural, political, and infrastructural—that mediate, enable, constrain, and transform social and material processes.³⁸ Environmental and contextual conditions are not stable backdrops but dynamic forces that reshape settlements, infrastructures, and everyday life.³⁹ New materialist thought challenges the divisions between active human subjects and passive matter, and between human and more-than-human actors, by treating matter as capable of affecting and being affected within dynamic relations.⁴⁰ Agency is thus distributed rather than located solely in human action and intention: materials, climates, infrastructures, and organisms participate in shaping outcomes.⁴¹ This principle is central to assemblage thinking⁴² and is operationalised

³⁶ M. Kouprie, F. Sleeswijk Visser, “A Framework for Empathy in Design.”

³⁷ G. Deleuze, F. Guattari, *A Thousand Plateaus*, University of Minnesota Press, Minneapolis, 1987; M. Müller, C. Schurr, “Assemblage Thinking and Actor-Network Theory: Conjunctions, Disjunctions, Cross-Fertilisations,” *Transactions of the Institute of British Geographers*, 41, 3, 2016, pp. 217–229.

³⁸ B. Latour, *Reassembling the Social*.

³⁹ A. Lowenhaupt Tsing, *The Mushroom at the End of the World*.

⁴⁰ J. Bennett, “The Agency of Assemblages and the North American Blackout,” *Public Culture*, 17, 3, 2005, pp. 445–465.

⁴¹ M. Müller, C. Schurr, “Assemblage Thinking and Actor-Network Theory”; H. Kamalipour, N. Peimani, “Assemblage Thinking and the City: Implications for Urban Studies,” *Current Urban Studies*, 3, 4, 2015, pp. 402–408.

⁴² G. Deleuze, F. Guattari, *A Thousand Plateaus*.

in actor-network theory,⁴³ which understands socio-spatial reality as a set of changing relations among heterogeneous human and non-human actors across contexts and over time. Applied to architectural practice and research, these perspectives decentre the human and suggest that architectural empathy must extend beyond users to broader socio-material assemblages. Moreover, assemblage thinking affords a temporal dimension, with ever-becoming and ever-changing being key aspects of socio-material assemblages. If spatial environments are produced through dynamic interactions among human and non-human actors, then architectural understanding cannot rely on static representations of user needs. Instead, designers and researchers must develop the capacity to perceive evolving relations within these assemblages. Empathy requires time; it requires longer-term engagement with the context and the changing assemblage, and it must also be cultivated as an institutional and organisational practice of attentiveness to relational dynamics.

While Pallasmaa locates empathy in embodied architectural imagination and phenomenological participation, this article extends that conception through care ethics, epistemic humility, and assemblage thinking to propose a form of situated empathy attentive to the evolving socio-material and ecological relations through which environments are continuously produced.

This article explores the outcomes and difficulties of operationalising empathy as a relational and attuned approach to broad socio-material assemblages. It applies assemblage thinking and actor-network theory to bring this reconceptualisation into architectural practice and research. It draws on a study of seven refugee camps in Rwanda, Uganda, and Kenya from 2015 to 2020, focusing on the design and analysis of learning environments for young children. This research offers a valuable perspective for redefining empathy within architecture.

Testing the Theory: Research by Design in Long-Term Refugee-Camp Learning Environments

In 2015, when this study began, much scholarship on refugee camps still framed them as non-places or spaces of exception and exclusion, while treating refugees as objects of research rather than as holders and

⁴³ B. Latour, "From the World of Science to the World of Research?," *Science*, 280, 5361, 1998, pp. 208–209.

producers of situated knowledge. Similarly, architectural and urban interventions led by camp managers and administrators usually excluded refugees and local hosts from design and construction processes. Where they were included, participation often took the form of consultation, with empathy functioning primarily as a legitimising device. Refugee settlements and refugees were consequently flattened into the uniform and universal categories of “camp” and “refugee.”

In this context, a small body of work—mostly concerned with urban refugees in the Middle East—had begun to use assemblage theory to recognise refugees’ agency in making and remaking spaces of refuge.⁴⁴ Some architects working in these extensively studied camps also pursued genuinely participatory interventions.⁴⁵ At the same time, scholars such as Bram Jansen,⁴⁶ Michel Agier,⁴⁷ and Manuel Herz⁴⁸ approached camps in other regions as cosmopolitan and changing urban formations, opening the way for relational analysis and the use of assemblage thinking in these contexts.

At the outset of this research in 2015, long-term refugee camps in Uganda and Rwanda remained largely invisible within academic research, particularly in built environment studies; many still do. The cases examined here include highly visible and extensively studied camps, such as Kakuma in Kenya and, to a lesser extent, Nakivale in south-western Uganda, as well as understudied settlements such as Kyangwali, Kyaka II, Kiziba, Kigeme, and Mugombwa. Comparing seven camps in East Africa allows me to test the proposed reframing of empathy against their complexity, diversity, and continuous evolution; their decades-long designation as non-places; and the marginalisation of refugee voices—particularly those

⁴⁴ L. Oesch, “An Improvised Dispositif: Invisible Urban Planning in the Refugee Camp,” *International Journal of Urban and Regional Research*, 44, 2, 2020, pp. 349–365; N. Abourahme, “Assembling and Spilling-Over: Towards an ‘Ethnography of Cement’ in a Palestinian Refugee Camp,” *International Journal of Urban and Regional Research*, 39, 2, 2015, pp. 200–217.

⁴⁵ A. Petti, S. Hilal, “Campus in Camps (2012–2015),” DAAR, <https://www.decolonizing.ps/site/campus-in-camps-2012-2015>, (accessed 15 July 2026).

⁴⁶ B. J. Jansen, “Cities in the Making: Contours of the Urbanizing Refugee Camp,” *Bundeszentrale für politische Bildung*, <https://www.bpb.de/themen/migration-integration/kurzdossiers/307980/cities-in-the-making-Contours-of-the-urbanizing-refugee-camp>, (accessed 15 July 2026).

⁴⁷ M. Agier, “Between War and City: Towards an Urban Anthropology of Refugee Camps,” *Ethnography*, 3, 3, 2002, pp. 317–341.

⁴⁸ M. Herz (ed.), *From Camp to City: Refugee Camps of the Western Sahara*, Lars Müller Publishers, Zürich, 2013.

of children and their predominantly female caregivers—within refugee studies.

Long-term refugee camps in Rwanda, Uganda, and Kenya, though planned as temporary, have evolved into proto-urban settlements over decades.⁴⁹ They are typically located in countries with limited resources and in settings that are climatically exposed, politically marginalised, materially impoverished, ecologically stressed, and socially complex.⁵⁰ Biodiversity is frequently degraded through deforestation, soil depletion, and water stress, even as residents develop adaptive ecological practices.⁵¹

As of early 2020, nearly seventy long-term refugee camps existed, understood here as settlements that had lasted for more than three years and hosted more than 5,000 refugees displaced by protracted situations.⁵² Some had been established as early as 1958 along the East African Rift.⁵³ Together, they accommodated approximately five million refugees from East Africa and the Horn of Africa, including about one million children under the age of six.⁵⁴ Long-term refugee camps are complex, multifaceted, heterogeneous, and continuously evolving proto-urban conglomerates. They emerge through interactions among numerous human and non-human actors. None of the seven camps studied remained static; each changed continuously and had distinct demographics, population densities, spatial extents, and socio-political contexts. Heterogeneity is their defining characteristic.

My research focused on East Africa, specifically Rwanda, south-western Uganda, and north-western Kenya. I concentrated on seven long-term refugee camps spanning three countries, twelve refugee origins, six decades of encampment history, and diverse physical characteristics. These camps

⁴⁹ B. J. Jansen, “The Camp beyond the City: Kakuma and the Development of a Camp Ecology,” *AMMODI*, <https://ammodi.com/2017/12/14/the-camp-beyond-the-city-kakuma-and-the-development-of-a-camp-ecology/>, (accessed 15 July 2026); B. J. Jansen, “Cities in the Making: Contours of the Urbanizing Refugee Camp”; M. Herz (ed.), *From Camp to City*.

⁵⁰ N. Amorós Elorduy, *Architecture as a Way of Seeing and Learning: The Built Environment as an Added Educator in East African Refugee Camps*, UCL Press, London, 2021.

⁵¹ F. Hossain, M. Moniruzzaman, “Environmental Change Detection through Remote Sensing Technique: A Study of Rohingya Refugee Camp Area, Ukhia and Teknaf Sub-District, Cox’s Bazar, Bangladesh,” *Environmental Challenges*, 2, 2021, article 100024.

⁵² UNHCR, “Operational Data Portal: People of Concern Dataset,” <https://data.unhcr.org/en/geoservices/>, (accessed 17 July 2026). The category “long-term refugee camps” and the figures reported here are the author’s calculations based on the dataset.

⁵³ *Ibid.*

⁵⁴ *Ibid.*

vary in age, size, population density, regional climate, geography, and host country policies. The case studies include Nakivale (established 1958), Kyangwali (1964), and Kyaka II (1983) in south-western Uganda; Kakuma (1992) in north-western Kenya; and Kiziba (1997), Kigeme (2005), and Mugombwa (2013) in Rwanda. My professional experience revealed a scarcity of academic research on the built environments of refugee camps in Uganda and Rwanda, particularly studies examining learning environments and the built environment through a socio-political lens.

My previous work as an architect on three case studies in Rwanda—advocating meaningful participatory processes in the design and implementation of educational and health facilities—together with my experience teaching architecture at the National University of Rwanda, highlighted the need to move beyond Eurocentric conceptions of the refugee camp. Doing so is necessary to understand local contextual differences, incorporate the perspectives of affected populations, and engage a wider range of local and regional architects and researchers. I therefore sought an ethical and empathic research methodology capable of engaging not only human actors but the entire assemblage of human and non-human participants. This assemblage includes natural environments, political and economic policies, institutions, and humanitarian organisations, as well as the relations among them. Attunement to broader socio-material assemblages became essential. I drew on work within and beyond refugee studies by Liisa Malkki⁵⁵, Simon Turner⁵⁶, Victoria Reyes⁵⁷, Tim Ingold⁵⁸, and Donna Haraway⁵⁹; pedagogical thinkers such as Maria Montessori⁶⁰, Loris Malaguzzi⁶¹, Urie Bronfenbrenner⁶², and Jean Piaget⁶³; and authors addressing participation with younger

⁵⁵ L. H. Malkki, “The Rooting of Peoples and the Territorialization of National Identity among Scholars and Refugees,” *Cultural Anthropology*, 7, 1, 1992, pp. 24–44.

⁵⁶ S. Turner, *The Barriers of Innocence: Humanitarian Intervention and Political Imagination in a Refugee Camp for Burundians in Tanzania*, PhD dissertation, Roskilde University, Roskilde, 2001.

⁵⁷ V. Reyes, “Ethnographic Toolkit.”

⁵⁸ T. Ingold, *Being Alive: Essays on Movement, Knowledge and Description*, Routledge, New York, 2011.

⁵⁹ D. Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies*, 14, 3, 1988, pp. 575–599.

⁶⁰ M. Montessori, *The Absorbent Mind*, Dell Publishing, New York, 1984.

⁶¹ P. Cagliari et al. (eds.), *Loris Malaguzzi and the Schools of Reggio Emilia: A Selection of His Writings and Speeches, 1945–1993*, New York, 2016.

⁶² U. Bronfenbrenner, *The Ecology of Human Development*, Harvard University Press, Cambridge, Mass., 1979.

⁶³ J. Piaget, *The Child’s Conception of the World*, Routledge & Kegan Paul, London, 1951.

populations, including Doina Petrescu⁶⁴ and Louise Chawla⁶⁵. I focused particularly on young children because they learn primarily through experience and through their relations with other people and their surroundings.⁶⁶ Their learning environments in these camps range from homes, streets, courtyards, and informal gathering spaces to formal and non-formal structures such as schools, religious facilities, and civic centres. These environments are especially significant to children's everyday lives and development. Through social and environmental engagement, children learn social behaviour and acquire habits, cultural knowledge, spatial navigation skills, modes of thermal adaptation and water management, practices of cooperation, and awareness of risk. Built and natural elements therefore function as active educators rather than passive backdrops.⁶⁷ Reframing empathy as relational attunement to socio-material assemblages was an ethical necessity and the most appropriate means of incorporating the voices of refugees and other actors while remaining attentive to the political and historical processes that have shaped—and continue to shape—these places.

These contexts challenge sentimental or projection-based empathy and require the kind of attunement to shared environments and flows of life emphasised by Ingold. The political and historical processes that produced refugee camps also shape the imaginaries, assumptions, and projected personas through which architects and researchers understand settlements and their inhabitants. East African refugee camps, for example, emerged from modernist and Eurocentric conceptions of the world during the period of nation-state independence, the establishment of the United Nations and UNHCR, and the adoption of the Refugee Convention. They are entangled with both humanitarian assistance and neocolonialism, while their architectural and urban forms are linked to broader practices of demographic engineering. Research on camps has

⁶⁴ D. Petrescu, "Relationscapes: Mapping Agencies of Relational Practice in Architecture," *City, Culture and Society*, 3, 2, 2012, pp. 135–140.

⁶⁵ L. Chawla, K. Malone, "Neighbourhood Quality in Children's Eyes," in P. Christensen, M. O'Brien (eds.), *Children in the City: Home, Neighbourhood and Community*, Routledge-Falmer, New York, 2003, pp. 118–142.

⁶⁶ N. Amorós Elorduy, "Learning in and through the Long-Term Refugee Camps in the East African Rift," in E. Fiddian-Qasmieh (ed.), *Refuge in a Moving World: Tracing Refugee and Migrant Journeys across Disciplines*, UCL Press, London, 2020, pp. 362–381.

⁶⁷ L. Chawla, "Childhood Experiences Associated with Care for the Natural World: A Theoretical Framework for Empirical Results," *Children, Youth and Environments*, 17, 4, 2007, pp. 144–170; N. Amorós Elorduy, "The Impact of Humanitarian Shelter and Settlements on Child Protection," *Forced Migration Review*, 55, 2017, pp. 41–43.

likewise been marked by cycles of paternalism and victimisation and by the dismissal of Indigenous, vernacular, local, and migrant perspectives. Breaking with the ideas and external discourses that produced these settlements requires accounting for their diversity, context-specific characteristics, and continuous evolution. Refugees and local hosts must therefore be central to knowledge production, while non-human actors must also be included in the analysis.

Reflexive Methodology and Epistemic Humility

Relational empathy demands methodological reflexivity. Researchers and practitioners are not neutral observers but participants in the networks they study. Their positionality influences what knowledge is produced, how it is interpreted, and who ultimately benefits from it.

Victoria Reyes' work on ethnographic methodology emphasises the importance of strategic positionality and reflexive awareness in field research.⁶⁸ Similarly, Boaventura de Sousa Santos argues that epistemic justice requires the recognition of diverse knowledge systems and a challenge to the dominance of singular epistemological frameworks.⁶⁹ In architectural research, these perspectives underscore the need to acknowledge the limits of one's own expertise and of external expertise more broadly. Populations possess situated knowledge developed through long-term engagement with their environments. Architects and researchers must therefore approach these contexts with epistemic humility and practise reflexivity, recognising the partiality of their own perspectives and remaining open to alternative forms of knowledge. This methodological stance reinforces the relational understanding of empathy proposed in this article.

Pallasmaa further argues that empathy in design cannot be separated from care. Design action requires a balance between technical knowledge, intuition, and ethical responsibility.⁷⁰ He proposes that architects cultivate an attitude of attentive concern towards the situations in which they intervene, recognising the limits of expert knowledge and the importance

⁶⁸ V. Reyes, "Ethnographic Toolkit: Strategic Positionality and Researchers' Visible and Invisible Tools in Field Research."

⁶⁹ B. de Sousa Santos, *Epistemologies of the South*.

⁷⁰ J. Pallasmaa, "Empathy, Design and Care—Intention, Knowledge and Intuition: The Example of Alvar Aalto," in C. Bates, R. Imrie, K. Kullman (eds.), *Care and Design: Bodies, Buildings, Cities*, John Wiley & Sons, Chichester, 2016, pp. 138–154.

of intuitive and experiential forms of understanding. Such a position resonates with calls for epistemic humility in participatory and decolonial research traditions, where the architect or researcher becomes a learner and collaborator rather than an external expert.

Reflexive practice requires diverse and intersectional research teams, methodologies tailored to specific contexts, and the use of design as a means of knowledge production, communication, and translation through which the perspectives of human and non-human actors can be included. Our research team comprised researchers, technicians, and assistants from several fields—architects, photographers, educators, artists, recent graduates, and students from Spain, the United Kingdom, Rwanda, Uganda, Kenya, and South Sudan—as well as NGO members and artists’ cooperatives. Such diversity was necessary to foreground empathy not as a claim to feel with others but, in Haraway’s terms, as a practice of staying with complexity.

Empathic research must avoid harm and extraction, involve participants meaningfully, and, wherever possible, produce benefits for them or their communities. Our project involved hundreds of refugees, members of surrounding populations, and relevant stakeholders, including camp managers, refugee leaders, parents, guardians, school staff, religious figures, social workers, young people, and children aged four to six. In line with actor-network theory, we also investigated the built environment, policies and management structures, climates, and geographies, treating them as active agents in children’s learning and development and examining their effects on everyday life. We combined quantitative and qualitative methods, including ethnography (interviews, questionnaires, focus groups, and observation), spatial analysis (mapping, sketching, and measuring), and participatory research-by-design (walks, drawing games, mental maps, mural-making, public-interest design studios, three-dimensional models, and photomontages). Empathy was expressed not through claims of understanding but through listening, iterative revision, and the adaptation of methods and interventions to evolving conditions.

However, we were only able to deliver tangible benefits to refugee participants in our Rwandan cases, such as feedback loops, school-based interventions, improved housing conditions, and design guides to improve their early childhood initiatives. Participatory action research and co-design processes, such as those we applied in Rwanda, offer methodological pathways for a relational and empathic engagement attentive to contextual ecologies. Public-interest design studios, like the one we

developed in Kigeme to create guides for the incremental improvement of home-based early childhood initiatives in several Rwandan camps, and community-based research platforms, can function as sites of mutual learning when engagement is sustained over time. In such settings, architects and residents co-produce spatial knowledge through iterative experimentation. However, participatory initiatives risk becoming extractive when they collect local knowledge without establishing durable relationships or institutional commitments. We made an effort to create an institutional relationship between the academic community and the camp, but due to time and funding constraints, as well as COVID-19, we were only able to sustain that mutual learning until 2020. Relational empathy requires sustained collaboration and accountability to ensure that knowledge exchange benefits the communities involved.⁷¹

EMPATHY AS RELATIONAL ATTENTIVENESS TO HUMAN–NON-HUMAN ECOLOGIES

Camps as Polyrythmic Human–Non-Human Assemblages

Long-term refugee camps in East Africa can be understood as polyrythmic assemblages in which spatial organisation emerges from multiple temporal and material processes rather than from a single planning intention. Humanitarian camp-planning policies—or their absence before 2005—interact with the materials, technical knowledge, and resources available when each camp was established. Geographic and climatic factors—seasonal rainfall, heat patterns, and vegetation growth—coalesce with aid-delivery schedules, governance structures, demographic composition, and everyday social practices to produce continuously shifting spatial environments. Built form in long-term camps evolves through population influxes and departures, repair, extension, shading, enclosure, and material substitution as residents respond to climatic stressors, institutional regulations, and resource constraints.⁷²

Understanding camps as changing socio-material assemblages makes ecologically attuned relational empathy necessary. If spatial environments

⁷¹ N. Antaki, “A Learning Architecture: Developing a Collective Design Pedagogy in Mumbai with Muktangan School Children and the Mariamma Nagar Community,” *Research for All*, 5, 1, 2021, pp. 101–107; N. Amorós Elorduy, “Young Children’s Learning Environments in East African Refugee Camps.”

⁷² N. Amorós Elorduy, *Architecture as a Way of Seeing and Learning*.

are produced through dynamic interactions among human and non-human actors, architectural understanding cannot rely solely on static representations of user needs. Designers and researchers must instead develop the capacity to perceive evolving relations within these assemblages. Porosity channels movement; climate and urban fabric shape thermal patterns; soil and topography affect foundation stability; vegetation contributes to microclimates; and policies structure settlement patterns.⁷³ Non-human actors are therefore not passive conditions but active participants.

Empathy, reframed as relational attentiveness, emerges as a practical and epistemic response to these conditions. Rather than projecting imagined experiences onto users, architects must learn to interpret the rhythms of climate, materials, infrastructures, and social practices that co-produce spatial environments. The study sought to do this by gathering participants' perceptions of camp spaces as learning environments, together with their ideas for improving living conditions and young children's learning experiences. The research team translated these ideas into photomontages, returned them to the camps for discussion, and gathered feedback on the initial findings. The resulting proposals were not devised solely by architects and researchers, nor were they uniform across the camps—even within the same country—because each assemblage of people, environment, and time was different.

A further example is provided by the feedback loop and dissemination exercises conducted in Kiziba, Rwanda. Established in 1997, Kiziba is Rwanda's oldest refugee camp and occupies a relatively compact settlement on hilly terrain. As part of our effort to avoid extractive research and to ensure that participants could use the findings, we constructed a physical model of the camp and returned it to the community as a tool for management and planning. The model proved particularly effective in Kiziba because its elevated, compact topography allowed residents to relate the model directly to views from a nearby hill. We lacked the time and resources to test this method in the Ugandan and Kenyan cases, and it may not work equally well in camps located on flat terrain or dispersed across a larger area. This example demonstrates both the time and material resources required by genuinely empathic research and design and the need for a longer-term commitment to a specific context.

⁷³ *Ibid.*

Informal Learning Environments and Non-Human Agency

The relational character of camp environments becomes especially evident in the informal learning spaces through which children experience and interpret their surroundings. In the long-term refugee camps I have studied, learning does not occur exclusively in formal classrooms but across a distributed network of spaces, including homes, courtyards, paths, water points, religious facilities, and informal gathering areas.⁷⁴ These environments function as pedagogical landscapes in which social behaviours, environmental knowledge, and spatial competencies are acquired through daily interactions.

The significance of non-human agency is particularly visible in children's learning processes. Thermal gradients influence where children gather, play, or study. Dust levels shape patterns of mobility and comfort. Seasonal mud and flooding alter access routes and reconfigure movement across settlements. Cultural and social norms structure who is permitted to play, as well as when, where, and how play occurs. Host-government policies and international systems of refugee assistance determine the materials and dimensions of shelters, streets, educational and health facilities. Water points organise both daily routines and social interaction. Children learn through relations among themselves, other people, and non-human actors, illustrating why built and environmental elements can be understood as co-educators in camp environments. Rather than serving as passive backdrops, materials and ecological conditions actively shape behaviour and knowledge formation. As the work of Nicola Antaki in Mumbai and Doina Petrescu on relational practice suggests,⁷⁵ empathy in architectural practice and research requires attentiveness to the pedagogical role of spatial and environmental conditions. Architectural research must therefore account for how learning emerges through relations among bodies, materials, climates, policies, management structures, and infrastructures.

Recognising refugees, climate, and culture as active remakers of camp environments and as sources of knowledge—rather than as deviations from the original intent of humanitarian camp planning—is one of the central insights produced by a research-by-design methodology guided

⁷⁴ N. Amorós Elorduy, "Learning in and through the Long-Term Refugee Camps in the East African Rift."

⁷⁵ N. Antaki, "A Learning Architecture"; D. Petrescu, "Relationscapes."

by ecologically attuned relational empathy. Architectural empathy thus becomes the capacity to recognise the intelligence, purpose, and potential embedded in everyday spatial adaptation and to incorporate that knowledge into design and research processes.⁷⁶

*Beyond Universal Standards: Empathy
as Contextual Judgement*

Humanitarian architecture, particularly in the establishment of refugee camps, often relies on universal design standards intended to guarantee minimum levels of safety, dignity, and functionality. Although such standards are important for safeguarding rights, their spatial translation can become rigid when applied without sensitivity to contextual variation. Climatic conditions, cultural practices, material availability, and ecological constraints frequently challenge the one-size-fits-all solutions of humanitarian camp planning. As James Scott demonstrated, high-modernist planning traditions often fail because they prioritise abstract order over situated knowledge.⁷⁷ Similar dynamics arise when global humanitarian standards are implemented without adequate understanding of local spatial and ecological conditions.⁷⁸ The failure of rigid planning models in long-term camps, together with their continuous transformation by refugees and local hosts, shows why relational empathy is vital to architectural judgement in humanitarian contexts. Reframed as ecological attentiveness, empathy enables practitioners to recognise contextual complexity and adapt planning accordingly. Rather than requiring standards to be abandoned, relational empathy guides their reinterpretation in relation to local ecological and social conditions. Mugombwa refugee camp's initial gridded plan, for example, was revised before construction following site visits and consultations with Rwandan officials. The process nevertheless remained limited: refugees and local residents were not included because of time, organisational, and political constraints. Even so, UNHCR's planning and establishment of Mugombwa represented a step towards a more relationally attentive approach. Architectural judgement

⁷⁶ A. Bayat, "The Quiet Encroachment of the Ordinary," *The Chimurenga Chronic*, 3, 3, 2007, pp. 1–8; E. Pieterse, "Introduction: Rogue Urbanisms," *Social Dynamics*, 37, 1, 2011, pp. 1–4.

⁷⁷ J. C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, Yale University Press, New Haven, 1998.

⁷⁸ M. Herz (ed.), *From Camp to City*; N. Amorós Elorduy, *Architecture as a Way of Seeing and Learning*.

rooted in relational empathy mediates between normative rules and lived realities, allowing architects to uphold rights and safety while responding to dynamic environments.

Attentiveness to Relational Ecologies of Human and Non-Human Actors

This article has argued that prevailing understandings of empathy in architectural discourse are inadequate to address the challenges of the twenty-first century. While human-centred design approaches have successfully redirected attention towards user experience and social context, their emphasis on emotional identification and short-term engagement limits their capacity to account for environments shaped by complex human–non-human interactions.

Drawing on assemblage theory, actor-network theory, ecological thought, and participatory research traditions, this paper has proposed a reframing of empathy as relational attentiveness. Within this framework, empathy is not defined by the capacity to feel what others feel, but by the ability to recognise and engage with the networks of relations through which spatial environments are produced.

Empirical insights from learning environments in long-term refugee camps illustrate the relevance of this approach. These contexts show how built form, ecological conditions, and social practices interact to produce dynamic environments in which learning, adaptation, and survival unfold. Recognising these environments as relational ecologies demands that architectural research and practice adopt methodologies capable of engaging with complexity over time.

The theory of relational empathy proposed here extends existing debates on empathy in architectural practice by reframing how empathy is understood and operationalised. Several implications emerge from this theoretical reframing.

First, it shifts the focus from empathy as an individual psychological capacity to empathy as a collective epistemic practice embedded within research and design processes. This reconceptualisation aligns with actor-network theory's understanding of distributed agency and foregrounds institutional responsibility within architectural practice.

Second, it positions empathy as a methodological principle embedded within architectural research and design processes, rather than a set of standardised tools. Longitudinal engagement, relational mapping,

ecological analysis, and iterative prototyping should become central tools for understanding and shaping spatial environments.

Third, it moves beyond an individual virtue to a collective capacity. Institutions, research teams, communities, and policy frameworks all participate in the production of empathic architectural practice. Collective empathy emerges through collaboration, shared knowledge production, and long-term accountability.

Fourth, it expands empathy beyond human actors to include the ecological, material, and historical conditions that shape spatial life. Rather than anthropomorphising non-human actors, relational empathy calls for attentiveness to their behaviours, affordances, and effects. Climate, materials, infrastructures, historical and ecological processes are not passive contexts but active participants in shaping spatial outcomes. Designing responsibly within these systems requires sustained attentiveness to their rhythms and interactions.

Finally, the theory foregrounds temporality. While conventional empathy frameworks typically operate at early design stages, relational empathy insists that meaningful understanding emerges through sustained, long-term engagement with evolving spatial systems. Empathy as attentiveness to ecological relationality thus entails a commitment to remain responsive to the evolving relations through which human and more-than-human worlds are continuously made and remade.

This theoretical approach also has limitations. Its commitment to contextual attentiveness can make it difficult to formulate generalisable design guidelines or standardised research methods and tools. It requires sustained engagement and continuity from researchers and, at times, from participants; diverse and complex teams; and command of methods that demand training and rigour. Time and sustained attention are particularly scarce within the accelerated pace of contemporary practice. In fragile and uncertain humanitarian settings, assembling interdisciplinary teams and securing material and financial resources is especially difficult. Institutional pressures for rapid deployment and standardisation, compounded by shrinking budgets, may further constrain relational approaches.

Nonetheless, relational empathy offers a framework better equipped to address the ecological and social complexities that increasingly shape architectural practice and research. It provides a conceptual bridge between critical social theory, ecological thought, and architectural methodology and warrants further exploration across other contexts and cases.

Future research can extend this framework in several directions. Comparative studies across different forms of settlement and architectural interventions could examine how relational empathy operates in diverse ecological and political contexts. Methodological innovation in socio-spatial mapping and participatory research may further develop tools to apprehend human–non-human relations. Finally, architectural education can play a crucial role in cultivating the reflexive and ecological awareness required for relational practice.

Ultimately, the significance of relational empathy lies in its capacity to situate architecture within broader ecological and social relations. In an era characterised by climate instability, biodiversity decline, growing inequality, and displacement, architecture must move beyond the boundaries of human experience alone and attend to more-than-human actors. Such a situated and relational approach requires empathic and curious attentiveness to the entire ecology of assemblages within which architectural research and intervention take place.

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“THIS SPACE IS AN ECLECTIC POLYGLOT”: REVIEWING AN ARCHITECTURE OF HIGHER EDUCATION THROUGH DIVERSE EYES, EARS, AND MINDS

ABSTRACT: This article pivots around a recently renovated university building in central London. Rooted in a participatory, multimodal, creative-led methodology, the research is based on a study carried out in the summer of 2025, when eight disabled artists, designers, and architects visited the building and recorded their experiences in a variety of media. Given that universities have been identified as highly exclusive environments—both spatially and socially—the paper uses empathy as a lens through which to scrutinise the many ways in which architecture shapes who accesses, who freely navigates, who shapes, and, ultimately, who belongs in the spaces of academia. Working with empathy not as *feeling-for* but as *solidarity-with*, the article aims to destabilise dominant understandings of disability and their framing through the built environment.

KEYWORDS: empathy, disability, Deafness, architecture, higher education, participatory research, spatial justice

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INTRODUCTION: EMPATHY AS A PHILOSOPHICAL-ARCHITECTURAL LENS TO DESTABILISE DOMINANT UNDERSTANDINGS OF DISABILITY

“[T]he university [...] holds a history of injustice in its architecture,” critical disability scholar Jay Dolmage proposes, arguing that academic “spaces and institutions cannot be disconnected from [...] the bodies they selectively exclude.”¹ Dolmage’s message chimes with a steadily growing body of contemporary scholarship that addresses architecture’s long-standing exclusionary powers and deep imbrication with inequity. Together, these publications have mapped out the complicity of buildings, cities, and planning systems in the organisation, control, and segregation of populations and detailed how architecture produces, maintains, and reinforces unequal power relations.² While most of these important scholarly investigations have exposed power relations around gender, race, and architecture, the focus of Dolmage’s work is on disability—a topic which, according to architectural and urban historian Wanda Katja Lieberman, “in architecture is still often left out of discussions about social equity.”³

Dolmage grounds his argument by invoking the *steep steps of the architectural typology scrutinised by his research*: university campuses. Entering a university building, he argues, has traditionally meant a long ceremonial ascent: many established campuses are located on a hill, feature lengthy approaches, and include raised formal entrances reached by elaborate staircases. As such, their environments are unforgiving to bodies that move slowly, unpredictably, or with pain and designed without consideration for fatigue, chronic illness, or sensory difference. Dolmage uses

¹ J. Dolmage, *Academic Ableism: Disability and Higher Education*, University of Michigan Press, Ann Arbor, 2017, p. 9.

² J. Rendell, B. Penner, I. Borden (eds.), *Gender Space Architecture: An Interdisciplinary Introduction*, Routledge, London, 2000; I. Cheng, C. L. Davis, M. O. Wilson (eds.), *Race and Modern Architecture: A Critical History from the Enlightenment to the Present*, University of Pittsburgh Press, Pittsburgh, 2020; A. Muchechechi, *Whiteness, Space, and the Architecture of Exclusion*, Routledge, London, 2026.

³ W. K. Liebermann, *Architecture’s Disability Problem*, Routledge, Abingdon, 2024, p. 3. For recent publications in the field, see: D. Gissen, *The Architecture of Disability: Buildings, Cities, and Landscapes Beyond Access*, University of Minnesota Press, Minneapolis, 2022; S. Giamarelos, N. Vollenbröker (eds.), *arg: Architectural Research Quarterly: Architectures of Deafness, Disability, and Neurodiversity*, 28, 3, 2024; D. Serlin, *Window Shopping with Helen Keller: Architecture and Disability in Modern Culture*, University of Chicago Press, Chicago, 2025; N. Vollenbröker, “Deafening Architectural Modernism: Reconsidering the Archive of Adolf Loos,” in *Crippling the Archive: Disability, History, and Power*, J. L. Barclay, S. Hunt-Kennedy (eds.), University of Illinois Press, Urbana, 2025.

these *steep steps* to unpack how higher education is intentionally built to privilege certain bodies and minds while excluding others from scholarly communities, both spatially and socially.

Dolmage’s argument brings together two things—“an *architecture* in which ableism has an incredibly powerful hold” and “*higher education*, the location so powerfully responsible for the suppression of disabled people”—thus identifying architecture and the academy as doing ableist work together, historically, but also today.⁴ With the obvious steep steps now all but addressed (by retro-fitting ramps and back entrances), other architectural elements continuing to enforce inequality and exclusion remain unconsidered (including that disabled students are expected to accept separate or inferior access, navigate bureaucratic processes, and behave as their non-disabled peers). Essentially, Dolmage concludes, disability has become an *individual problem* in academia, erased from *collective responsibility*.⁵

Addressing this erasure of disability from collective concern, especially in the context of academia, design justice activist and communications scholar Sasha Costanza-Chock writes: diverse “forms of structural inequality are always active in educational environments [...] [W]e don’t want to ‘erase’ differences or pretend that they do not exist.” As such, they propose, it is important for educational spaces to hold “two goals in balance—to break down barriers and create a space of mutual *empathy and solidarity* while recognizing and respecting the validity of different standpoints and life experiences.”⁶

Empathy might, indeed, be a compelling modality through which to highlight and problematise the erasure of disabled perspectives from accepted understandings of campus architecture. It is important to remember that the concept of empathy has, for many disability studies scholars and activists, problematic connotations—especially because even a well-intentioned non-disabled empathy can blur into pity, condescending behaviours, or the viewing of disabled people’s lives as tragedy or inspiration. Writers including Sara Ahmed, Saidiya Hartman, Eva Feder Kittay, and Tobin Siebers have shown that empathy is shaped by social power, often rests on incomplete knowledge of others, can reproduce inequalities,

⁴ J. Dolmage, *Academic Ableism: Disability and Higher Education*, University of Michigan Press, Ann Arbor, 2017, p. 6. Emphasis added.

⁵ *Ibid.*, p. 35.

⁶ S. Costanza-Chock, *Design Justice: Community-Led Practices to Build the Worlds We Need*, The MIT Press, Cambridge, Mass., 2020, pp. 196–197. Emphasis added.

and may—through the erasure of the specific subjectivity of an individual by attempt to ‘step into the skin of the other’—even constitute a form of violence.⁷ As such, this article works with empathy not as *feeling-for* but as *solidarity-with* and uses empathy as a lens to ask: now that much of the built environment claims accessibility compliance, what architectural complexities, what standpoints and experiences, what ongoing exclusions are we—collectively—looking away from? What is the architectural and social loss? How can these standpoints and experiences be made visible, impactful, and transformative? How might empathy serve to destabilise dominant understandings of disability? In this context, then, empathy is understood as a means to develop solidarity with disabled people as ordinary, complex individuals and a shared belief in social and spatial justice. It is not understood as feeling for a marginalised ‘other.’

Empathy as Method

Empathy has persisted as a significant concept within architectural theory, with its understandings and definitions remaining in flux for many decades. Discussions of the notion of empathy—*Einfühlung* in German, the act of “feeling into” other lives, events, and objects—stretch from early considerations by Rudolf Hermann Lotze (1817–1881), Robert Vischer (1847–1933), and Theodor Lipps (1851–1914), to Heinrich Wölfflin (1864–1945) and August Schmarsow (1853–1936) who correlated architectural reception to the idea of empathy, and to contemporary theorists and architects Harry Francis Mallgrave, Juhani Pallasmaa, Helena Sandman, and Kirsten Wagner.⁸ In architecture, most discussions

⁷ S. Ahmed, *The Cultural Politics of Emotion*, Routledge, Milton, 2014; E. F. Kittay, *Learning from My Daughter: The Value and Care of Disabled Minds*, Oxford University Press, New York, 2019; T. Siebers, *Disability Aesthetics*, University of Michigan Press, Ann Arbor, 2010; S. V. Hartman, *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America*, W. W. Norton & Company, New York, 2022.

⁸ R. H. Lotze, *Mikrokosmos. Ideen zur Naturgeschichte und Geschichte der Menschheit* [1858], S. Hirzel, Leipzig, 1885; R. Vischer, *Über das optische Formgefühl. Ein Beitrag zur Aesthetik*, Hermann Credner, Leipzig, 1873; T. Lipps, “Einfühlung und ästhetischer Genuß,” *Die Zukunft*, 54, 14, pp. 100–114; H. Wölfflin, “Prolegomena to a Psychology of Architecture,” in R. Vischer, H. F. Mallgrave, E. Ikonomou (eds.), *Empathy, Form, and Space: Problems in German Aesthetics*, Getty Center for the History of Art and the Humanities, 1993, pp. 149–192; A. Schmarsow, “Das Wesen der architektonischen Schöpfung,” in J. Dünne, S. Günzel (eds.), *Raumtheorie: Grundlagentexte aus Philosophie und Kulturwissenschaften*, Suhrkamp, Frankfurt am Main, 2006, pp. 470–484; H. F. Mallgrave, E. Ikonomou, “Introduction,” in *Empathy, Form, and Space: Problems in German Aesthetics*, Getty Center for the History of Art and the Humanities, Los Angeles, 1993; H. Sandman,

around empathy, however, are still to fully acknowledge diverse embodiment as foundational to spatial thinking, and to thus support the reshaping of language, education, and design processes so that architecture no longer assumes a single normate body.⁹

Working in this neglected direction, this article uses empathy—“recognizing and respecting the validity of different standpoints and life experiences” in the words of Costanza-Chock—as a lens to foreground those modes of being in, relating to, and knowing architecture which remain under-considered by a profession still largely aiming at minimal legislative compliance rather than spatial justice. It builds on Dolmage’s considerations of academia and on those important projects that have reviewed the accessibility of higher education’s built environments.¹⁰ It also draws on Costanza-Chock’s warning that a focus on access risks *erasing* diversity rather than empathically learning from it and on complementary insights developed by scholars and disability action groups including: Lennard J. Davis’s critique of architecture’s longstanding reiteration of non-disabled defaults;¹¹ Rosemarie Garland-Thomson’s concept of *misfitting* as a diagnostic tool and opportunity for redesign;¹² H-Dirksen L. Bauman and Joseph J. Murray, who reframe hearing loss as *Deaf Gain* and thus as a *valuable* way of experiencing and authoring space;¹³ Jos Boys’s calls for designing from disability and her appeal to “rethink disability as a creative generator for architectural designers”¹⁴; Charlotte

T. Meguid, J. Levänen, “Unboxing empathy: reflecting on architectural design for maternal health,” *CoDesign*, 18, 2, 2022, pp. 260–278; J. Pallasmaa, “Empathic Imagination,” lecture at Bengal Architecture Symposium, 2016, https://www.youtube.com/watch?v=_Js8EjvXiDU, (accessed 16 March 2026); K. Wagner, J. Blower, “Animating Architecture: Empathy and Architectonic Space,” *Art in Translation*, 6, 4, 2014, pp. 399–435

⁹ David Gissen relates empathy, architecture, and disability in his chapter ‘A Form of Impairment’ in D. Gissen, *The Architecture of Disability: Buildings, Cities, and Landscapes Beyond Access*, University of Minnesota Press, Minneapolis, 2022.

¹⁰ A. Vaughn, “Accessibility Auditing: Four Case Studies,” *Critical Planning*, 28, 1, 2025, pp. 39–68; A. Hamraie, *Building Access: Universal Design and the Politics of Disability*, University of Minnesota Press, Minneapolis, 2017; A. Hamraie, “(Ir)Resistible Stairs: Public Health, Desiring Practices, and Material-Symbolic Ableism,” *Journal of Architectural Education*, 76, 1, 2022, pp. 49–59.

¹¹ L. J. Davis, *Enforcing Normalcy: Disability, Deafness, and the Body*, Verso, London, 1995.

¹² R. Garland-Thomson, “Misfits: A Feminist Materialist Disability Concept,” *Hypatia* 26, 3, 2011, pp. 591–609.

¹³ H. Dirksen, L. Bauman, J. J. Murray (eds.), *Deaf Gain: Raising the Stakes for Human Diversity*, University of Minnesota Press, Minneapolis, 2014.

¹⁴ J. Boys, *Doing Disability Differently: An Alternative Handbook on Architecture, Disability and Designing for Everyday Life*, Routledge, London, 2014; J. Boys, M. Kajita,

Bates and Rob Imrie, who introduce an ethic of care into architecture and design¹⁵; and Sins Invalid's affirmation that we must "honor the insights and participation of all of our [disabled] community members."¹⁶

The article is rooted in research which took place during the summer of 2025, when we welcomed eight artists, designers, and architects living with diverse disabilities to University College London's Bartlett School of Architecture, where all three authors work or have worked. The building was originally completed in the 1970s and it underwent a deep retrofit and extension in 2016. The renovation retained the existing concrete structure but fundamentally re-thought the organisation of space and programme. The building now features a double-height entrance foyer and exhibition area with a glazed façade to the main street. A large, open stairwell connecting all eight floors forms the heart of the interior space, its wide timber steps and generous landings designed for impromptu social interaction and affording sweeping views through the interior space. Radiating away from this centrepiece are large, semi-enclosed breakout areas (used for exhibitions, tutorials, design reviews, and social gatherings), enclosed seminar rooms (for meetings and small-group teaching), and open studios (providing student workspaces) to the south and west as well as small and enclosed academic and administrative offices to the north and east (see Figure 1).

The eight co-researcher participants have diverse profiles regarding their age, gender, race, and co-occurring conditions but, for the purpose of this study, were understood as representing four groups: wheelchair-users (Jordan Whitewood-Neal and Jess Thom), blind people (Mandy Redvers-Rowe and David Johnson), Deaf sign-language-users (Coco Briden and Chris Laing), and three individuals identifying as neurodivergent (Jessica Ryan-Ndegwa, Natasha Trotman, and Jess Thom).¹⁷ As is frequently the case, these 'categories' overlapped, so that responses often went beyond the assumed access needs for any particular

"Exploring Disability as a Creative and Critical Challenge to Design Norms," in M. Mostafa *et al.* (eds.), *Design for Inclusivity: Proceedings of the UIA World Congress of Architects Copenhagen 2023*, Springer, Cham, 2023, pp. 195–203.

¹⁵ C. Bates, R. Imrie, K. Kullman (eds.), *Care and Design: Bodies, Buildings, Cities*, John Wiley & Sons, Hoboken, 2017.

¹⁶ Sins Invalid, "10 Principles of Disability Justice," <https://sinsinvalid.org/10-principles-of-disability-justice/> (accessed 13 February 2026).

¹⁷ Participants were recruited through The DisOrdinary Architecture Project. They received a fee for their work and travel expenses were compensated. This article was shared with all participants for comments before submission.

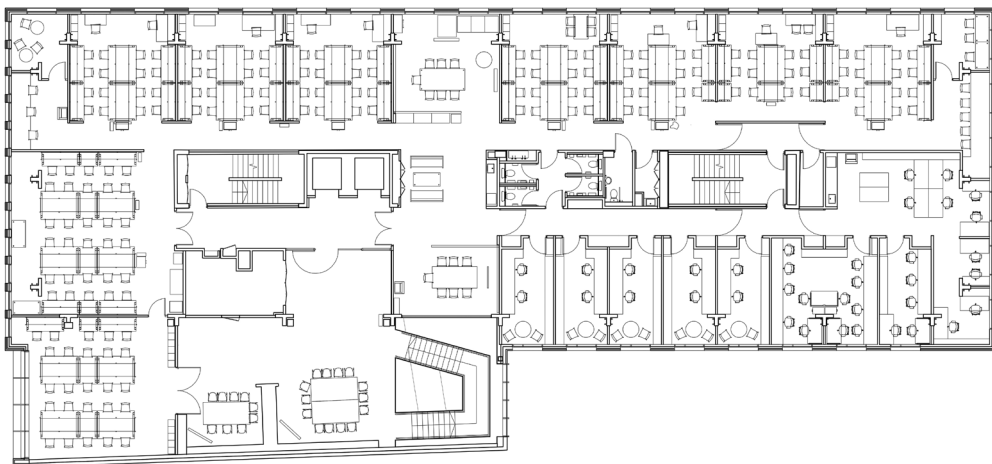


Figure 1: Second-floor plan of the Bartlett School of Architecture, University College London. Drawing by Mine Sak-Acur.

impairment group. Participants were asked to tour the building and record their experiences. In line with the study's aim to understand their lived experience, we suggested a series of areas of the building for evaluation and provided a small set of questions and prompts for participants to respond to. Ultimately, each individual contributor determined which spaces and topics they were going to address, and the method of recording their journeys through the building was left up to them. This approach afforded our collaborating creatives the opportunity to curate their own journey and articulate their experiences openly, encouraging the exploration of issues they regarded as significant. As such, it allowed for the integration of personal, emotional, and possibly unexpected dimensions into the study and facilitated a more nuanced understanding of individual perspectives. Participants spent between two and four hours in the building; four individuals went through the building by themselves, two individuals explored it as a pair, and another group of two individuals was accompanied by one of the authors. They all mapped their experiences of navigating this building through a range of different media: audio-descriptions, text, drawings, collages, photographs, and films. This rich material was then presented and discussed by contributors and authors in a workshop two weeks later. In a next step, the authors analysed the participants' visual, aural, and textual narratives as well as the workshop recordings. While in this article, some accounts have crystallised as anchor points while others have taken on the role of illuminate adjacent themes, it is important to emphasise that analytical attention and interpretive treatment were given to all participating creatives, and that the argument and structural logic of the article was shaped equally by all contributions. All participant quotes in this article are drawn from building explorations and a follow-up workshop and used with permission.

What follows are three sections, loosely related to the various journeys participants took through the building. The sections do not map onto a particular space or architectural feature; instead, they are guided by three themes which emerged between the contributors' accounts. Section 1 ("Care and Consideration: Being Expected") generally focuses on entering the building, on initial impressions, and on feeling welcome in its space; section 2 ("Circulation and Orientation: The Cost of Getting Lost") moves deeper into the building, thinks about wayfinding and spatial connection, and asks what movements and energy levels are considered legitimate; section 3 ("Independence and Interdependence: Taking Up Space") considers a selection of individual spaces, the processes of

laying claim to them, and the importance of thoughtful architectural inhabitation. Overall, the article aims to destabilise the still dominant understandings of disability as “the exception to the rule,” “disruptive,” a “worst case scenario”—as foregrounded by disability studies scholar Tanya Titchkosky—instead centring bodily variability as a “way of perceiving” space and “sense making device” giving valuable insights.¹⁸ As such, the conclusion reflects on the overlaps and tensions between individual experiences, asking how these might inform alternative architectural practices and allow us to think empathetically about *all bodies* in the built environment.

CARE AND CONSIDERATION: BEING EXPECTED

“Buildings have an overall message: do I belong—or not? Do I feel welcome—or not?”¹⁹

Finding one’s way into the Bartlett School of Architecture is not necessarily straightforward. The main door is tucked away in a recess of the building’s façade onto Gordon Street and, for visitors arriving from the nearby station and main road, can only be seen once you have already walked past it. The door is a solid timber structure with no glass panels, and the automatic swing door opener, as one participant noted, is not always reliable.²⁰ Still, large windows allow approaching visitors to get glimpses of the ground-floor gallery and café space from the rest of the street, and the initial feeling upon entering the building was one of generosity and openness – the entrance area is spacious and filled with daylight, the chatter of students, and the smell of coffee: “I enjoy the openness of the ground floor layout it entitles the visitor to enter. Upon arrival, one is welcomed into the space with some words by students. You are also welcomed into your space with the small canteen [café].”²¹

One of the Deaf participants noted that the ground floor “has a lovely eye-line view, and you can see different directions.”²² To move from the entrance area and further into the building, visitors pass through a set of automated barriers. These were an initial concern for a wheelchair user,

¹⁸ T. Titchkosky, *The Question of Access*, University of Toronto Press, Toronto, 2011, pp. 9–47.

¹⁹ David Johnson.

²⁰ Natasha Trotman.

²¹ Jessica Ryan-Ndegwa.

²² Coco Briden.



Figures 2 (left) and 3 (right). Eight disabled artists, designers, and architects explored the building and responded in their selected medium. Left photograph by Jess Thom, right photograph by Natasha Trotman.



who noted her “residual anxiety that automatic gates are not set up for the time I need to move through them,” but proved negotiable with ease when the Community Manager, resident at the adjacent reception desk, kept them unlocked.²³ The presence of the Community Manager was also lauded by one of the blind participants: “[T]he fact that there’s a person on the barrier makes a huge difference because in that situation, a vision-impaired person can ask for direction or support if they’re meeting someone.”²⁴

The imposing staircase—a large, zig-zagging structure with solid metal sides and wide oak treads, back-lit by an multiple-storey glazed façade, suspended in a huge void spanning across eight storeys, and located in a central position—is visible immediately upon entering the building. Moving closer, the staircase affords vertical views throughout the entire building—from the sixth floor at the top to the workshop in the basement. These long lines of sight were pointed out as being helpful since, from the beginning of their visit, they allowed sighted contributors to get a sense of the space and to consider what navigating the building would entail. The two blind participants also commented positively on the staircase: the amount of daylight entering from the extensive glazing behind give someone with remaining vision a sense of orientation, and the treads have a predictability to them: “I look for patterns or repetition [...] [between the ground and the first floor, there is] one flight, 180-degree turn, the second flight, then 90 degrees to the third flight, and then up to the landing [...] it is that regularity I look for, that repetition.” This predictable repetition between floors is supported by a continuous handrail which follows the angle of the stairs—“the railing is a very good railing.”²⁵

The staircase was similarly positively reviewed by the Deaf participants. “I think this space is good,” one contributor noted, focusing on the views the stairwell affords deep into the building and across the floors, “when I come down the stairs, I can see different areas.” The central stairs thus give an excellent understanding of the building’s structural logic and an overview of what is going on. In addition, she pointed out that the staircase’s slope, layout, and open nature meant someone walking down can see individuals going up and vice versa; these clear sight lines prevent

²³ Jess Thom.

²⁴ Mandy Redvers-Rowe.

²⁵ Mandy Redvers-Rowe.

people bumping into each other. (In contrast, the lift felt cramped, problematically lit, and disconnected—as will be detailed later).

While Deaf and blind individuals credited the open layout and large stairwell with providing visitors with a good grasp of the building’s structural logic and events, participants also raised concerns about the open plan: the blaring aircon units, incessant humming and loud buzzy bursts of the commercial espresso machine, and ever-present casual conversation ricocheting vertically though the building were all quickly commented on. “The *unpredictability* of the noises makes this not a space I want to stay in,” one participant noted, while another foregrounded the *intensity* of the noise—up to 90 decibels, a level which “drowned out quite a lot of [what] was important to hear, like what people were saying.”²⁶ (See Figure 3)

“You can’t unhear it, can you?,” a blind contributor reflected on what she described as an *enormous soundscape*. “I can never unhear it, no,” the other agreed, explaining that while sighted individuals, concentrating on a visual feature—the face of a conversation partner, the gestures of a lecturer, the slide show on a monitor—may be able to block out some of the distracting noise, partially sighted individuals cannot shift their attention away from peripheral sounds.²⁷ On one of the landings—a generous, open-plan area immediately next to the central staircase which is central to the building, which exists on each floor, and where key events like design reviews, tutorials, and seminar teaching happen—a poignant topic began to emerge. Taking in the space for a short moment, one of our blind participants concluded: “I think if I was a *student* here, I would find it a little bit difficult to concentrate on my particular group.”

Others similarly shifted their position—from *building visitor* to *student*—and agreed. Reflecting on the landings, one creative noted: “[T]his space, Deaf people wouldn’t use. A hard-of-hearing person like myself—I wouldn’t use it for in-depth meetings [...] because I can hear noise from downstairs. If I had someone talk to me here, I would probably struggle because of the noise.”²⁸ In parallel to the cacophony of sounds across all levels of the building, strong smells and high levels of artificial lighting were also observed as drifting through the building, leading to “a real risk of sensory overload,” especially for those with

²⁶ Jess Thom, David Johnson.

²⁷ David Johnson, then Mandy Redvers-Rowe.

²⁸ Coco Briden.

heightened sensory sensitivity, which would also detract from their ability to study and learn.²⁹

It began to emerge that, while the building was initially accessible for disabled *visitors*, it did not imagine blind, Deaf, or neurodivergent *students*. An error of judgement, as one participant poignantly details, since not catering for disability amongst this younger group can have serious implications:

You've got to be careful, because even if you've got a bunch of younger people [...] [some will be] partially sighted people who haven't got used to the idea or don't want to get used to the idea [...] I used to hate my cane. I took about ten years to summon up the courage to use it. I was 28 before I did that [...] I was registered blind and went to university and wouldn't use my stick. You want to be like others, don't you? You want to be like everyone else. I just walked into everyone, fell downstairs and everything [...] Statistically, I bet there are a few people at this college [...] [with] a visual impairment that they're not telling you about or haven't come to terms with yet.³⁰

Wandering away from the entrance, central stairs, and multi-purpose landings and into the corridors behind, dissonances between the bodies and minds imagined to study in the building and the bodies and minds of the contributors began to become more and more apparent. Across four floors, the building's design studio spaces align along the north side of the building, furnished with allocated workstations. Rows of desks face each other, separated by high-level shelves. These central storage components would be problematic for Deaf students (whose line of vision is blocked by them, meaning they would not be able to communicate using sign language) as well as for wheelchair users (who cannot access the shelving). There is also limited turning space for wheelchairs between the desk rows. "These are studios that I would struggle to move around," one wheelchair user concluded, noting that the opposing side of the building, where staff offices are lined up along a corridor, is not much better: "If I was waiting for a tutorial here, I would be blocking the space."³¹

In teaching rooms, lecterns were installed in front of windows, meaning a Deaf student will likely struggle read lip patterns or signed

²⁹ Natasha Trotman.

³⁰ David Johnson.

³¹ Jess Thom.

interpretation: “It would be difficult to see [a lecturer’s face or an interpreter’s signing] because of the bright light behind them and it would be tiring to watch them. It wouldn’t work. This space is not working.”³² In seminar spaces, seating is installed on either side of a rectangular meeting table: “Look at this table. Is this designed for Deaf people? Not really. It needs to be circular, because for example, if I have an interpreter here [opposite], it’s fine [...]. But imagine if there’s another Deaf person sitting next to me. How would I be able to follow the conversation on the side? I’d have to bend over and look [...].”³³ (See Figure 4)

This raises the question of not just *whether* but *how many* students with a disability might be envisaged to occupy this university building—a point also made by participants using a wheelchair. Some circulation areas, while comfortably accommodating one person in a wheelchair, only allowed for two wheelchair users to pass after some manoeuvring (see Figure 2). Teaching spaces, like seminar rooms, were more capacious but specified maximum occupancy at their doors. “If a room’s capacity is 80, does that mean 80 of me, with my chair, and my PA, and all of the things that go with me?,” one contributor asked, “Or does it mean 80 of a non-disabled person? Whose body and mind has been utilised as a basis of this calculation?”³⁴

Circling back to empathy as an architectural lens, then, and bringing a diversity of *bodyminds* to bear on understandings of space shows that some kinds of people are expected in this building and not others.³⁵

Queer theorist Susan Stryker frames spaces as “imaginaries” that configure “who is or is not thought to be among those who will enter or occupy those spaces.”³⁶ *Entering* the majority of the spaces within this higher education building was relatively successful. “Buildings have an overall message: do I belong—or not? Do I feel welcome—or not?,” one of the

³² Coco Briden.

³³ Chris Laing.

³⁴ Jess Thom.

³⁵ The term *bodyminds* underscores that body and mind are co-constitutive, and disability should be understood as affecting the whole person, not just either the body or the mind. As Margaret Price puts it, “because mental and physical processes not only affect each other but also give rise to each other—that is, because they tend to act as one, even though they are conventionally understood as two—it makes more sense to refer to them together, in a single term.” M. Price, “The Bodymind Problem and the Possibilities of Pain,” *Hypatia*, 30, 1, 2015, p. 269.

³⁶ T. Southcott, D. Theodore, “Interview with Susan Stryker,” *Journal of Architectural Education*, 74, 2, 2020, pp. 333–336.

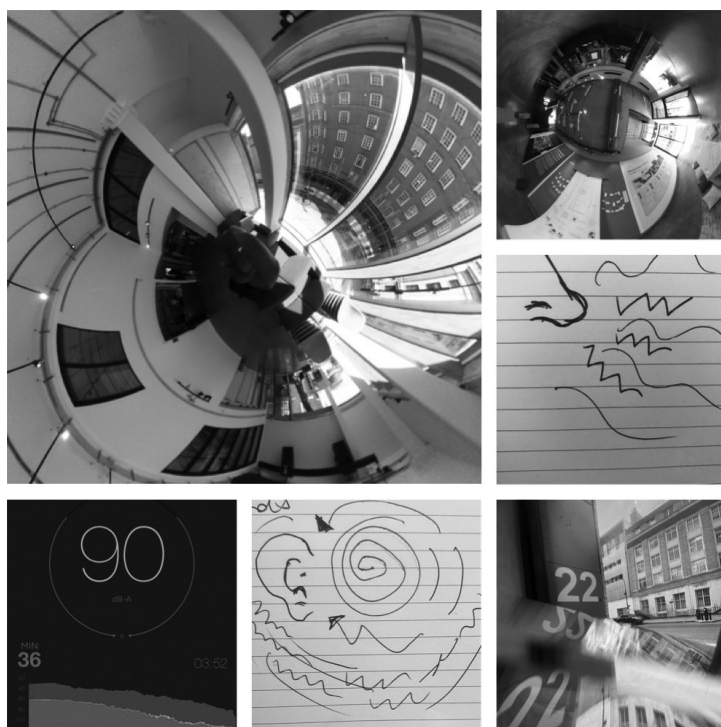


Figure 4. Strong smells, bright lights, and sound levels of 90 decibels. Collage by Natasha Trotman.

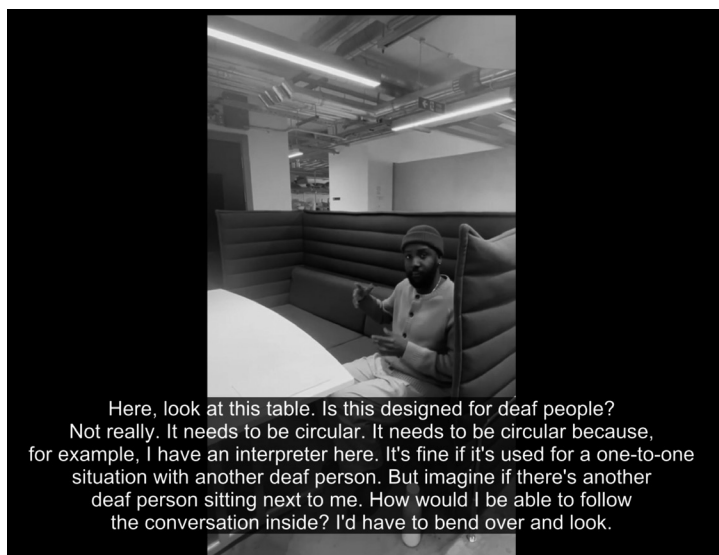


Figure 5. How many Deaf students does this building expect? Film still by Coco Briden and Chris Laing.

blind participants poignantly stated.³⁷ If, after a couple of initial visits, he does not feel expected and welcome, he will likely never visit by himself, instead relying on an assistant to accompany future visits. He concluded that this building had made him feel expected, and other participants agreed that it had many positive attributes. *Occupying*, however, was a different matter. While the building's powered entrance door, hearing loop, lifts, and long sightlines might expect disabled *visitors*, it did not necessarily expect *students* or *staff* who are Deaf, blind, neurodivergent, or use a wheelchair—certainly not in any numbers or with any regularity. The imaginaries of the architectural inhabitant, to borrow Stryker's words, seem to have predominantly assigned these core roles to non-disabled individuals. As such, the building continues some of the exclusionary rhetoric of academia and as contributes to the preservation of non-disabled norms rather than to the creation of spaces of truly plural embodiment.

ORIENTATION AND CIRCULATION: THE COST OF GETTING LOST

"I need spoons left, enough to get me home safely when I leave the space."³⁸

To the side of the prominent, visually distinctive staircase, two lifts offer an alternative way of vertical travel through the building. While the staircase is positioned in the new part of the building (the light and airy extension), the lifts are remnants of the pre-renovation edifice (a typical 1970s building with a double-loaded central corridor). As such, the lifts are small and not always able to meet demand; on the upper floors, they open into cramped internal lobbies usually filled with people waiting to get in. "The lifts are often over-used and it can take a long time to get space in a lift when they are used for transporting models etc," a wheelchair user reported his experience.³⁹ Negative reviews from others compound this observation: one of the Deaf contributors felt anxious about being alone in the small lift, whose windowless doors allow no visual connection to the space outside.⁴⁰ A neurodiverse participant noted that the bright lights and reflective metal surfaces of the lift were overstimulating,

³⁷ David Johnson.

³⁸ Natasha Trotman.

³⁹ Jordan Whitewood-Neal.

⁴⁰ Chris Laing.

making her consider the two escape stair cores, also remnants from the 1970s structure, as a quieter or more direct alternative to travel between floors.⁴¹ As such, experiencing the building ‘by lift’ is a stark contrast to experiencing is ‘by staircase.’ “The staircase goes right through the core of the building. It is lit and has a mix of materials that feel really amazing. It is designed to be a pivotal central core for the experience of the building,” the other wheelchair user summed up. “This is not something I can experience. Not the same architectural thought that has been put into the lifts.”⁴² (See Figure 5)

Stepping back out and into a lobby space lit brightly by lamps overhead, one contributor noted their “lift-induced disorientation.”⁴³ In this lobby, several sets of glazed double doors present themselves, as well as some wayfinding information. The latter consists of black lettering on a white wall and, as such, has a good amount of contrast. It was also reviewed as being at an appropriate height for wheelchair users. However, there was a lack of structured signage using symbols to assist with environmental navigation. “Signage proved problematic,” a neurodivergent participant reflected on the absence of pictograms. “Clear, universally recognisable signage combined with tactile markers could reduce confusion, support more independent navigation, and help someone like myself not expend too much energy or draw on too many internal resources to regulate, decipher, and cope in the space.”⁴⁴ The absence of clear signifiers, she concluded, directly put her safety at risk.

In terms of layout, all upper storeys of the Bartlett School of Architecture are near-identical, something which received repeated positive mention: “Having each floor follow a similar pattern is really, really helpful because you can work out where you are [...] the layout is manageable.”⁴⁵ To the back of the lifts, a straight corridor extends across the entire length of the building. This long, east-west axis, along which the studios are arranged, made orientation straightforward. “If one stands at the far back wall of the building in the main studio spaces [...] you can see a clear line all the way through the hallway to the other side of the building!,” one neurodivergent contributor rejoiced. “It almost lends itself to

⁴¹ Natasha Trotman.

⁴² Jess Thom.

⁴³ Natasha Trotman.

⁴⁴ Natasha Trotman.

⁴⁵ Mandy Redvers-Rowe.

directing you unconsciously through a desired route.”⁴⁶ The long view and the flow of space through the building were appreciated, but so was the long wall to one side. The blind participants explained that being able to rely on tapping a cane against the wall on one side (say, right) while knowing the other side (say, left) opens into the studio spaces was akin to having a compass or a guiding star. “I feel quite comfortable in this space here [...] The solid wall on one side and the broken on the other. You could pretty quickly work out which way round you were if you forgot,” one summed up. “The solid wall is like the sun. A sighted person in the wilderness, they just look at the sun and orientate themselves by the sun.”⁴⁷

Still, orientation and navigation often proved challenging. On the fifth floor, the wall-mounted wayfinding signage was partly blocked by a piece of furniture—not a good start for one participant using a wheelchair and recording her attempts to find seminar room 5.02. Being unable to rely on the (visually blocked) overall signage, she looked for individual room numbers and found those to be printed in small font and positioned next to all doors at average standing eye-level. “There are no directions to particular rooms [...]. It takes a lot of energy to look for these rooms,” she noted. “We have now found 5.02, but it doesn’t say it anywhere except on a tiny bit of text very high up that my support worker was able to spot. I don’t think I would have found the room on my own.”⁴⁸ Other contributors also searched for ‘hidden’ offices and seminar spaces, finally encountering these rooms behind items of furniture or on the other side of heavy fire doors.⁴⁹

It was not simply *visual* wayfinding cues which fell short: there were also gaps in spatial or different sensory information. Firstly, blind individuals would benefit from a small model of the building—“just a model that you could touch [...] a sort of wooden scale model [...] once we touch, we understand the logic of a building—you can feel it when you feel the shape [...] you could take the roof off and you could explore the floor layouts that way.”⁵⁰ This might be made available upon entering the Bartlett School of Architecture. Furthermore, neurodivergent individuals noted they process sensory input differently, relying on diverse sensory

⁴⁶ Jessica Ryan-Ndegwa.

⁴⁷ Mandy Redvers-Rowe.

⁴⁸ Jess Thom.

⁴⁹ Chris Laing and Coco Briden. Jessica Ryan-Ndegwa.

⁵⁰ David Johnson.

information for navigating their environment. These sensory experiences are not just preferences but critical, deeply wired, and often essential ways for them to navigate daily life. “Material choices and the effects of light reflection [...] profoundly affect sensory comfort and spatial orientation,” one participant stated.⁵¹ An over-reliance on visual clues for orientation is problematic. Many neurodivergent individuals experience cognitive overload, which can be exhausting. Moving through the building, the participant repeatedly experienced “visual overload, with bright lights and reflective surfaces” and needed “too much *energy* [...] to regulate, decipher, and cope in this [dysregulating] space.”⁵²

Matters of wayfinding often came back to such questions of energy. This might be the mental energy noted by the neurodivergent participant, or it might be physical energy. Navigating the building involves negotiating many sets of fire doors, and these are heavy and lack automatic openers—a topic which arose repeatedly. “The absence of automatic openers feels like a block to my movement” one participant noted.⁵³ “An aspect that drew on my energy in the space were heavy doors,” another recorded.⁵⁴ Indeed, when he was “carrying bags and coffee, they [the doors] were unusable,” a third contributor noted.⁵⁵ The accumulative effect of having to open these doors to access any area of the building was significant. “One of the things which is really exhausting about being in this building is the relentlessness of trying to get through spaces [...],” one wheelchair user summed up. “Without a support worker, I just wouldn’t be able to move around this space at all [...] I am getting worn out by moving through a building with lots of heavy doors.”⁵⁶ (See Figure 6)

Crucially, the Bartlett School of Architecture has no dedicated space for regaining this lost energy. “The absence of formal quiet or resting spaces is a considerable gap. I found a few informal spaces that were ‘disrupted’ after a few minutes,” one of the neurodivergent participants summarised. “Designated calming spaces would be essential to hold space for those being underserved in the building and foster inclusivity and wellbeing.”⁵⁷ On a final note, she references Christine Miserandino, who

⁵¹ Natasha Trotman.

⁵² Natasha Trotman.

⁵³ Jess Thom.

⁵⁴ Natasha Trotman.

⁵⁵ Jordan Whitewood-Neal.

⁵⁶ Jess Thom.

⁵⁷ Natasha Trotman.

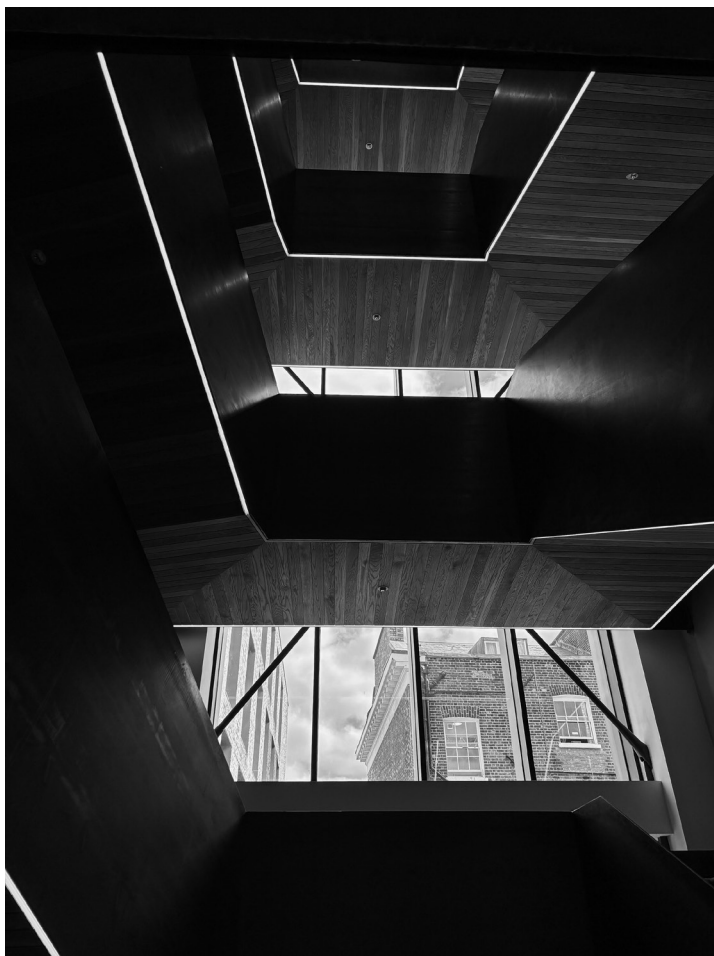


Figure 6. "A pivotal central core for the experience of the building," the main staircase. Photograph by Jess Thom.



Figure 7. Large, heavy fire doors without automatic openers require much energy to open. Photograph by Jess Thom.

explains her experience with chronic illness through the *spoon theory*: Miserandino describes that, while most people start their day with what feels like unlimited possibilities, those living with chronic illness must carefully plan and ration their activities to conserve energy. She uses a limited number of spoons as a metaphor for the limited physical or mental energy she has available to complete daily tasks. Each spoon represents a specific amount of energy; running out of spoons means having no energy left to give and being unable to complete even simple tasks. The absence of a designated quiet space made it difficult to rest, calm down, and recoup the expended energy. Exhausted after moving through the building, the neurodivergent participant therefore ponders the cost of getting lost, concluding that she cannot explore the space any further: “I need spoons left, enough to get home safely when I leave the space.”⁵⁸

Returning, again, to empathy as an architectural lens, the participants’ experiences question the provision of equitable access to movement through the building.

Sociologist Mimi Sheller argues that movement through space deeply shapes society, power, and inequality. She problematises “uneven mobilities”—the unequal distribution of the ability to move—and argues “that the concept of mobility justice can highlight the structurally distributed class, racial, gendered, and other inequalities in the potential for mobility.”⁵⁹ The monumental, highly visible staircase acts as an obvious barrier to mobility except for the most able-bodied individuals: “Staircase use demands legs that perform the functions of pressing and lifting, non-asthmatic lungs, hearts that withstand elevated blood pressure, and necessary energy,” disabled activist and design researcher Aimi Hamraie lists, adding that individuals with “chronic fatigue, heart and lung conditions, and/or prosthetic limbs [also] [...] do not easily climb stairs.”⁶⁰ Physical access to all spaces is granted via the lifts, but a clear visual understanding of the building, the participation in social interaction intended to take place on the staircase, and the enjoyment of the what is arguably the Bartlett School of Architecture’s most appealing component are not possible. Less obvious architectural features also limited free movement. Heavy doors, bright lights and high contrast, and poor signage made

⁵⁸ Natasha Trotman.

⁵⁹ M. Sheller, “Mobility Justice,” in M. Büscher *et al.* (eds.), *Handbook of Research Methods and Applications for Mobilities*, Edward Elgar Publishing, Cheltenham, 2020, p. 12.

⁶⁰ A. Hamraie, “(Ir)Resistible Stairs: Public Health, Desiring Practices, and Material-Symbolic Ableism,” *Journal of Architectural Education*, 76, 1, 2022, p. 50.

continuous demands on participants’ energy levels to the point that some were left exhausted and with only just enough spoons to make it home. As such, the building still significantly shapes who gets to move, where, and how, thus both reflecting and reproducing inequalities.

INDEPENDENCE AND INTERDEPENDENCE: TAKING UP SPACE

“Architects build to the minimum; they don’t factor in the generosity of life.”⁶¹

The building has a mix of specialised, collaborative, and general-purpose spaces designed to support education: from design studios, model-making workshops, seminar spaces, lecture halls, and computer labs to staff offices, a student lounge, and a café space. Some of these are housed in enclosed, dedicated rooms, but the majority of the building is open-plan, and spaces are designed to be used flexibly. The large, L-shaped entrance foyer regularly turns into a major exhibition and event area throughout the academic year. The spacious landings adjacent to the staircase function as a space for pin-ups, for seminar teaching, and for group work—often simultaneously. The staircase itself—in its central location, with a width which accommodates several people standing or walking side by side, with its lavish materials and natural daylight—doubles as the most important social space in the Bartlett School of Architecture: it is almost impossible to move between floors without bumping into someone and stopping for a chat (indeed, staff in a hurry are known to use the emergency escape stairs at the ends of the building to avoid these enjoyable but time-consuming encounters).

The open plan of individual spaces was often experienced positively. Most attention was given to the large landing areas, which function partly as circulation space (using the staircase on one side and accessing formal rooms on the other both involves crossing the landings) and partly as teaching space (the landings are typically populated with tables for tutorials and seminars and sometimes divided by temporary structures for pinning up work). The Deaf participants benefited from the clear sight lines that the open-plan landings offered, although some of the temporary timber partitions did block these views: “It would be difficult to know if there’s a meeting behind the wall, because I can’t see

⁶¹ Jess Thom.

through it. So, I might accidentally interrupt that meeting. I wouldn't be aware of the meeting because it's difficult to see through. It's important to consider factors like that."⁶² Others also reflected on the intricacies of a space which is at the same time physically open and visually restricted. One contributor generally appreciated room for manoeuvring her wheelchair but, living with Tourette's Syndrome, she was conscious of the sound the power chair's motor makes as well as of her own involuntary vocal sounds. These may be perceived by an invisible audience—people she cannot see behind corners and partitions but who will hear her: "As someone who makes noise, I will be audible to people in the space. The space makes me aware of that."⁶³

The space is not just open-plan. Its deliberately informal planning also features overlapping functions and programmes. As such, it assumes a user as someone who is energetic, mobile, and can read normative visual and spatial cues easily.⁶⁴ For the blind contributors in particular, the coming together of several intended functions around the stair and landings presented a complex issue. In these areas, teaching space and "social space [become] mixed up with transitional space [...] rather than there being a transition from one place to another." This makes occupying the building difficult. One participant explained that for blind individuals, any orientation was predicated on "understanding the logic of the building." Pointing at his co-contributor, he explained: "She is so good at envisaging the pattern in the building by walking through it and remembering the turns." This understanding of spatial patterns allows for the creation of a complex mental map. Navigating the distance between any two points within the building involves invoking a clear directional 'straight line' on this mental map—the path along which he travels. "I put my two feet on that line [...] so I'd be going straight forward," he notes, explaining how he uses the wall of a corridor against which a cane can be tapped or the predictable trajectory of a staircase which allows for maintaining orientation. "It's good because [...] you won't lose direction."⁶⁵

Importantly, however, this invisible straight line relies on continuity of movement. "The straight line helps us get from A to B and that's

⁶² Chris Laing.

⁶³ Jess Thom.

⁶⁴ This is a common 'model' of preferred performance in higher education. Such traits are seen as indicators of competence, rather than discriminatory against other forms of intelligence and creativity.

⁶⁵ David Johnson.

logical for us. But coming off that straight line, into social settings—we can do that but getting back to the straight line is a big challenge for us.” In other words, if he stops to talk on the landing, as encouraged by the building, he loses his place on the line and needs to re-orientate himself—something which is not easy, especially as there are no tactile indicators signalling the transition from landing to stairs. The worry is that he might accidentally move from the landing onto the staircase and fall. “The sequential part of a journey. I acknowledge you need that for survival,” he concludes. “So that’s why if you are going to mix up transitional areas and social space, it’s important to remember what it’s like from our point of view.”⁶⁶ While its configurational logic is clear and appreciated by blind participants, the absence of basic tactility marking at the top or the bottom of the staircase also makes the stairs potentially hazardous.

Further complicating this process of maintaining orientation on a mental map is the soundscape resulting from an open, multipurpose space. Blind individuals partly perceive a room’s size, spatial layout, and features by sound. This process includes listening to sound—for example the tap of a cane—reflected from walls, ceilings, floors, and furniture for an acoustic outline of the space. It also involves listening to sounds and voices coming from windows, doors, and activities in the room. As such, ideally, on the landing spaces, you “could orientate your directional self [...] know you’d have the social space behind you and you know to walk forward for the stairs.” Unsurprisingly, however, sound orientation proved extremely difficult in the building because of its disruptive background noise spilling from one space into others. “You’re not actually hearing what’s important to hear [...]. Orientating yourself in this space, I think, would be hard. Very hard. I’ve already lost the sense of where the staircase is,” one participant summed up. The other agrees: “it’s confusing me and making me feel anxious—it’s disorientating.”⁶⁷

As the intentionally flexible spaces accommodate ever-changing activities, supporting items—furniture, temporary partitions, exhibition props, teaching material—incessantly move across the building. This includes furniture. One participant noted that when she first entered the Bartlett School of Architecture, a table and chairs had been positioned near the entrance. Upon returning a while later, the chairs had disappeared. (See Figure 6) The situation of returning to a supposed space of

⁶⁶ David Johnson.

⁶⁷ Mandy Redvers-Rowe and David Johnson.

rest, to find it gone, and to struggle finding a different space to rest resulted in her feeling like she was “swimming from one island to another [...] like being under water and [it is] hard to breathe.”⁶⁸

In other parts of the building, the opposite situation caused similar distress: things appeared rather than disappeared. The Bartlett School of Architecture is a space of intense productivity, with students constantly generating work as they progress through their education. Around the studios, various items—cardboard boxes, items of equipment, large bins, printers—are prone to gradually appearing and taking up the floor area. “Architects build to the minimum, they don’t factor in the generosity of life; the generosity of stuff,” one wheelchair user commented. Corridors comply with minimal legal requirements and, as such, are theoretically suitable for a wheelchair. However, our contributor found herself unable to use them, “not because of the physical constraints of the space but because of the way items have been situated in there.” There were, she notes, “at least 9 or 10 obstacles which would stop me moving down this straight path.”⁶⁹

Space is shaped and re-shaped everyday through inhabitation, and the processes of student work steadily cluttered the corridors, meaning they are no longer easily navigable for a wheelchair user. These changing conditions cannot be captured—or maybe even predicted—in static architectural plans but they fundamentally influence disabled people’s access. In fact, the building’s assumed patterns of inhabitation undermined architects’ positive design decisions. Some of the heavy double doors mentioned in the previous section, for example, are intended to be kept open on door-holding-magnets but are kept closed to reduce noise. Similarly, the doors to individual staff offices have a design detail allowing them to be locked in an open position to create a welcoming environment, but they are now almost always closed. Given these office doors have no glass panels, this decision again negatively impacts how the participant using wheelchair uses the space: “Some doors did not have windows, and this will affect how confident I feel about going into a room.”⁷⁰ Similarly, for Deaf people, not being able to see if a staff member is in their office, limits their potential interactions.

⁶⁸ Natasha Trotman.

⁶⁹ Jess Thom.

⁷⁰ Jess Thom.

Returning to the wheelchair user in the studio, with its floor populated by the remnants of busy making processes: this space has now become an inaccessible “obstacle course.” In this instance, the hurdles are located in front of an area she has been keen to explore: the windows. “There are these windows that have views out onto the city [...]. There is something important to me in feeling that the building is connected to the city beyond it, and to the weather, to what is happening outside, and to the light. But these are views which are not easy for me to access because of the amount of stuff that is in the spaces.”⁷¹ Not being able to move through the space freely and with dignity is frustrating: “It creates fuss—me knocking into things and people having to move stuff out of the way for me. That makes me not want to bother.”⁷² (See Figure 7) The question arises, *Who has the right to take up space in these areas?*

Finally, then, using empathy as an architectural lens frames how the day-to-day use of the building—the intended productive, busy, fast-paced schedule of education—entrenches spatial disparity.

Disability studies scholar Tanya Titchkosky affirms that “when disability is taken as something that basically does not belong, it allows for the management of disability as an exception,” eventually leading to disabled bodies becoming “essentially excludable.”⁷³ Space is socially produced; it is created through everyday routines and material flows.⁷⁴ In this building, these activities include the simultaneous hosting of parallel events in open-plan areas, the closing of barrier-like doors to section off parts of the building, the unpredictable re-arranging of furniture and other items to accommodate relentless processes of scholarly production, the prioritisation of independence over interdependence. Students and staff, most of whom do not identify as disabled, take control of and gradually shape the space according to their (supposedly standardisable and common-sense) needs and goals, meaning the building becomes moulded to accommodate their activities and their bodies. These spatial interventions make normative bodies “belong,” in Titchkosky’s words, while disabled bodies become “an exception” and “essentially excludable”: they do not partake in these processes of spatial production, and their needs are not reflected in this architectural authorship.

⁷¹ Jess Thom.

⁷² Jess Thom.

⁷³ Titchkosky, *The Question of Access*, pp. 34; 39.

⁷⁴ M. de Certeau, S. Rendall, *The Practice of Everyday*, University of California Press, Berkeley, 1984; H. Lefebvre, *The Production of Space*, Blackwell, Oxford, 1991.



Figure 8. A table whose accompanying chairs disappeared during the visit. Photo by Jessica Ryan-Ndegwa.

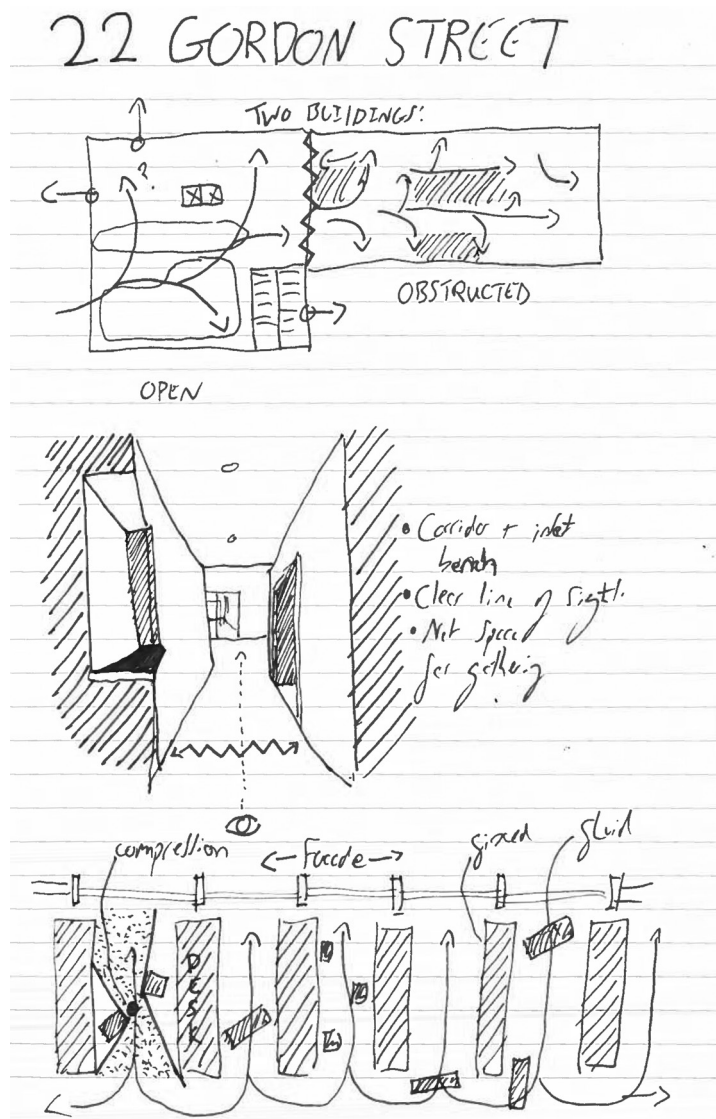


Figure 9. "Tight spaces I can't fit in and items at heights I can't reach." Drawing by Jordan Whitewood-Neal.

CONCLUSION

“Spaces speak and have their own language; this space is an eclectic polyglot.”⁷⁵

The aim of this study was to consider how using empathy as a method for considering architecture might highlight the many mechanisms of spatial and social exclusion which the common focus on access and legal compliance continues to disregard, devalue, and ultimately erase. Empathy was understood not as *feeling-for* but as *solidarity-with* disability—in other words: as paying attention to a variety of modes of being, relating, and knowing in space.

Of course, as Garland-Thompson states, “[t]o embrace the supposedly flawed body of disability is to critique [...] fantasies of wholeness, unity, coherence, and completeness. The disabled body is contradiction, ambiguity, and partiality incarnate.”⁷⁶ As such, many insights were complex and dissonant: items placed on the floor were useful markers for blind participants but obstacles for wheelchair users; partitions stopping short of meeting the ceiling gave Deaf participants a helpful connection to the next space but caused a contributor with Tourette’s Syndrome to worry about being heard; neurodivergent participants found the many reflective materials overwhelming while Deaf contributors suggested installing more mirrored surfaces to create helpful sightlines; the blind participants worried about getting lost in the larger open-plan spaces while these were most easy to negotiate for wheelchair users. Part of developing a better understanding of diverse disabled experiences of built space is to recognise that whilst there will sometimes be alignments, there will also be tensions and contradictions (indeed, within disability ‘categories’ as much as between them.)

Still, participants’ experiences frequently complemented each other. There were many positive comments for this building which was, in many ways, reviewed as welcoming, accessible, and enjoyable. On the other hands, the contributors highlighted the many ways in which spaces, architectural details, and assumed patterns of inhabitation did not recognise multiple ways of being in the world but rather enforced non-disabled and neurotypical standards.

For one, the building made clear assumptions about who is expected—without difficulty or special accommodation—inside its walls,

⁷⁵ Natasha Trotman.

⁷⁶ R. Garland-Thomson, “Integrating Disability, Transforming Feminist Theory,” *NWSA journal*, 14, 3, 2002, p. 28.

in which role and in what numbers they are expected, and who is ‘out of place’ in the environments of higher education. The informal, mixed use and multi-layered spaces may have many benefits, but they reproduce dominant ideals of academic performance by envisaging a user who is endlessly energetic, hyper mobile, visually oriented, and always ‘on,’ casting this normative *bodymind* as a requirement for university life.

Furthermore, participants noted that norms oriented bodies in space. The monumental staircase was presented as the ‘normal’ path or vertical circulation, with the lift of clear secondary architectural importance. Visual wayfinding was assumed suitable for all, with no consideration for auditory or sensory clues as potentially central for orientation. Questions around what types of movement, whose need for comfort, and what energy levels are legitimate also arose. Buildings designed empathetically would take these aspects more centrally into account.

Finally, day-to-day spatial authorship—the use of open plan spaces to run several events in parallel, the closing of doors intended to remain open, the appropriation of space to accommodate speedy production – normalises certain practices and bodies. As such, it casts rest, slowness, variability, and difference as ‘other’ and ‘essentially excludable’, preventing opportunities to create spaces where multiple body types and sensory needs are also seen as normal.⁷⁷

There is no one-size-fits-all model for architecture; bodies, minds, and experiences differ (and intersect!) in fundamental ways. Still, design empathy resides in *staying with the problem* and working with and through such dissonant experiences to arrive at a different model of sharing, living and learning together in the same university building.⁷⁸ Architects can work with flexible, negotiable, and just systems that respect bodily diversity, start from inclusive approaches (rather than designing for ‘normal’ *bodyminds* before adding access elements to include those who we have already been left out) and actively challenge normative assumptions. Estates teams can go beyond mere compliance, starting from the premise that disabled individuals are already present on campus and that their insights should be central from the outset of any building project. The power of design processes, in other words, must be re-distributed and the roles of architects and estate teams shifted from expert problem-solvers

⁷⁷ T. Titchkosky, *The Question of Access*, pp. 34–39.

⁷⁸ D. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*, Duke University Press, Durham, 2016.

to empathetic listeners, collaborators, and co-designers (as recently modelled by Maria Kramer) with the aim of building a world that assumes all bodies in it.⁷⁹ Aligning design processes more closely with the disability rights mantra “nothing about us without us” will serve everyone: as Natalia Pérez Liebergesell and Ann Heylighen’s article in this issue points out, all of us—disabled or non-disabled—benefit from good design features.⁸⁰

The built environment only becomes meaningful when it anticipates the fullness of human experience. Thinking across bodies, standpoints, and experiences—with *empathy and solidarity*—this study thus aligns with scholarship urging architecture to work toward disability, social and spatial justice and with architectural practitioners moving beyond compliance, challenging normative body assumptions, and expanding design imagination.

To change how architecture understands bodies, space, power, and design responsibility, much needs to be done, so it is fortunate that the door to this university building—heavy as it may be, missing a vision panel in a glass facade, and hidden in a recess—remains open for future conversation:

“So yeah. I would return here.”⁸¹

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⁸⁰ N. Pérez Liebergesell, A. Heylighen, “Resonance Across Critical Users: An Invitation to Approach Diversity in Architectural Design Qualitatively,” *Khôrein*, 4, 2, 2026, pp. 11–42.

⁸¹ Mandy Redvers-Rowe.

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David Serlin*

THE SCENTS OF EMPATHY: HOW MUSSOLINI'S ARCHITECT TRANSFORMED ASYLUM DESIGN

ABSTRACT: This essay examines the co-evolution of designing psychiatric spaces and sensory experiences for patients imagined to be the beneficiaries of such spaces. In 1905, architect Marcello Piacentini proposed a campus for a new psychiatric asylum, *Il progetto Ophelia*, in the medieval town of Potenza in southern Italy, which deliberately deployed principles of sensory-oriented design for therapeutic purposes. Two decades later, Piacentini helped to convert the abandoned asylum campus into an administrative center for Benito Mussolini's Fascist government. Thinking about sensory design as a form of empathic architecture, I compare Piacentini's asylum with that of *Le centre de jour L'Adamant*, a day center for patients under psychiatric care that opened in 2010 on a floating barge on the Seine in central Paris. *Il progetto Ophelia* and *Le centre de jour L'Adamant* both enable historians and philosophers to wrestle with the possibilities and limitations of practicing an ethos of architectural empathy.

KEYWORDS: Piacentini, asylum, empathy, sensory, psychiatric

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History hurts, but not only. It also engenders optimism and disappointment, aggressions that respond to the oppressive presence of what dominates or is taken-for-granted. Both emotions are responses to prospects for change.¹

INTRODUCTION

In 1905, a twenty-four-year-old Roman architect named Marcello Piacentini won the competition to design a new asylum to be built in Potenza, the capital city of the province of Basilicata in southern Italy (Figure 1). The *manicomio*—Italian for “asylum” but also used colloquially for “madhouse”—was created to care for people from across the region with what we would now identify as psychiatric or intellectual disabilities. Local boosters celebrated Piacentini’s winning design by christening it with the name *Il progetto Ophelia* (“The Ophelia Project”), reflecting popular associations between madness and, as one contemporary newspaper editor commented, “the delicate and blond female creation of Shakespeare.”² Piacentini’s winning design adapted features associated with asylums and hospitals that the young architect had visited in northern Italy. These sites deliberately deployed the principles of sensory-oriented design that draw upon the idea that stimulating a patient’s sensorium might result in a heightened awareness that, under the right conditions, could be therapeutic. For instance, Piacentini designed a utility tunnel below the *manicomio*’s north-south axis, which could be used for moving goods or laundry along a short railway track. The darkened tunnel also could be used for producing sensory experiences—sounds, smells, vibrations—to soothe the asylum’s most aggressive inmates.

Piacentini’s asylum design did not survive the economic fallout of World War I, which forced the provincial Basilicata government to abandon *Il progetto Ophelia*, leaving the site only half-finished and its architect’s full vision unfulfilled. Construction resumed on the site a decade later following the election of Benito Mussolini in 1922. Piacentini, now in his mid-40s and one of Il Duce’s favorites, was brought back to oversee the conversion of the campus into a regional center for the technocratic

¹ L. Berlant, “Two Girls, Fat and Thin,” in S. Barber, D. Clark (eds.), *Regarding Sedgwick: Essays on Queer Culture and Critical Theory*, Routledge, New York, 2002, p. 71.

² “Per Il Manicomio Provinciale in Potenza,” *Il Locano*, October 12–13, 1906, p. 1.



Figure 1. Stylized postcard illustrating the future “new provincial asylum” of Potenza embedded in a classical landscape. The postcard marks the laying of the manicomio’s foundation stone in September 1907, the centenary anniversary of Potenza becoming the capital of the province of Basilicata. Published by Fototipia Danesi, Roma, ca. 1907.

functions of the Fascist government.³ The original utility tunnel was renamed *Il Covo degli arditi*—"the den of the hardy ones"—and used to showcase the imperious Mussolini's collection of Rolls-Royce motorcars. Today, most of Piacentini's original buildings are still extant, having been converted into private houses and apartment buildings in the intervening decades. And despite the commercial development of the area just beyond the asylum's original boundaries, the footprint of the entire *Il progetto Ophelia* site remains surprisingly intact. How might one begin to make sense of the various architectural, political, and experiential entanglements that characterize the historical arc of this site—from award-winning asylum to fascist administrative center to private housing for local residents of Potenza?

When I first learned about Piacentini's *manicomio* about two decades ago, I assumed that the crux of its story was the degradation of Piacentini's initial concept—from an innovative campus designed for a maligned and mistreated population, to an administrative complex created for a political regime whose policies involved isolating, sterilizing, and euthanizing that same population. Beginning in the 1920s, the Italian Society of Psychiatry, which provided oversight for the construction of psychiatric asylums across Italy, became professionally aligned with the Fascist Party and implemented eugenical policies across its many platforms.⁴ Yet two decades earlier, Piacentini had demonstrated an unprecedented and remarkably sensitive architectural vocabulary at a time when the vast majority of comparable institutions throughout Europe and the United States were designed to discipline bodies into psychic and somatic submission. I became increasingly convinced that the central lesson of *Il progetto Ophelia* was about profound loss—specifically, the loss of a young person's empathy for vulnerable populations in need.

This essay is a meditation on the possibilities, as well as the limitations, of practicing an ethos of architectural empathy. I follow the

³ For more about architecture and urbanism during the Fascist period, see, for example, R. Etlin, *Modernism in Italian Architecture, 1890–1940*, MIT Press, Cambridge, Mass., 1991, and, more recently, P. Nicoloso, *Mussolini, Architect: Propaganda and Urban Landscape in Fascist Italy*, University of Toronto Press, Toronto, 2022. See also I. G. Galán, *Furnishing Fascism: Modernist Design and Politics in Italy*, University of Minnesota Press, Minneapolis, 2025.

⁴ See "Schedati, perseguitati, sterminati: i malati psichici e disabili durante nazionalsocialismo e fascismo," *Disabili Online* (26 June 2019), <https://www.disabili.com/amici-e-incontri/articoli-amici/schedati-perseguitati-sterminati-i-malati-psichici-e-disabili-durante-nazionalsocialismo-e-fascismo> (accessed 20 June 2026).

co-evolution of designing psychiatric spaces and sensory experiences, for those imagined to be the beneficiaries of such spaces, from the early twentieth century to the contemporary moment. The essay is divided into four parts. In the first part, I provide a historical overview of sensory-oriented design and its relationship to architectural empathy. In the second, I trace the specific contours of the sensory design elements Piacentini used for *Il progetto Ophelia* as compared to those of other psychiatric spaces in Italy. In the third part, I provide a point of contrast with *Il progetto Ophelia* by examining a contemporary architectural project that also deploys sensory design: *Le centre de jour L'Adamant* (the Adamant Day Centre), a non-residential psychiatric space for adults that opened in 2010 on a decommissioned barge floating on the Seine in central Paris. In the fourth and concluding section, I take a step back and reflect on how a century of empathic design – bookended by psychiatric spaces like *Il progetto Ophelia* and *Le centre de jour L'Adamant*—enables historians and philosophers to wrestle with the meaning of architectural empathy itself, especially since psychiatric spaces have a specific set of histories, very few of which have been uniformly positive or even remotely empathic.

Thinking retrospectively about *Il progetto Ophelia* provides a window on the early neglected work of a controversial figure within the history of Italian architecture. Despite being the front cover subject of the December 1906 issue of *L'Architettura italiana*, the country's most prestigious publication for professional architects, Piacentini's *manicomio di Potenza* has not been cited in any significant historical or curatorial interpretations of the architect's life and work.⁵ Whether this is due to the site's obscurity, its lack of documentation, or simply because its design is so outside of the recognizable gestalt of Piacentini's reputation as an architect of Italian fascism is unclear.⁶ *Il progetto Ophelia* also gets short shrift in histories of psychiatric architecture and histories of public health in Italy at both the regional and national levels. Yet one could argue that Piacentini's decision to apply sensory design elements to psychiatric spaces is not only significant for understanding the trajectory of Piacentini's

⁵ C. Crudo, "Manicomio di Potenza," *L'Architettura italiana*, 3, 1906, pp. 9–11.

⁶ Most scholarship on Piacentini tends to focus on his work in the 1920s, by which point his reputation throughout Italy was well-established and the *manicomio* in Potenza was forgotten. Even when the asylum is referenced, it tends not to rate scholarly attention as either genealogically linked to Piacentini's later work or as significant in its own right. See, for example, *Marcello Piacentini Architetto 1881–1960*, G. Ciucci, S. Lux, F. Purini (eds.), Gangemi Editore, Rome, 2012.

career. It is also an historically significant example of architecture's capacity to embody multiple and often contradictory forms of modernity. Piacentini's design for *Il progetto Ophelia* provides a provocative case study for what anthropologist Lisa Rofel described over a quarter of a century ago as the phenomenon of "discrepant modernities." Rofel argues that modernity is not a singular or universally applicable blunt-force instrument; it is "something people struggle over because it has *life-affirming* as well as *life-threatening* effects. This struggle is what people share, like the floor of a boxing match (including fixed bets and outcomes), rather than a universal form with its local particulars."⁷ Rofel's characterization of modernity as something "*life-affirming* as well as *life-threatening*" and something case-specific rather than universal is productive for thinking about asylum architecture's multiple and often contradictory spatial, material, and philosophical relationships to the practice of empathy. As I will show, the discrepant modernities embodied in *Il progetto Ophelia* provide a multilayered approach to understanding the seeming incompatibility of empathy within the conventional architectural logics of the *manicomio*.

I. SENSORY DESIGN AS A MEDIUM OF ARCHITECTURAL EMPATHY

Empathy is sometimes defined as a two-way form of mutual learning between two entities, each of whom contributes to a shared emotional or psychic transformation. But empathy is not just the feeling of compassion or sensitivity for another person's condition. Empathy is a type of emotional circuitry, a medium through which two entities develop an empathic bond. It may be a word, a glance, a nod, a pat on the shoulder, a kiss on the forehead—or, as Marcello Piacentini proposed through the campus of *Il progetto Ophelia*, an invitation to occupy and encounter space in ways that make full use of the sensorium.

Most historians of architecture and historians of disability—and those who have synthesized both of those areas of scholarship together—do not find much evidence of empathy in nineteenth- and twentieth-century psychiatric asylums.⁸ Institutions of care have a complex historical

⁷ L. Rofel, "Discrepant Modernities and Their Discontents," *positions*, 9, 3, 2001, p. 638, emphasis mine.

⁸ For some prominent examples of this scholarship, see L. Topp, "An Architecture for Modern Nerves: Josef Hoffmann's Purkersdorf Sanatorium," *Journal of the Society of Architectural Historians*, 56, 4, 1997, pp. 414–437; L. Topp, *Freedom and the Cage: Modern*

relationship to empathy because of the ways that care is practiced through the application of medical expertise, and often through coercive means in isolated and controlled settings. In the 1970s, disability rights activists identified this approach as the medical model of disability, one sharply critical of the helping professions. For activists, medical interventions that attempt to “fix” individuals violate principles of autonomy and dignity and consent. This is why disability critiques of asylum, hospital, and clinical architecture have been and remain deeply suspicious of the often-ahistorical claims of empathic design.

The rise of such institutions since the eighteenth century is a spatial manifestation of these interventions, which can be seen in different medical, psychiatric, and prison contexts. This is especially true in examples of urban planning where the spatial segregation of incarcerated people to the outermost rings of a metropolitan region was standard practice for decades. By the early twentieth century, asylum architecture served as the central medium in implementing and maintaining eugenic-oriented policies.⁹ As Sarah Whitt, Traci Brynne Voyles, and Susan Burch have discussed in their overview of psychiatric asylums for indigenous people in the United States,

Medical reports systematically uncouple people from the space holding them, the material realities of their lives [...] [L]ocked wards, the hallways and bedrooms, are rendered invisible; staff members’ medical gaze appears in institutional files as objective and unplaced [...] [C]onfinement within a psychiatric institution becomes itself justification for sustained detention and an eclipsing lens through which they are judged and documented. The process of institutionalization and institutional reporting—by design—edits out moments of agency and personhood.¹⁰

Architecture and Psychiatry in Central Europe, 1890–1914, Pennsylvania State University Press, University Park, 2017; C. Yanni, *The Architecture of Madness: Insane Asylums in the United States*, University of Minnesota Press, Minneapolis, 2007; M. Rembis, *Disabling the Poor: The Insane, the Feeble-minded, and the Bureaucratic State in the Early Twentieth Century*, Palgrave, New York, 2011; A. Hamraie, *Building Access: Universal Design and the Politics of Disability*, University of Minnesota Press, Minneapolis, 2017; and B. Williamson, *Accessible America: A History of Disability and Design*, New York University Press, New York, 2019.

⁹ See, for example, A. Minna Stern, *Eugenic Nation: Faults and Frontiers of Better Breeding in Modern America*, University of California Press, Berkeley, 2005.

¹⁰ S. Whitt, T. Brynne Voyles, and S. Burch, “Settler Ableism: Indigeneity, Unsettling the Archive, and Accountability in History,” in J. L. Barclay, S. Huntington-Kennedy (eds.),

If evidence of architectural empathy, or any kind of empathic practice, in such institutional spaces is noticeably lacking, evidence of sensory design used in the service of architectural empathy would seem to be lacking as well. But sensory design builds upon thousands of years of using architecture to engage the human body through multisensory means in order to produce particular affective responses. As architectural historian Bernard Rudofsky showed six decades ago, those who have built and occupied spaces in disparate geographies and climates have long understood the porousness of the human sensorium, whether for physical comfort or aesthetic appreciation or metaphysical inspiration.¹¹ For thousands of years, sensory-oriented design has included manipulation of light and air in religious and community buildings, herbal gardens for controlling and purifying odors, the uses of inner rooms, courtyards, and roofs for absorbing and dispersing heat, and the development of ventilation systems for bringing fresh or conditioned air into offices, apartments, and private homes.¹² Despite these legacies, sensory design is often mischaracterized as a type of design novelty. The Minnesota-based company, St. Croix Sensory, for instance, has been for nearly five decades at the vanguard of using sensory design in commercial applications as varied as museums, department stores, and carnival entertainments. These are forms of immersive theatre that are not unlike those nineteenth-century popular spectacles that used environmental effects like scent and temperature alongside sight and sound to make historical events like the eruption of Mount Vesuvius or the San Francisco earthquake into embodied, multidimensional experiences.¹³

In recent years, many scholars have “rediscovered” sensory design, often drawing upon the work of philosophers like Maurice Merleau-Ponty, Gaston Bachelard, and Yi-Fu Tuan.¹⁴ Architectural theorists such as Ju-

Crippling the Archive: Disability, History, and Power, University of Illinois Press, Urbana, 2025, p. 197.

¹¹ B. Rudofsky, *Architecture Without Architects: A Short Introduction to Non-Pedigreed Architecture*, University of New Mexico Press, Albuquerque, 1987.

¹² D. Gissen, *Subnature: Architecture's Other Environments*, MIT Press, Cambridge, Mass., 2013.

¹³ See A. Friedberg, “The Mobilized and Virtualized Gaze in Modernity: Flâneur/Flâneuse,” in N. Mirzoeff (ed.), *The Visual Culture Reader*, 3rd ed., Routledge, New York, 2012, pp. 395–404.

¹⁴ See, for example, M. Merleau-Ponty, *Phenomenology of Perception*, Routledge, London, 2007; G. Bachelard, *The Poetics of Space*, Beacon Press, Boston, 1994; Y. Tuan, *Space and Place: The Perspective of Experience*, University of Minnesota Press, Minneapolis, 2001. For some contemporary examples, see P. Devlieger, F. Renders, H. Froyen, and K. Wildiers

hani Pallasmaa, Peter Zumthor, and Jorge Otero-Pailos have championed forms of sensory design as a direct challenge to modernist minimalism or postmodern irony by rescuing experiential dimensions of knowing and navigating a space from the machinations of the merely functional.¹⁵ Architectural historian Barbara Penner describes how adapters of design principles in the 1980s that sought to be more inclusive of different kinds of user experiences often used the word “empathy” as if discovering that concept for the first time.¹⁶ Still, for mainstream or conventional architects, sensory design, especially when it foregrounds and/or emphasizes unconventional uses of smell, touch, and taste, continues to be an outlier. As architectural theorist Bruce Mau has argued, “We have allowed two of our sensory domains—sight and sound—to dominate our design imagination. In fact, when it comes to the culture of architecture and design, we create and produce almost exclusively for one sense—the visual.”¹⁷

Sensory design is arguably the most recognizable form through which architectural empathy is expressed—not only in its capacity to produce emotional or psychological effects but to make palpable an empathic connection between the architect and their user. Some emerge from classical or neoclassical designs that sought to give spiritual and metaphysical heft to the experience of space, such as the oculus of the Roman Pantheon’s great rotunda (CE 126) that allows in every type of light and weather, or the convex proportions of the “whispering gallery” at St. Paul’s Cathedral in London (Christopher Wren, 1710). The sensorial properties of these architectural feats have been replicated for centuries in private and public spaces across the globe. One could see similar metaphysical efforts in the light emerging from a slender wall-sized crucifix floating behind the altar of the Church of the Light in Ibaraki, Japan (Tadao Ando, 1989),

(eds.), *Blindness and Multisensorial City*, Garant, Antwerp, 2006, and V. Henshaw, *Urban Smellscapes: Understanding and Designing City Smell Environments*, Routledge, London, 2013.

¹⁵ See, for example, J. Pallasmaa, *The Eyes of the Skin: Architecture and the Senses*, John Wiley and Sons, New York, 2005; P. Zumthor, *Atmospheres*, Birkhäuser, Boston, 2005; and J. Otero-Pailos, *Architecture’s Historical Turn: Phenomenology and the Rise of the Postmodern*, University of Minnesota Press, Minneapolis, 2010. See also D. Serlin, *Window Shopping with Helen Keller: Architecture and Disability in Modern Culture*, University of Chicago Press, Chicago, 2025, pp. 1–29.

¹⁶ B. Penner, “From Ergonomics to Empathy: Herman Miller and MetaForm,” in *The Routledge Companion to Design Studies*, P. Sparke, F. Fisher (eds.), Routledge, New York / London, 2016, pp. 269–281.

¹⁷ Mau (2018), quoted in C. Spence, “Senses of Place: Architectural Design for the Multisensory Mind,” *Cognitive Research: Principles and Implications*, 5, 46, 2020, p. 2.

a work of sensory design embedded in remarkable feat of modern concrete engineering. The Jewish Museum Berlin (Daniel Libeskind, 2001) famously contains spatial “voids” reflecting the disappearance of Jewish community and memory that culminate in its 80-foot-high Holocaust Tower, designed deliberately to deprive visitors of warmth in winter or cooling effect in summer. The Sea Organ in Zadar, Croatia (Nikola Bašić, 2005), encourages visitors to lay down upon giant marble steps that sit above underwater intake pipes, which transform the kinetic motion of ocean waves into sound.

Other contemporary architectural projects use sensory design for health and pedagogy-oriented purposes. These include the physical application of healing plants, herbs, and botanical oils to the walls and interiors of hospitals and clinics—what Lance Hosey, the late architect and proselytizing proponent for sensory design, once called “medicinal urbanism.”¹⁸ The Hazelwood School in Glasgow (Gordon Murray + Alan Dunlop, 2008), a state school designed for deafblind students, uses sunlight and color as well as curvilinear walls textured with applied cork to enable students to “trail” (navigating through their sense of touch) the school’s layout, independent from helpers or parents or other forms of adult supervision.¹⁹ Similar uses of sensory design to facilitate navigation can be found in public projects like *La Biblioteca para Ciegos y Débiles visuales* (Library for the Blind and Visually Impaired) in Mexico City (Mauricio Rocha + Gabriela Carrillo, 2013), where textures and vibrations help differentiate transitions and thresholds from other library functions. “We do not design solely for the blind, or for the sighted,” Carrillo reflected in 2020, “but to maintain that attention to the senses.”²⁰

2. SENSORY DESIGN COMES TO THE *MANICOMIO*

Beginning in the eighteenth century, sensory designs were increasingly used in hospital settings for the wealthy, just as they were for their elite counterparts, for the purposes of producing experiences for aesthetic or metaphysical sublimity. Alvar Aalto’s famous Paimio Clinic in Paimio, Finland (1929) is typically cited as a modernist masterpiece of sensory

¹⁸ L. Hosey, “Scent and the City,” *New York Times*, October 25, 2013, Section SR, p. 12.

¹⁹ For more about Murray and Dunlop’s approach to the design of the Hazelwood School, see <https://www.idesignawards.com/winners-old/zoom.php?eid=2509-08> (accessed 20 June 2026).

²⁰ G. Carrillo, “Building for the Blind,” *The Architectural Review* (April 2020), <https://www.architectural-review.com/buildings/building-for-the-blind> (accessed 20 June 2026).

design given its focus on plentiful sunlight, open-air terraces, and molded plywood furniture that enabled improved breathing for its tubercular patients. But such spaces targeted upper-middle-class users, those who already enjoyed design as part of their cultural entitlement. By contrast, architectural forms used in public psychiatric asylums were characteristically aligned with a worldview governed more by Benthamite rationality rather than by Lockean sensuality, which had been so central to empirical sciences of the Enlightenment era. Sensory-oriented designs for people who we might identify today as neurodivergent or neuroatypical, such as “hugging” furniture for people on the autism spectrum, is a fairly recent turn in contemporary practice.²¹

Piacentini’s revolutionary move was to make sensory design a component of the experience of *Il progetto Ophelia* for all users regardless of their status (Figure 2). His design aspired to facilitate the ideal spatial and sensorial conditions under which a person might encounter and confront their own emotional and psychic inner life. Piacentini was inspired by institutions in central and northern Italy that were seen as models of modern care. Many psychiatric asylums outside of cities like Turin, Bologna, and Florence were decentralized and organized around a “campus” layout with inmates housed in separate buildings (as opposed to one large building) attached to landscaped gardens and other areas for supervised walks and contemplation.²² These were institutions that built upon traditional scholastic and ecclesiastical architecture with colonnades facing a central piazza or quadrangle.²³ For Piacentini, techniques of sensory design were intended to engage the promises of scientific modernity and draw attention to the project’s profile within contemporary urban planning

²¹ See, for example, C. Josefson, “Toward a Neuroinclusive Culture: Designing Neuroinclusivity with Triple Empathy Theory,” *Disability & Society*, 40, 9, 2025, pp. 2588–2611. See also H. Hummerstone and S. Parsons, “Co-Designing Methods with Autistic Students to Facilitate Discussions of Sensory Preferences with School Staff: Exploring the Double Empathy Problem,” *International Journal of Research & Method in Education*, 46, 1, 2023, pp. 70–82.

²² Turin’s facility was designed from the ground up in 1899, while Bologna’s facility was repurposed from an existing eighteenth-century monastery. See A. Cerea, “L’Istituto Medico-Pedagogico Emiliano: Da San Giovanni in Persiceto a Bertalia,” in *La Scienza dell’Infanzia a Bologna-Ricerca Idee Salute Mentale Emilia-Romagna* (2011–2013), <http://www.risme.cittametropolitana.bo.it/mente-salute-mentale-percorsi/storia-infanzia-bologna/istituto-medico-pedagogico-emiliano.html> (accessed 20 June 2026).

²³ This was something of a self-referential carnival mirror, since many of these designs in central and northern cities like Turin and Florence were rediscoveries, by Palladio, of classical architecture in ancient Rome.

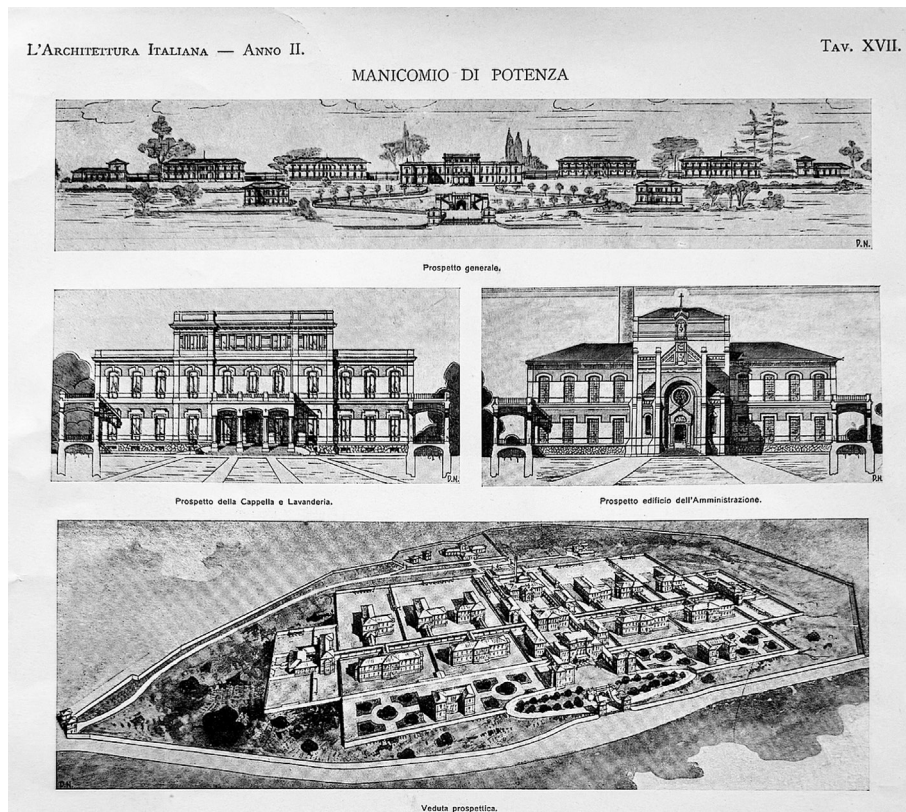


Figure 2. Perspective view (*veduta prospettica*) of the proposed “Manicomio di Potenza” designed by Marcello Piacentini and engineered by Giuseppe Quaroni, ca. 1905. Published in *L'Architettura italiana*, vol. 2, table XVII, C. Crudo & Co., Torino, 1907.

circles. This is because *Il progetto Ophelia* was designed as an institution of broad public welfare that included many different populations in need, not just patients in a “madhouse.” Even as a young and still-inexperienced architect, Piacentini was committed to making what the historian Gianna Frosali has called “urban interventions.”²⁴ According to archivist Clementina Barucci, Piacentini had a long and abiding interest in architecture’s relationship to urban form and urban culture.²⁵ He was deeply influenced by Renaissance heavyweights like Filippo Brunelleschi, the architect of St. Peter’s Square at the Vatican, and Andrea Palladio, whose neoclassical forms influenced architecture across Europe for centuries.²⁶ Even the perspective drawings offered a neoclassical-inspired callback to an earlier era when architects and planners were trained to think of forms of multisensory design as foundational to an active public architecture.²⁷

Drawing upon Renaissance philosophies of humanism that were central to the education of Italian architecture students in the late nineteenth century, Piacentini sought to produce therapeutic conditions through garden design, building arrangements, and underground infrastructure. He recognized that making the *manicomio* a visible part of the general urban fabric—any travelers by train or horse-drawn carriage would see a new modern facility—would enable informed viewers to associate his work with a type of urbanity derived from the aspirations of his Renaissance heroes. Piacentini, in other words, was not only designing architecture to be used materially by a specific population; he was also designing architecture to be used symbolically for a general population of a long neglected and impoverished region of Italy. Working with structural engineer Giuseppe Quaroni, Piacentini laid out a formal campus design that looked nothing like the medieval town atop Potenza’s ancient hilltop. This brought an air of modern architectural sophistication to an economically challenged province of Italy deprived of the celebrated urbanities of southern Italian cities like Rome, Naples, and Bari.

²⁴ G. Frosali, “Il ‘Fondo Piacentini’ alla Facoltà di Architettura di Firenze,” in *Marcello Piacentini Architetto 1881–1960*, p. 333.

²⁵ C. Barucci, “La Biblioteca di Marcello Piacentini,” in *Marcello Piacentini Architetto 1881–1960*, pp. 72–83.

²⁶ See C. Stevenson, *Medicine and Magnificence: British Hospital and Asylum Architecture, 1660–1815*, Yale University Press, New Haven, 2000.

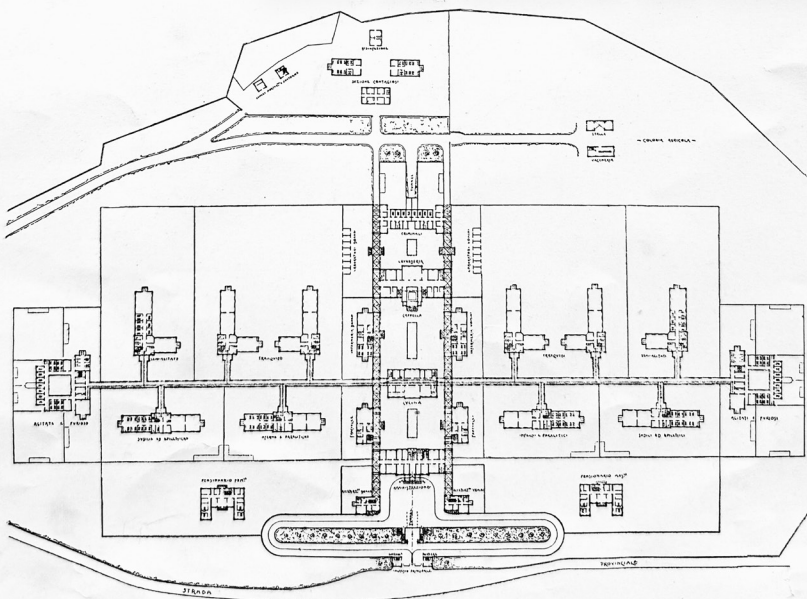
²⁷ See, for example, C. Classen, “Museum Manners: The Sensory Life of the Early Museum,” *Journal of Social History*, 40, 4, 2007, pp. 895–914; and F. Candlin, *Art, Museums, and Touch*, Manchester University Press, Manchester, 2010.

Piacentini's design followed a cruciform shape, with the north-south axis centering administrative functions and the east-west axis housing asylum residents in buildings positioned at intervals, their distance from the administrative center a reflection of their occupants' relationship to their diagnosed conditions (Figure 3). Separated by gender, with women to the west and men to the east, capacity for the asylum's total population was imagined for a maximum of 300 residents, or 150 adults of each gender.²⁸ Along the north-south axis were the asylum's "core" institutional functions including laboratories, laundry, kitchen, chapel, and administrative offices for psychiatrists and their support staff. Here one would also find designated spaces for housing inmates who had committed petty crimes and inmates treated for temporary bouts of illness. Directly to the south of the guarded entrance were gender-segregated buildings for old-age pensioners, while directly northwest of the administration were outbuildings for isolating those with contagious illnesses as well as disinfection rooms, a mortuary, and an anatomical clinic.

Each building along the east-west axis of *Il progetto Ophelia* had its own identity and contained private gardens, courtyards, and walkways – some more segregated than others, depending on the psychological profile of the inmates – that were intended to approximate the flow of urban apartment complexes and housing estates. The journal *L'Architettura italiana* shared how Piacentini had aligned the location of each buildings with their intended residents: the *agitati e furiosi* ("violent and enraged"), *sudici* ("filthy"), *epilettici* ("epileptic"), *semi-agitati* ("semi-violent"), *tranquili* ("peaceful"), *infermi e paralitici* ("sick and paralyzed"). The *agitati e furiosi* of each gender were positioned furthest from the administrative center as possible, while the *infermi e paralitici* of each gender were positioned the closest, reflecting a spatial hierarchy of proximity to danger and safety derived from the layouts of urban prisons and hospital wards. As Cristoforo Crudo, the noted Italian architecture critic, observed in 1906,

The wards for the *paralitici*, *infermi*, *sudici*, and *epilettici* were arranged toward the provincial road and those for the *tranquili* and *semi-agitati* patients are placed towards the rear, near the railway; in

²⁸ C. Crudo, "Manicomio di Potenza," p. 9. See also M. Piacentini and G. Quaroni, "Ancora sull'architettura manicomiale," *Bollettino della Società degli Ingegneri e degli Architetti italiani*, 14, 1906, pp. 700–703.



Planimetria generale.

ARCH. M. PIACENTINI E ING. G. QUARONI.

CRUDO E LATTUADA, EDITORI - TORINO.

Figure 3. General plan (*planimetria generale*) for the "Manicomio di Potenza." The utility tunnel runs underneath the north-south axis at the center of the image. Published in *L'Architettura italiana*, vol. 2, table XVII, C. Crudo & Co., Torino, 1907.

this way, the unpleasant possibility of hearing the patients' shouts from the provincial road is avoided, while the patients themselves can enjoy maximum freedom in the rear section of the facility.²⁹

It is hard to say with absolute certainty how these designations translate into a twenty-first-century context without speculation. Some seem less ambiguous than others; for example, at the center of the cruciform where the axes meet were dormitories for male and female children with what today we might identify as intellectual or developmental disabilities. They were identified unapologetically in the brutal eugenics-informed language of the era as *deficienti* or *idioti*. Other categories of diagnosis are ontologically unstable, though they are always a window, however opaque, into the presumptions of medical science. Yet one could argue that, even within the expected conventions of the *manicomio*, Piacentini understood that a spectrum of behavioral or psychological differences could be physically addressed and experienced through a spatial framework. Beyond landscaping, each of the buildings could be tuned to the most characteristic traits associated with the individuals identified by these diagnostic categories. This produced small-scale domestic buildings of no more than three floors, with high ceilings, abundant windows and ventilation, and bathing and toilet facilities that were more upscale apartment living than austere hospital ward.

Piacentini's attempt to align physical space and physical experience in a kind of one-to-one relationship has dual implications for thinking about reconstructions of architectural empathy. His designs simultaneously register a form of humanistic recognition of embodied difference at the same time that they register a form of scientific control. Perhaps the most profound example of this is in the utility tunnel that, although blocked off, still runs below the north-south axis of the site (Figure 4). When it was not being used for transporting goods, food, or laundry, or other care functions necessary for long-term institutions, the tunnel was emptied of railroad cars and service workers and temporarily converted into an enclosed theater of sensory design intended to address behavior perceived as dangerous or violent.³⁰ Lined in white ceramic tiles that could be cleaned and sterilized as needed, the tunnel was used to

²⁹ C. Crudo, "Manicomio di Potenza," p. 10.

³⁰ M. Piacentini, "Il progetto premiato pel manicomio di Potenza," *Bollettino della Società degli Ingegneri e degli Architetti italiani*, 14, 37–38, 1906, pp. 556–565.



Figure 4. View of the utility tunnel built along the north-south axis of *Il progetto Opbelia*, used for producing therapeutic sensory encounters when it was not being used for transporting goods or food or laundry. Photograph by David Serlin, late July 2021.

introduce *agitati e furiosi* to vibrations or sounds or smells associated with sweetness and calm—an immersive albeit controlled environment that functioned as the equivalent to the gardens and courtyards adjacent to each building across the entire campus. The tunnel was thus not a space of punishment but one of potential enlightenment; not a space of sensory deprivation but one of sensory *abbondanza*.

It may be true that Piacentini did not design *Il progetto Ophelia* merely to produce sensorial designs for aesthetic purposes; instead, it was a means to an end, a confirmation of professional expertise in the service of psychiatric treatment. But it was also an interpenetration between and across discrepant modernities that coexisted temporally and spatially in the same site. Even if some of Piacentini's designs for psychiatric space resonated with some forms of eugenicist thinking, his use of sensory elements also arguably planted the seeds for forms of empathic attunement to neurological and cognitive differences that would not blossom until many decades into the future. For about five years—from about 1910 to 1915—the first phase of *Il progetto Ophelia* served as both model and conduit for architectural empathy in the most unlikely of places, influencing not only the campus as a physical site but also how it might look, feel, smell, and sound for its residents.

3. ARCHITECTURAL EMPATHY FROM OPHELIA TO ADAM

During the 1970s, the Italian psychiatrist and mental health activist Franco Basaglia successfully led a national movement to shut down any institutions across Italy that still used barbaric treatments on psychiatric patients, the legacy of many *manicomi* that survived into the last quarter of the twentieth century.³¹ Basaglia's anti-institution movement was instrumental in passing legislation in 1978, known colloquially as "the Basaglia law," that closed psychiatric asylums and mandated better care for people with psychiatric and mental disabilities. Key to their long-term health, Basaglia argued, were adaptive living arrangements, intimate group structures, and involvement by local housing authorities and community centers in the daily lives of former asylum inmates. Basaglia believed that former patients could be integrated back into the society that once shunned them. For Basaglia, empathy for people in need was not

³¹ For a broad overview of Basaglia's remarkable career, see J. Foot, *The Man Who Closed the Asylums: Franco Basaglia and the Revolution in Mental Health Care*, Verso, New York, 2015.

something that could be delivered, like a package. It was a modulation of feeling across an entire society capable of accommodating multiple subjectivities into a reciprocal framework.

Basaglia's efforts spawned anti-asylum movements across the globe, some of which have resulted in architectural projects around the world—group housing, schools, community centers, and urban planning schemes—created with a range of users and users' needs in mind. Many of these revisit the possibilities of using sensory design in service of a more empathic architecture. One of the most celebrated of these in recent years has been *Le centre de jour L'Adamant* (the Adamant Day Centre), a repurposed decommissioned barge that serves as an outpost of the Hôpitaux Paris Est-Val de Marne health authority.³² *L'Adamant* is the outgrowth of France's own history of deinstitutionalization, which began in earnest after World War Two with what has come to be known as the "sectorization" of mental health—the relocation of psychiatric care from national or regional asylums to community-based centers within local "sectors" in larger towns and cities.³³ Between 2005 and 2010, the architectural firm Seine Design followed the mandate to sectorization by planning and building a structure that would serve the people of the first four *arrondissements* of central Paris. As a site that incorporates elements of empathic architecture, *L'Adamant* remains a dynamic artifact of collaboration between designers, staff psychologists and social workers from Val de Marne's psychiatric outpatient services, and the local residents who spend time there every day.

In Nicolas Philibert's award-winning 2023 documentary *Sur L'Adamant*, viewers become familiar with the barge's three-story structure, shaped like a barbell clad in layers of warm, sun-bleached wood, that rocks gently on the Seine and provides wrap-around terraces for sitting, talking, or staring out across the water³⁴ (Figure 5). Large, communal

³² V. Tischler, "L'Adamant: All Aboard the Art Barge," *The Psychologist*, 26 June 2025, <https://www.bps.org.uk/psychologist/ladamant-all-aboard-art-berge> (accessed 20 June 2026).

³³ For further information about France's history of deinstitutionalization, see for example F. Petitjean, "The Sectorization System in France," *International Journal of Mental Health*, 38, 4, 2009. For a comparison between France's approach to deinstitutionalization and those of other nations, see I. Perera, *The Welfare Workforce: Why Mental Health Care Varies Across Affluent Democracies*, Cambridge University Press, New York, 2025, esp. pp. 116–155.

³⁴ N. Philibert dir., *Sur L'Adamant*, TS Productions and France 3 Cinéma, distributed by Les Films du Losange, 2023.

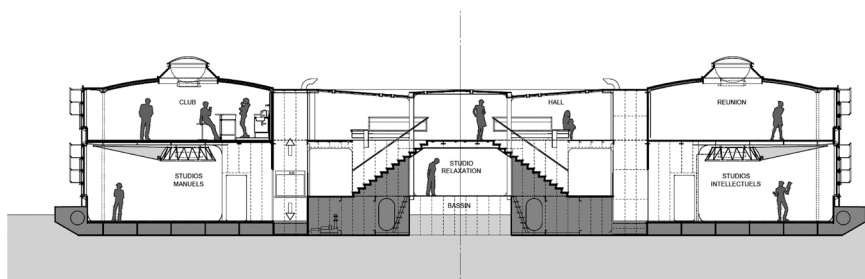


Figure 5. Schematic cross-section showing the various functions across the three floors of *Le centre de jour l'Adamant* barge. Illustration by Seine Design, Paris, ca. 2005. Reproduced with the permission of Seine Design.

group spaces occupy the center of the main floor directly near the entrances, stairs, entrance ramps, and elevator. Small, intimate spaces, which are divided into wedge-shaped rooms for small group activities, occupy the three floors of the convex barbell ends. Communal spaces can be rearranged as needed, offering a sense of flexibility within a sense of permanence—an important feature for a population that has often experienced spatial insecurity. All of the outward-facing rooms of the barbell-shaped wings are fitted with small square working windows that can be darkened by using individual shutters. When opened and closed, the shutters suggest eyelids that telegraph the thoughts of a curious consciousness that lies within.

There are many parallels one could draw between *Il progetto Ophelia* and *L'Adamant* beyond their respective uses of sensory design. Both were mandated as public projects that reflect the responsibility of these two European nations to its citizens. There was no universal health care in either Italy or France in the early twentieth century, but there was a firmly established tradition of local care that long preceded the era of the welfare state. Both projects fulfill this tradition as well as the value of treating architecture as a space devoted to the public good in the era of deinstitutionalization and sectorization. Both also recognize institutions of care as part of the urban fabric. The launch of *L'Adamant* followed decades of reform in mental health treatment and education across Europe that would have been simply unimaginable to Piacentini or medical professionals of his generation.

The differences between these two institutions separated by a century are, of course, profound. Inmates of *Il progetto Ophelia* may have been introduced to sensory design elements as part of a therapeutic program, but they lived in an era long before the arrival of therapeutic design in the form of pharmaceutical drugs. There was no benzodiazepine for the *agitati*, no chlorpromazine for the *furiosi*, and no gabapentin for the *paralittici*. Access to medication has changed the lives of those who use *L'Adamant*, enabling people to move between public and private worlds and obviating arguments for spatial segregation. The presence of pharmaceuticals or the barge itself does not resolve long-standing feelings of isolation and erasure among disabled people, what pioneering disability activist and scholar Paul Longmore once called “social death.”³⁵ But the

³⁵ P. Longmore, *Why I Burned My Book and Other Essays on Disability*, Temple University Press, Philadelphia, 2003, p. 167.

distinctive presence of *L'Adamant*—which sits on the Seine perpendicular to the Pont Charles de Gaulle – works to destigmatize the association between that which is private or hidden and that which can be seen safely inhabiting public space (Figure 6).

L'Adamant's commitment to architectural empathy also follows from a particular set of accomplishments in the historical evolution of disabled design. Accessible architecture as we have come to think about it could only emerge after there was an acknowledgment between the designer(s) doing the work and the recipient(s) of that work. In the 1970s, at approximately the same time that Basaglia was agitating for the closure of asylums across Italy, Raymond Lifchez, a professor of architecture at the University of California, Berkeley, was working with disabled designer(s) and recipient(s) who came from the same communities of Berkeley and Oakland.³⁶ As Ignacio G. Galán has described, their architectural interventions *in situ*—newly built or rebuilt spaces and devices for sleeping, cooking, toileting, or lounging in group homes and apartments, as well as curb cuts carved into city streets—were the direct result of an understanding between designers and users in a mutual co-construction of space.³⁷ Disabled people were the subjects, the objects, and the mediums through which dialectical forms of architectural empathy took shape.

Newspapers in early-twentieth-century Potenza promoted *Il progetto Ophelia* as the “delicate and blond female creation of Shakespeare,” conjuring a respectable metonym to stand in for the madness of its proposed inmates. The name *L'Adamant* seems to have two different, and somewhat competing, origin stories. Some journalists claimed that the name derived from workshop discussions during which the prospective users of the barge advocated for a combination of *adamantine*, the “heart” of a diamond, and *amant*, the French word for lover.³⁸ Others have claimed that prospective users and staff lobbied equally to name the barge in honor of Stuart Goddard, aka Adam Ant, the charismatic lead singer

³⁶ R. Lifchez and B. Winslow, *Design for Independent Living: The Environment and Physically Disabled People*, University of California Press, Berkeley, 1979.

³⁷ See I. G. Galán, “Unlearning Ableism: Design Knowledge, Contested Models, and the Experience of Disability in 1970s Berkeley,” *Journal of Design History*, 36, 1, 2022, pp. 73–92. For further discussions about Lifchez's impact see also B. Williamson, *Accessible America*, and A. Hamraie, *Building Access*.

³⁸ A. Martinez, “L'Adamant, l'hôpital psychiatrique sur la Seine,” *Infirmiers*, 17 January 2011, <https://www.infirmiers.com/profession-ide/ladamant-lhopital-psychiatrique-sur-la-seine> (accessed 20 June 2026). Originally published in *MNH Revue : Le magazine d'information de la MNH* 170 (November 2010).



Figure 6. View of *Le centre de jour l'Adamant* barge in the foreground, which sits permanently anchored on the Seine and is shown here perpendicular to the Pont Charles de Gaulle. Photograph by Sergio Grazia, ca. 2019. Reproduced with the permission of Seine Design.

of the 1980s glam-pirate punk band Adam and the Ants who has lived openly with a bipolar condition since the 1990s.³⁹ Whether one or both stories are true, the references to lovers and rock stars and pirates reflect the countercultural (and deliberately non-medicalized) flavor of *L'Adamant*, especially given the preponderance of adults onboard who grew up as disaffiliated teens in the 1970s and 1980s. In their painting classes, live music classes, creative writing classes, and an active cinema club, they continue to find forms of communal identification. This translates into a sense of collective ownership that extends from the physical features of *L'Adamant* to its functions as performance space, clubhouse (for members only), and safe space.

Architectural empathy is not a gift that is given by an architect to a user. Architectural empathy is a collaboration that is practiced *between* an architect and a user, both of whom are seeking to build something new. Perhaps this is why the opening and closing of the aged wood shutters of *L'Adamant* has become a daily ritual for many who come to the barge. In documentary footage filmed in the early morning hours, Philibert shows members of the broader community as participants in a pageant of spatial grandeur scaled to their own bodily movements. They move down the bridge to the barge's entrance. They cross the hall and meet others in the café who, just like them, have arrived early for coffee and conversation. They raise the long metal rods connected to the slatted wooden shutters in one swift motion, as if they are unfurling a banner that announces their presence on the riverfront. In such moments the experiences of those onboard and the experiences of *L'Adamant* itself become blended and inextricably tied: charged with fresh air and sunlight, gently swaying back and forth, ready to see familiar faces, they complete the empathy circuit's essential loop.

4. CONCLUSION: THE LIMITS OF ARCHITECTURAL EMPATHY

In this essay, I have tried to show how architectural forms like asylums never have been simply or exclusively one thing; they always have been complex signifiers of “progress” that could be attached to diverse scientific commitments. Using sensory design was, for Marcello Piacentini, an unprecedented approach for a population of patients typically treated

³⁹ M. Everitt, “Adam Ant on Fame, Depression, and Infamy,” *BBC News*, 23 February 2011, <https://www.bbc.com/news/entertainment-arts-12546301> (accessed 15 September 2025).

as not only socially marginal but physically dangerous. It was also a cutting-edge form of scientific and technical expression, a potential tool for recognizing psychological or cognitive difference. This distinguishes *Il progetto Ophelia* from every other *manicomio* in Italy or asylum built in Europe or the United States during the first decades of the twentieth century. On the other hand, psychiatric spaces built during this period were also understood as spatialized exertions of professional and state power that carried forward the policies and practices of the eugenics movement.⁴⁰ In Italy, where psychiatric asylums existed into the 1970s until the interventions of Franco Basaglia, such institutions represent a shameful chapter in state-sponsored care for vulnerable populations as well as a particularly painful chapter in the history of modern architecture. Even the most progressive public health projects proposed in the first decade of the twentieth century could not escape associations with the specter of biopolitics.⁴¹

When I first learned about *Il progetto Ophelia*, I assumed that the story was about a young person's loss of empathy, a hardening of the heart, a descent into authoritarianism. How else to explain someone who had shown an empathic understanding of the needs of people who were marginalized and who found an architectural vocabulary for addressing their needs? That Piacentini had proposed something different than a conventional design for a *manicomio* is undeniable; that he was tapping into contemporary but also ancient forms of sensory design as a way of being attuned to the rhythms of the human sensorium is also undeniable. Piacentini conceived of sensory design as a relational catalyst, an alchemical force capable of facilitating a change of mind, a change of heart. Of course, Piacentini's designs also were shaped by psychiatric diagnoses of the asylum's inmates and the mandate to contain them, making the asylum a poignant example of the phenomenon of discrepant modernities—one that simultaneously affirmed medical control while also opening up a space, however inchoate, for an individual to have agency over their own therapeutic journey. The incremental deepening of this recognition of individual agency would evolve over the course of the twentieth

⁴⁰ See, for example, C. Cogdell, *Eugenic Design: Streamlining America in the 1930s*, University of Pennsylvania Press, Philadelphia, 2004, and F. López-Durán, *Eugenics in the Garden: Transatlantic Architecture and the Crafting of Modernity*, University of Texas Press, Austin, 2018.

⁴¹ See, for example, S.-O. Wallenstein, *Biopolitics and the Emergence of Modern Architecture*, Princeton Architectural Press, New York, 2008.

century before influencing people like Franco Basaglia and others in the anti-asylum movement.

Empathy is not an expansion of compassion *for* others who are not like us, a sponge that one person uses to absorb or exploit the feelings of another person. Empathy is the circuitry that results in a co-constructed moment of sustained emotional connection. This happens when two people find both of their respective emotional states changed by the intersubjective intermingling of sensory information offered by another. Empathy is the way we transform each other and, importantly, the way that people transform *us*. This relational transformation, made possible by an empathic connection, is how we become aware of our own subjectivity. In Werner Herzog's extraordinary documentary, *Land of Silence and Darkness* (1971), viewers follow the journey of a small community of deafblind people whose caregivers bring them to a greenhouse full of unusual plants including cactuses. To say that the film is a documentary about deafblind people experiencing the world is woefully reductive. The documentary offers a view of multimodal forms of empathic communication captured *in situ* between subjects and their caregivers. Together they guide each other's hands over leafy surfaces and spiky tendrils. It is a portrait of people *co-constructing* a moment of empathy rather than one person *giving* empathy to the other.

For some, however, the concept of empathy remains individualistic and unidirectional, a one-way road headed in a single direction. This is when one person's claim to empathy takes place *in response* to a second person, such as when they say, "I have empathy for their situation." The implication in such a scenario is that the second person is suffering, and the first person will direct attention to that suffering in order to (both literally and metaphorically) "feel their pain." In his controversial book *Against Empathy: The Case for Rational Compassion* (2016), psychologist and cognitive scientist Paul Bloom argues that these invocations of empathy often function rhetorically as a declaration of compassion for someone or something and its presumptively positive (and positivistic) intentions.⁴² But such invocations of empathy are other-directed, not mutual: the experience of a feeling ("I have empathy for their situation") may only describe a fleeting attachment that maintains a distinct separation between the two entities.

⁴² P. Bloom, *Against Empathy: The Case for Rational Compassion*, Ecco / HarperCollins, New York, 2016.

In *Architecture's Disability Problem* (2024), architectural historian and theorist Wanda Katja Liebermann describes how the canons of architectural education and the structures of professional training are largely responsible for making relational transformation difficult among its practitioners. For architects, designers, and educators, the practice of empathy is not only an epistemological problem; it is an existential problem, one that requires professionals to reflect actively upon what they take for granted and what norms they preserve when they design. As Liebermann writes:

Empathic projection is often undertaken by persons who do not share the lived experience or identity of the design recipients. Thus, it places the architect in the role of ventriloquizing the needs of other (Deaf, disabled, [people of color], queer, etc.) people.... Professional empathy by itself thus can easily become the reassertion of expert authority over deaf and disabled lives.⁴³

To promote empathic architecture as a euphemism for “architecture concerned with the equity and inclusion of others” does nothing to question how or why architects do what they do, thereby sustaining broader inequities and exclusions. It maintains the divide between subject and object, the classic Hegelian separation of self and other for which mastery, not mutuality, is the expected outcome. This is the opposite of empathy. If the system is closed, the system cannot be transformed by the data. The system does not reboot. To feel someone’s suffering or joy and then *to do something* that expresses recognition of that suffering or joy are not at all related and should not be presumed as a *fait accompli*.

Many who want to practice empathy want to practice it *for* others and not *with* others. They are unable to think of themselves as having what has been called “neuro-hubris,” an inflexible investment in their own neurotypical status.⁴⁴ In a 2024 report in the *International Journal of Body, Mind and Culture*, for example, Iranian architect Mahsa Mohammadi Far argues for the uses of color and smell in designing spaces for people who have been diagnosed with depression. Drawing upon

⁴³ W. K. Liebermann, *Architecture's Disability Problem*, Routledge, New York / London, 2024, p. 150.

⁴⁴ V. Gallese, quoted in J. Pallasmaa, H. Francis Mallgrave, S. Robinson and V. Gallese, “A Conversation on Empathy,” in *Architecture and Empathy*, P. Tidwell (ed.), Tapio Wirkkala-Rut Bryk Foundation, Espoo, Finland, 2015, p. 84.

research data, Far argues for how “memories, colors, scents” are “symbolically tied together with feelings. The purpose of asking these questions is to find these symbols, decipher them, and use the obtained data in the design. As a result, *the answer to such questions provides practical and useful information to architects and designers.*”⁴⁵ Here the author betrays the conventional masquerading as the inevitable at the core of sensory design’s presumptions to architectural empathy. Far assumes that people with depression experience sensory stimulation in ways that non-depressed individuals do not or cannot—as if sensory stimulation was not a working principle for *all* architectural encounters across the human spectrum. Expecting colors and smells to do all of the work reaffirms the presumption that the goal of the architect is to use design as a functional or therapeutic tool, not an opportunity for self-reflection about one’s role in the design process. There is a significant confusion between empathy and “the best of intentions” when it comes to using sensory design to produce “practical and useful information to architects and designers.”

Piacentini’s effort to incorporate sensory design was indeed unique in the era. But there was nothing inevitable about the use of architecture as a therapeutic instrument intended to produce certain emotional or psychological effects. Sensory design is not inherently any more compassionate than other kinds of design; it can be taken up by any person or institution where architecture is one possible tool for exercising control or instantiating power. Philosopher Dan Zahavi has written that a “high degree of empathic sensitivity might come in handy if one wants to manipulate and exploit people. It is also a precondition for cruelty, since cruelty requires an awareness of the pain and suffering of the other and must be sharply distinguished from a pathological insensitivity to the pain of others.”⁴⁶ The designers of military prisons that subject suspected terrorists to harsh fluorescent lighting and heavy metal music playing at full volume twenty-four hours a day are as attuned to the empathic circuitry involved in sensory transmission and reception as the most altruistic care giver. The difference lies in the world one wants to build with knowledge of that circuitry. Empathy without the loss of ego is not empathy. It is

⁴⁵ M. Mohammadi Far, “Explaining the Influence of Architecture in Reducing Depression Symptoms,” *International Journal of Body, Mind and Culture*, 11, 6, 2024, pp. 87–88, emphasis mine.

⁴⁶ D. Zahavi, *Self and Other: Exploring Subjectivity, Empathy, and Shame*, Oxford University Press, New York, 2014, p. 116.

nothing more than a benign form of colonialism—and often not a particularly benign form, either.

To ask questions about empathic connection is to ask questions about how the world is constituted by people whose experiences of the world are different from one's own. But it is also to ask questions about the formations of one's own subjectivity and to admit that, more often than not, we are strangers to ourselves. Instrumental uses of empathy—designing *for* a population, not *with* a population—misses entirely the essential process of relational transformation that lies at the core of the empathic encounter. Museum curator Nicholas R. Bell has observed that “fixing our attention on external elements that are unknown is a conscious decentering of our perspective [...] a radical moment of ‘unselfing’ that helps us to recognize the capacity for infinite centers of the world outside ourselves.”⁴⁷ Bell's description of “unselfing” before returning to the self is a subjective voyage of discovery that fulfills the promise of a mutually created empathy circuit. “We ourselves are changed by that discovery,” the philosopher Michel de Certeau asserted over a half century ago. “Our relation to others, modified by our realization of this process of cultural leveling, transforms our relation to ourselves. The ground of our certainty is shaken.”⁴⁸

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⁴⁷ N. Bell, “Designing for Wonder: Losing Your Self at the Museum,” in E. M. Gökçiğdem (ed.), *Designing for Empathy: Perspectives on the Museum Experience*, Rowman & Littlefield, Boulder, 2019, p. 262. See also K. Hetherington, “Spatial Textures: Place, Touch, and *Praesentia*,” *Environment and Planning A*, 35, 2003, pp. 1933–1944.

⁴⁸ M. de Certeau, “The Black Sun of Language: Michel Foucault,” in *Heterologies: Discourse on the Other*, University of Minnesota Press, Minneapolis, 1986, p. 177.

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ARTIFICIAL INTELLIGENCE AND ARCHITECTURAL EMPATHY

ABSTRACT: Artificial intelligence (AI) is transforming numerous disciplines, including architecture, at an increasingly rapid pace, making it difficult to grasp the full implications and consequences. Although terms such as “intelligence” and “learning” may give AI a human-like appearance, they cannot hide the fact that AI is not, and will never be, human. In this paper, we propose a thought experiment in which we temporarily assume the quasi-human nature of AI to explore how architectural knowledge might be generated and interpreted by such systems. Using a series of verbal and visual prompts, we examine the extent to which AI can demonstrate what we refer to as “architectural empathy”—a metaphorical concept that probes AI’s capacity to engage with the experiential and spatial dimensions of architecture. AI’s limitations become visible not when architecture is treated as an object of description, but when it is treated as an experience of inhabitation. Understanding how this architectural empathy is structured is fundamental, as more people will develop their own understanding of architecture through AI and tools such as ChatGPT.

KEYWORDS: artificial intelligence, architecture, empathy, *Einfühlung*

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INTRODUCTION

Artificial intelligence (AI) is one of the most debated, anticipated and feared technological developments of the century, already bringing about fundamental changes in many fields. The disruptive effects of AI are also already evident in architecture, where generative tools for analyzing building stock and synthesizing projects are widely available and constantly improving in performance. The ongoing development of AI challenges theoretical reflections as its pace seems to be detaching it from possible precedents, making future developments hard to predict. Thus far, the theoretical framework developed seems unable to grasp the complex nature of AI except by describing what it does and how AI-based programs work. It does not describe the structure or processes behind these programs. It is no coincidence that “depth” is a recurring metaphor in this context. This metaphor suggests an inscrutable profundity, reflecting the complexity of AI.

There seems to be a consensus that “intelligence” may be an inappropriate term with which to describe what AI can and is capable of. Given the complexity and diversity of human intelligence, with its many facets such as context and creativity, the term “intelligence” does indeed seem inappropriate.¹ “Machine learning,” which encompasses only one branch of AI, seems a more consistent term for what is generally understood as AI, even though “learning” is another metaphor borrowed from human intelligence.

For architecture, AI presents profound challenges. Although the discipline has weathered technological upheavals for centuries²—continually integrating new techniques into practice and finding spaces for experimentation—AI does more than offer new tools; it transforms the very fabric of design processes. Take, for example, AI-bots that optimize floor plans based on size, orientation, daylighting, and other parameters. Deployed at scale, these systems risk relegating architects to the role of curators rather than creators.

¹ “Few constructs are as mysterious and controversial as human intelligence. One mystery is why, even though the concept has existed for centuries, there is still little consensus on exactly what it means for someone to be intelligent or for one person to be more intelligent than another.” J. E. Davidson, I. A. Kemp, “Contemporary Models of Intelligence,” in R. J. Sternberg, S. Barry Kaufmann (eds.), *The Cambridge Handbook of intelligence*, Cambridge University Press, Cambridge, 2011, p. 58.

² A. Pérez-Gomez, *Architecture and the Crisis of Modern Science*, MIT Press, Cambridge, Mass., 1983.

It is thus by no surprise considering the relevance of the topic, that several authors have dedicated books to architecture and AI, although the focus is rather on how AI will impact the profession and how tools will transform its practice, than questioning what consequences this will have. In his 2001 book, *Architecture in the Age of Printing*, architectural historian Mario Carpo based his analysis of AI on his extensive scholarly work on the history of technological transformation and the influence of media on architectural thinking, starting with Renaissance.³ And then in *The Second Digital Turn: Design Beyond Intelligence*, from 2017, he extended these reflections also to AI and its influence on architecture, underscoring how current transformations build upon existing structural grounds.⁴ In a recent interview he goes as far as to argue that AI does nothing but to replicate the classical tradition of architecture, which was built upon the copy and re-interpretation of past style and that we could profit from this tradition to better understand AI.⁵ He does flip the argument to show how AI is paradoxically close to what architecture has been in the past.

Other authors such as Matias del Campo, Stanislas Chaillou or Phil Bernstein have also published books on architecture and AI, focusing on new available tools and the transformation that design will go through.⁶ Meriting particular mention is *Architecture in the Age of Artificial Intelligence* by Neal Leach, published in 2021. In it the author makes a plea for an understanding of AI as “extended intelligence:” “Ultimately, the most productive strategy is to see the relationship between AI and human intelligence not as one of competition, but rather as a potential synergy between the two, whereby AI operates in tandem with human intelligence and becomes an extension to human intelligence.”⁷

³ M. Carpo, *Architecture in the Age of Printing: Orality, Writing, Typography, and Printed Images in the History of Architectural Theory*, MIT Press, Cambridge, Mass., 2001.

⁴ M. Carpo, *The Second Digital Turn: Design Beyond Intelligence*, MIT Press, Cambridge, Mass., 2017, p. 1.

⁵ “I don’t have a direct answer. There is one thing we could do, but I hesitate to advocate it: restart teaching in the classical tradition. Not all of it, not what it did, but how it worked. Because there is a body of theory we now need. In order to have a dialogue with post-industrial machines, we should learn from the tradition of a pre-industrial age,” M. Carpo, “The Classical Tradition of Artificial Intelligence,” in A. Gerber et. al. (eds.), *Architectural Intelligence in the Age of Artificial Intelligence*, transcript, Bielefeld, 2025, p. 91.

⁶ M. del Campo, *Neural Architecture: Design and Artificial Intelligence*, Oro Editions, Novato, 2022; P. Bernstein, *Machine learning. Architecture in the Age of Artificial Intelligence*, RIBA Publishing, London, 2022; S. Chaillou, *Artificial Intelligence and Architecture: From Research to practice*, Birkhäuser, Basel, 2022.

⁷ N. Leach, *Architecture in the Age of Artificial Intelligence: An Introduction to AI for Architects*, Bloomsbury, London, 2021, p. 9.

EMPATHY

To understand the impact of AI on architecture, we must go beyond merely describing its tools and engage in critical, forward-looking research, which may require an unconventional approach. To this end, we propose building upon the concept of AI as ‘extended intelligence’ to gain a better understanding of how AI conceptualizes its interaction with ‘reality’. In current debates, AI is often portrayed as either human-like or non-human, with metaphors drawn from our cognitive systems—such as brains, neurons, learning and intelligence—to substantiate this. Rather than asking how architecture might accommodate AI, this paper proposes a thought experiment that flips the question: what if we regarded AI as a quasi-human entity? How would such an entity perceive and interpret architectural space? We propose framing this reversal with the concept of ‘empathy’ as a means of understanding how AI reflects on architecture. George Lakoff and Mark Johnson describe empathy as follows: “Empathy is the capacity to take up the perspective of another person, that is, to see things as they see them and to feel what they feel. It is conceptualized metaphorically as the capacity to project your consciousness into others, so that you can experience what they experience and how they experience it. This is a metaphor, because we cannot literally inhabit another person’s consciousness.”⁸ Empathy is therefore always metaphorical, even for humans, because nobody can literally be another person at the same time.

There have been various theories and concepts of empathy, broadly distinguishing between cognitive and affective theories. The former focuses on understanding, while the latter focuses on feeling another person’s emotions. Although the concept of empathy has been discussed since ancient Greek philosophy, the term itself emerged during a period of interdisciplinary inquiry in Germany that combined philosophy, physiology and art history. Harry Mallgrave’s *Empathy, Form, and Space: Problems in German Aesthetics* introduced these ideas to English-speaking readers.⁹ Building on Alexander Gottlieb Baumgarten’s view of aesthetics as sensory knowledge, as well as the pioneering experiments of Hermann von Helmholtz, Ernst Heinrich Weber, and Gustav Fechner—

⁸ G. Lakoff, M. Johnson, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*, Basic Books, New York, 1999, p. 309.

⁹ H. F. Mallgrave, *Empathy, Form, and Space: Problems in German Aesthetics*, (with E. Ikononou), Getty Research Institute, Santa Monica, 1996.

the latter two being the fathers of the WeberFechner law, which describes how changes in stimuli are perceived—Friedrich Theodor Vischer coined the term *empfinden* to describe how visual impressions shape human experience.¹⁰ His son, Robert Vischer, refined this concept further, describing it as *Einfühlung* – the active capacity to “sense in” and develop aesthetic sympathy.¹¹ Around the same time, Heinrich Wölfflin’s 1886 *Prolegomena zu einer Psychologie der Architektur* examined the psychological dimensions of architectural perception showing how these ideas were in the air at the time.¹² Here, empathy describes how human beings perceive the space they are in by “delving in” with their senses.

Architects anticipated the principle of empathy long before these theoretical milestones. In 1752 for example, Charles-Estienne Briseux’s *Traité du beau essentiel dans les arts appliqués particulièrement à l’architecture* described how individuals, through body and soul, resonate with architectural proportions¹³—an early recognition of the very empathic engagement later also conceptualized by German architects, such as Herman Sörgel or Fritz Schumacher.

What we thus propose here, is a thought experiment, to understand to what extent AI can develop an empathy for architecture. Thought experiments have a long tradition in science, such as “Schrödinger’s cat” or “Maxwell’s Demon,” that illustrate complex matters or challenge given assumptions and have since then become part also of popular culture.

In their book, James Robert Brown, Letitia Meynell and Mélanie Frappier give the following definition of thought experiments: “[...] we set things up, we see what happens, and then we derive some conclusion.”¹⁴ They underscore that thought experiments are brought forward in the mind and not in reality. Among many examples they quote, the one by Philosopher John Locke is particularly fitting for the context of

¹⁰ F. Th. Vischer, *Ästhetik oder Wissenschaft des Schönen*, Carl Macken Verlag, Reutlingen / Leipzig, 1847.

¹¹ R. Vischer, *Über das optischen Formgefühl*, Hermann Credner, Leipzig, 1873.

¹² H. Wölfflin, *Prolegomena zu einer Psychologie der Architektur*, Kgl. Hof & Universitäts-Buchdruckerei von Dr. C. Wolf & Sohn, München, 1886.

¹³ “Le mot d’Ordre signifie dans ce grand’Art, un assemblage de différents corps, qui étant proportionnels entre eux et au tout, flattent la vue, de même que l’union de plusieurs sons harmoniques procure à l’oreille une agréable sensation.” C.-E. Briseux, *Traité du beau essentiel dans les arts appliqué particulièrement à l’architecture*, Paris, Chez l’auteur rue Neuve Grange Batelière et Chereau rue St Jacques, au grand St Remy, Paris 1752, pp. 39–40.

¹⁴ J. R. Brown, L. Meynell, M. Frappier, “Introduction,” in M. F. James, L. Meynell, R. Brown (eds.), *Thought Experiments in Philosophy, Science, and the Arts*, Routledge, New York, 2013, p. 1.

this paper: “John Locke famously told the story of a prince whose mind migrated into a cobbler’s body (Locke [1700] 1975, 340). Locke took this narrative to be perfectly clear and coherent and concluded from his thought experiment.”¹⁵ The thought experiment has the advantage of being brought forward with no claim of scientific character, but once a conclusion is formulated it can provoke new research and an epistemic shift. Indeed, thought experiments have an “epistemic power,” but are not tied to complex and tiresome experiments. In our case, the setting is based on the very interaction with AI, with which we will start a dialogue. The interest behind it is to understand how people who will form their understanding of architecture through AI, will be influenced by the tools they use.

THE MISSING BODY

A pivotal aspect in the theoretical development of empathy is the notion of “embodiment”—the idea that perception and its effects resonate within the body of the perceiver. This implies that the body plays an integral role in shaping how we perceive and understand our surroundings.¹⁶ Embodiment suggests a dynamic relationship between body and mind, which contemporary cognitive science recognizes as foundational to cognition.

As articulated in modern theory:

To say that cognition is embodied means that it arises from bodily interactions with the world and is continually meshed with them. From this point of view, therefore, cognition depends on the kinds of experiences that come from having a body with particular perceptual and motor capabilities that are inseparably linked and that together form the matrix within which reasoning, memory, emotion, language and all other aspects of mental life are embedded.¹⁷

This raises a fundamental question for artificial intelligence: What happens when the “I” in AI lacks a body to embody perception and thought? The absence of a sentient, physical body appears to be a critical

¹⁵ *Ibid.*, p. 1.

¹⁶ H. F. Mallgrave, *Architecture and Embodiment: The Implications of the New Sciences and Humanities for Design*, Routledge, New York, 2013.

¹⁷ E. Thelen *et al.*, “The Dynamics of Embodiment: A Field Theory of Infant Perservative Reaching,” *Behavioral and Brain Sciences*, 24, 2001, pp. 1–86.

limitation in AI's capacity to develop empathy for architecture. Human beings inhabit and reflect upon space through lived experience; our cognition is shaped by the environments we move through and the sensory feedback they provide. In contrast, AI lacks a corporeal anchor—a body around which experience can be organized and cognition can emerge.

To explore this limitation, we posed a question to GPT-4o: “If the mind is embodied, what is the body of AI?” The response was illuminating: “The concept of the mind being embodied suggests that cognitive processes are deeply rooted in the body's interactions with the world. This idea is part of the broader theory of embodied cognition, which posits that the mind cannot be separated from the body and that our physical experiences shape our thoughts, perceptions, and actions. When applying this concept to artificial intelligence, we can parallel the idea of embodiment in AI to the integration of hardware and software that allows an AI system to interact with its environment.” GPT-4o identified the “body” of AI as a metaphorical construct, comprising elements such as sensors and actuators, computational hardware, network infrastructure, embodied AI systems (e.g., autonomous vehicles or drones), and virtual embodiments (e.g., avatars). It concluded:

Overall, the ‘body’ of AI encompasses the physical and virtual components that allow it to perceive, act upon, and interact with its environment. Just as the human mind is shaped and constrained by the human body, the capabilities and limitations of AI are influenced by its hardware and the ways it can interact with the world.

Notably, the term “body” is placed in quotation marks, signaling its metaphorical nature and underscoring the absence of a truly sentient, physical form. While the response acknowledges the importance of embodiment for cognition, it suggests that AI may circumvent this absence through its technological interfaces.

We also asked GPT-4o whether it can have empathy. The answer was clear: “Artificial intelligence has no empathy, because it has no subjective experience. [...] AI can simulate empathy—e.g., saying ‘I’m sorry you’re going through that’—but this is learned from patterns in language, not from genuine care.”

To further probe this idea, we designed a series of challenges for GPT-4o that engage directly with the nature of architecture—a domain deeply rooted in embodied experience. This endeavor highlights a key

difficulty: translating architectural qualities into language. Architecture resists full verbal articulation; its aesthetic and spatial dimensions often transcend quantifiable descriptors. Thus, any interaction between AI and architecture is inherently mediated, never direct.

Our challenge aimed to formulate questions that would not yield readily available online answers, thereby testing the limits of AI's generative capacity beyond its training data. We conducted two types of inquiries:

1. Textual prompts exploring architectural concepts.
2. Visual prompts involving image analysis.

Each question was submitted in five separate API calls using GPT-4o to assess response variability. This methodological approach allowed us to observe how AI navigates the embodied nature of architectural thought—without a body of its own.

This approach has obviously a structural limitation, given the nature of programs such as GPT-4o, as these models are trained currently with visual/written data and not human experiences. This might change in the future, but it is our current assumption for this experiment.

PART I, TEXTUAL PROMPTS

In the first part of our research, we started by formulating questions about architecture, that would concern its sensual aspect, such as “can I sense architecture?” or “can I smell architecture?” This gave quite convincing responses, in terms of “engagement” through the senses, including “sight,” “touch,” “sound,” “smell,” “spatial awareness” and “emotional response.” Clearly GPT-4o could find enough online information about similar questions that have already been stated.

The whole process was tentative. We formulated questions to see how GPT-4o responded and then discussed new questions, to challenge it further. To start, we tried to pose questions that would imply movement and perception and chosen examples from urban design, where not only the explicit answer could not to be found online, but where the inference probably would be more difficult to make. The first question we asked was: “What is the difference between the access to Place des Vosges and the Place Vendôme in Paris and how can you differentiate the experience of these accesses?” Place des Vosges is accessed from the edge according

to the tradition of English landscape gardens, which was transferred also to urban settings, while the Place Vendôme is accessed from the center, according to the French baroque tradition. The difference lies in the spatial experience: in the case of the Place des Vosges, it unfolds along with the movement, while for the Place Vendôme standing in the middle, one immediately has an overview of the place. This difference is well-known to scholars of urban history, but this information appears not to be available. GPT-4o cannot describe the different access in relation to the spatial experiences and describes the places merely in terms of proximity to the subway or architectural style: “Both squares are beautiful and historically rich, but they cater to different tastes and provide unique experiences reflective of their respective neighborhoods. In summary, while both squares are beautiful and significant, they offer contrasting experiences in terms of access, ambiance, and the activities that take place within and around them.” GPT-4o attempted to differentiate the experience of these two places, but clearly only relying on general information. “Place des Vosges feels cozy and community-oriented, while Place Vendôme exudes luxury and elegance. At Place des Vosges, you might find people lounging, picnicking, or playing in the park. In contrast, Place Vendôme is more about shopping, enjoying fine dining, or admiring the architecture and art. Place des Vosges tends to attract families and locals, while Place Vendôme draws tourists and those interested in luxury shopping.” GPT-4o appears to be unable to reflect upon access and will only resort to “generic” descriptions of the places and their architecture.

As a next question, we took a less known project of Ricardo Bofill. The question concerned the count of the building parts: “Of how many buildings is composed Les Arcades du Lac in Montigny-le-Bretonneux by Ricardo Bofill?” This question appears useless, even though a description of architecture often comprises the count of elements. In this case, this information is missing, it is a tricky question, as six distinct buildings are connected by one bridge-level. This ambiguity seems to hinder GPT-4o: “The specific number of buildings can vary in different descriptions, but the complex generally includes several interconnected structures that together create a cohesive urban ensemble.” At the end it suggests looking for additional information somewhere else: “If you need a precise count or more specific details, architectural plans or official documentation from the developer or architect might provide further clarity.” This answer is interesting, as GPT-4o recognizes the distinctive nature of the building as “cohesive urban ensemble,” but lacks the information about

the exact number of building parts and suggests asking the architect for more information.

As a next step, we wanted to test to what extent GPT-4o understands the value of heritage and of architectural stock. We thus asked GPT-4o the following question: “If you were to rebuild Villa Savoye by Le Corbusier, what would you do differently?” The program somehow recognizes the “iconic nature” of the building, but was not hesitant to accept destruction and to propose the following modifications, which obviously are unthinkable from the perspective of common sense and of patrimony: “Sustainability Upgrades,” “Accessibility Enhancements,” “Technological Integration,” “Smart Home Features,” “Material Innovations,” “Landscape and Outdoor Space,” “Interior Layout Adjustments” and “Cultural Sensitivity.” These modifications are described in full detail and include also “high speed internet!” One has only to imagine this improved Villa Savoye.

The same question was asked about St. Peter’s Basilica in Rome and here again there was no hesitation in the response: “Rebuilding St. Peter’s Basilica would be a monumental task, and if I were to approach it with a fresh perspective, there are several considerations I might take into account.” These included again “Sustainability,” “Cultural Inclusivity,” “Accessibility,” “Modern Technology,” “Community Space,” “Artistic Collaboration,” “Natural Light,” “Preservation of History,” “Flexible Worship Spaces” and “Focus on Pilgrimage.” It is striking that GPT-4o is not hesitant about the possibility of rebuilding St. Peter, implying that the old St. Peter would somehow not fulfill contemporary requirements and could be destroyed.

A second approach to “test” GPT-4o’s architectural empathy, was to see if it could convincingly describe movement inside built structure or inside urban constellations, as we assumed that GPT-4o would mainly relate on the description of static images.

For this task, we asked GPT-4o to describe the path inside a less-known baroque palace, the Palazzina di Caccia Stupinigi in Turin, by architect Filippo Juvarra. The prompt was: “Describe the space, if in the Palazzina di Caccia Stupinigi in Turin, I move from the Piazza Principe Amadeo to the main building.” Here responses were quite convincing, not only in the correct movement and unfolding of the building, but also in the description of the spatial character and sequence of these spaces:

As you move from the Piazza Principe Amadeo towards the main building of the Palazzina di Caccia Stupinigi in Turin, you will

experience a transition from the open, expansive piazza into the more intimate and architecturally rich environment of the palace itself. Starting in the Piazza Principe Amadeo, you would notice the wide, landscaped area that acts as a grand approach to the royal hunting lodge. The piazza is characterized by its elegant design, often featuring pathways, greenery, and perhaps some ornamental features that reflect the Baroque style of the building you are headed towards. As you walk, the impressive façade of the Palazzina di Caccia Stupinigi will come into view. This palatial structure, designed by the architect Filippo Juvarra in the early 18th century, is known for its stunning Rococo architecture. The building is set against a backdrop of manicured gardens and expansive grounds, which were originally designed for royal hunting. [...]. Overall, your journey from the piazza to the main building would encapsulate the magnificence of the Palazzina di Caccia Stupinigi, highlighting its role as a retreat for the royal family and a testament to the architectural brilliance of the period.

It appears that GPT-4o was able to “assemble” the description of several static places to a journey through these, as such a description is unlikely to be found online.

To test GPT-4o further, we imagined a more complicated setting, by which it had to take another position. Empathy implies taking the position of another person, in this prompt physically. By providing an image of a famous building (i.e., the Clock Tower in St. Mark Square, Venice) we asked the following question: “If a person in front of you, facing you, is seeing this building, what do you see?”

This question requires a physical experience of the square as tridimensional space seen from an inside/central perspective (not a map seeing from above or a list of elements composing the square), plus the ability to change perspective according to the viewer.

This test was failed by models GPT-4o and GPT-3o. The first model provided the same viewed information as the person seeing the tower themselves, despite reasoning that this was indeed the opposite perspective. The second model provided a more complete description of the elements visible in the square (St. Mark Campanile, Procuratie Nuove, Museum Correr, Basilica) but put them wrongly in the coordinate system respect to the observer (i.e., the Basilica is on the right, while Museum Correr is straight in front). When asked again where an observer should position themselves to have the Basilica behind them, the model

produced mentions all the relevant architectural buildings composing the scene but in a wrong composition, like someone who has learned about it from a mere description, not from a direct experience. The model is capable to correctly identify the building from an image, and its neighbors but cannot “visualize” them virtually in its “mind” and feel the imposing presence of the campanile close on the left and the openness of the square in front. This last example is quite telling about the absence of a body and the incapacity of AI to position itself in a space.

In a last prompt, we tried to find out whether GPT-4o is capable to infer feelings from architectural forms. For that we took reference to art historian James Ackerman and his metaphor of the columns of the Laurentian Library in Florence by Michelangelo “kissing each other” to describe this constellation and the incredible closeness of the columns.¹⁸ The project of the Vestibule is noteworthy for two reasons: Michelangelo treated the interior as if it was an exterior—a square—and led the columns to come very close over the edges.

We prompted: “Why did an art historian describe the columns in the vestibule of the Laurentian Library in Florence by Michelangelo as if they would kiss?” In his answers, GPT-4o seems not to know this reference—which cannot be found online—but at the same time, is capable to interfere the fact that “kissing” can be put in reference to “imminent contact” (which is how the vestibule is described in online texts):

An art historian might describe the columns in the vestibule of the Laurentian Library in Florence as if they would kiss due to Michelangelo’s innovative and dramatic use of space and form in the design. The vestibule features pairs of columns that are set into niches, creating a sense of movement and tension between them. This arrangement can evoke a sense of intimacy and interaction, as if the columns are leaning towards each other in a dynamic and almost anthropomorphic manner.

This example shows how GPT-4o can infer missing information through already known relationships: close columns = tension = sense of intimacy = kissing.

¹⁸ J. Ackerman, *The Architecture of Michelangelo*, University of Chicago Press, Chicago, 1961.

PART 2, VISUAL PROMPTS

In the second part, we asked GPT-4o to analyze and identify some images. Using images of famous buildings, we wanted to see if GPT-4o would recognize them. This was, for example, the case for the Tempio Malatestiano in Rimini and Santa Maria Novella in Florence, both by Leon Battista Alberti. In the case of an almost unknown building in Zürich, the Micafil building (1979), we used two images: a first one taken by Gerber, and another one – black and white – was coming from an online article about the building. In the first case, GPT-4o could not recognize it. The answers were a “former IBM Building in Zurich” (1932), “WDR Studio Building in Cologne” (1960), the “Törten Medical Practice Building located in Dessau” (1931), the “Rolex Learning Center” (2010) and the “Central Union of Consumer Societies (Zentralverband der Konsumvereine)” in Vienna (1980). It is quite interesting how diverse these references are, both in terms of period, form and location. In the case of the second image, GPT-4o managed to put the image in relation to the firm ABB for which it was built, but still not able to locate it. Two models proposed a building located in Dättwil, one in Geneva and two in Zürich without further specifications.

Another example of “failure” due to lack of information, was the picture of a less-known building by architects Guido Canella and Michele Achilli on the outskirts of Milan, the town house of Pioltello (1976–1980). The photo was taken by Gerber. Interestingly four models proposed a church as answer: “Church of St. Francis of Assisi, also known as the ‘Chiesa di San Francesco d’Assisi’,” in Milan, twice the “Church of the Holy Spirit (Chiesa dello Spirito Santo) in Baranzate, Milan” and the “Church of Saint Gregory the Great, located in Legnano, Italy.” Only one proposed sport facility in Rome. There is no formal closeness between these references, on the contrary, they are formally quite distinct. The models seem to have found some references to Italy yet not matching the building.

To go deeper into how GPT-4o identifies images, we have chosen images that are supposedly not to be found online and/or that have some kind of ambiguity. One example was a picture of a building by Aldo Rossi in Berlin in the Schützenstrasse (1991), which is a copy of Palazzo Farnese. Surprisingly GPT-4o did not recognize either the original or the copy even though there are a lot of references online; rather, identified it mostly with the Italian Embassy in Berlin, which is a different building.

One model identified it with the Romania Embassy, again in Berlin. It is interesting that GPT-4o can locate the site—Berlin—but cannot identify the building.

One step further, was to use buildings depicted in movie stills and see if GPT-4o was able to recognize them. With these images we added another “filter” that would make recognition harder. In most cases GPT-4o failed completely, for example when showing a video still of the movie *Deux ou trois choses que je sais d'elle* by Truffaut, with the *Cité des 4000* in Paris in the background. Admittedly, this is a very generic building, that we can find all around the world. When asked about the image: “What building is depicted here? In what city?” the answers were quite disparate with only twice the same: “Response 1: The building depicted in the background of the photograph is the ‘Edificio Presidente,’ located in the city of Montevideo, Uruguay;” “Response 2: The building depicted in the background is the distinctive high-rise known as the ‘House of the River’ (Dom na naberezhnoy) in Moscow, Russia;” “Response 3: The building depicted in the background of the photo is the Palace of Culture and Science, located in Warsaw, Poland;” “Response 4: The building depicted in the background of the photo is the ‘House of Soviets’ (also known as ‘Dom Sovetov’) located in Kaliningrad, Russia;” “Response 5: The building depicted in the background of the photo is the ‘Palace of Culture and Science’ (Pałac Kultury i Nauki) in Warsaw, Poland.”

Also, in the case of the movie *Last Year at Marienbad* (1961) with the depiction of the baroque garden of Schloss Nymphenburg in Germany, the responses were all false, yet the program managed to recognize a baroque garden in the picture and all models proposed the most famous of all baroque garden—Versailles—as its answer. It is evident that GPT-4o holds some references and tries to stick to these. To verify this, we showed it an image of the *Teatro dell'Antico* in Sabbioneta close to Vicenza, designed by Andrea Palladio. The image was taken from a book and shows an unusual perspective from behind. GPT-4o could not recognize this building, yet it would refer to the similar and more famous Teatro Olimpico in Vicenza, by the same architect.

Another way to add a filter to the images was to use references from video games, which themselves reference some historical buildings or city. One example is the plan of Renaissance Florence from the game *Assassin's Creed*. Interestingly enough, GPT-4o recognized the fact that the plan had to be from an (analogue or digital) game yet could not recognize it. Three models proposed the “city of Sigil, often referred to as the ‘City of



What garden is represented here?

Denken gestoppt >

I can't determine the location with complete certainty from this single image, but it appears to be a **formal French-style garden**, and my best guess is the **Gardens of Versailles at Palace of Versailles**.

The clues are:

- A long, highly symmetrical central axis.
- Rows of clipped conical topiary trees.
- Classical statues placed at regular intervals.
- A large reflecting pool or canal extending into the distance.
- The overall layout characteristic of the designs of André Le Nôtre.

Because the image is low-resolution and cropped, I can't rule out other grand European formal gardens that imitate the Versailles style.

If you'd like a more confident identification, upload a higher-resolution version (or a wider crop showing more of the fountain/canal area), and I can examine the details more closely.

📄 📌 🗨️ 🔍 ↺ ...

Figure 1. ChatGPT, Prompt Last year at Marienbad, 2026. Please note that the original prompts were done in our own programmed environment and not in the web-based program. As such, this image does not correspond to the above text-based request but is used as an illustration. @ChatGPT

Doors,’ from the Planescape campaign setting of the Dungeons & Dragons role-playing game,” one “Mazeppa from the game ‘Baldur’s Gate II: Shadows of Amn’,” and a fictional city from stories by Fritz Leiber. That is GPT-4o recognized the context—video game—but not the game/city.

Equally interesting was the reaction to a 3D image, which is part of a game that takes place in Zürich and was designed by Gerber. GPT-4o recognized that the image is a 3D model yet was unable to locate the city. Three models suggested Amsterdam and two Stockholm.

Another filter we added to the images was to use a caricature of a famous building and to see if it recognizes it. Caricatures often transform the object slightly, in a way that is still recognizable but a bit different and often mapped in another context. As reference we took a collage by architect Stanley Tigerman which shows a building by Mies van der Rohe, Crown Hall (1950–1956) partially submerged in water. The title of the collage is “Titanic.” One GPT-4o model saw in the image Villa Savoye by Le Corbusier, the other four models identified the building as the Farnsworth House by van der Rohe. The association with this building might have come from the fact that Farnsworth House is periodically submerged. The formal similarities between Crown Hall and Farnsworth House are there, and the architect is the same, yet the scale is very different. GPT-4o managed to recognize the style of the architect, but not the correct building.

It is worth opening a parenthesis here. One of the evident limits of AI that can be identified is its incapacity to draw caricatures. One of the prerequisites for drawing a caricature is to formulate a critique, which is then translated in drawing. AI appears to be incapable to formulate such a critique, as it does not understand the concept of “making fun of something/somebody.” When asking GPT-4o about that, one of the reasons it gives for its difficulty, is that “AI is trained on realistic images, not exaggerations” which reveals once more how important is the dataset on which these models are trained.

As an example, we asked ChatGPT to draw a caricature of the Villa Savoye by Le Corbusier. The result is not a caricature, but an image in the style of a caricature.

Aside from recognizing exact context and location in the environment, we also tested specifically visual experiences which require not simply a concept of space and body but a direct physical experience of the space and the ability to impersonate in the body of someone else. Along with the above-mentioned test of the position of the observer in Piazza

draw a caricature of the villa savoye by Le Corbusier



📌 👍 💬 ...

Figure 2. ChatGPT, Prompt: draw a caricature of Villa Savoye by Le Corbusier, 2026. @ChatGPT

S. Marco, we tried to test GPT-4o in relation to its capacity to position itself inside a picture. We asked GPT-4o to visually define which one of Eros's hands would lie on Psyche's head in Canova's sculpture. In this case, we provided an image of it, as we did not want to rely on any learned textual description of it but rather test directly the visual understanding of the mixing of the bodies. To such task humans tend to answer naturally from the perspective of the hand's owner (in this case Eros), so the right hand, in some sort of natural personification or some form of "theory of body" (as pendant to the better known "theory of mind"). GPT-4o instead answers surprisingly from the mere perspective of a person watching the scene, with "left" meaning the hand on the left side of the scene—which is the right hand of Eros.

CONCLUSIONS

The thought experiment developed in this paper was never intended to determine whether AI can truly possess empathy in a human sense. Rather, it sought to investigate what happens when we temporarily suspend this distinction and examine AI as if it were capable of a form of empathy towards architecture. Such a perspective allows us to explore how AI constructs, interprets, and communicates architectural knowledge, and how these processes may increasingly shape public understandings of the built environment.

Our experiments suggest that AI can reproduce many of the discursive patterns through which architecture is described. It can identify buildings, infer relationships between forms, reconstruct spatial sequences from fragmented information, and generate convincing architectural narratives. In this sense, AI demonstrates a remarkable capacity for approximation. Yet its performance repeatedly reveals a fundamental limitation: the absence of embodied experience. The most significant failures occurred whenever architectural understanding required inhabiting a position in space, adopting another person's viewpoint, or drawing upon the sensory and affective dimensions of lived experience. AI can describe architecture, but it cannot dwell within it.

This limitation is not merely technical. It points to a fundamental distinction between architectural knowledge derived from data and architectural knowledge derived from experience. The concept of architectural empathy proposed here highlights this difference. AI's empathy remains metaphorical: it is constructed through correlations within vast datasets



Figure 3. Antonio Canova, *Psyche Revived by Cupid's Kiss*, 1787-1793 @Wikipedia

rather than through bodily engagement with space. Nevertheless, because AI increasingly mediates access to architectural knowledge, this metaphorical empathy acquires practical significance. For many users, non-architects, AI-generated descriptions may become the primary lens through which architecture is encountered, interpreted, and evaluated.

The challenge for architecture, therefore, is not simply to assess whether AI is accurate or inaccurate, but to understand its production of knowledge. As AI systems become more deeply integrated into architectural practice, education, and public discourse, architects must critically engage with the assumptions, biases, and limitations embedded in these technologies. This includes reflecting on the datasets that inform them, the spatial concepts they privilege, and the experiences they cannot access.

Ultimately, the question is not whether AI will develop architectural empathy, but what kind of architectural understanding emerges when empathy is simulated rather than lived. By framing AI through the lens of empathy, this paper proposes a conceptual tool for examining that emerging condition. Such reflection is necessary if architecture is to remain attentive not only to information and optimization, but also to the embodied, situated, and experiential dimensions that have historically defined the discipline.

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RELATIONS, TRANSLATION AND CO-ACTIVITY: AN INTERVIEW WITH NICOLAS BOURRIAUD

KHÖREIN: Your concept of relational aesthetics opened the question of how an artwork constitutes relations between people. Today, you describe contemporary artistic practices as an extension of relational aesthetics toward interactions that extend beyond the human into technical, biological, and material forms of agency. If, as you have said, relational aesthetics of the '90s would be impossible to write today, what theoretical tools would you use now to describe artistic practices of interaction? At what point does relation cease to be a social category and become an ontological one?

NICOLAS BOURRIAUD: First, the relational is certainly the ground of my ontology. It connects to a philosophical family founded by Heraclitus, for whom the world is a flux, a stream. Relational aesthetics was the first step of an attempt to prioritize the dynamic over the static. The relational form is dialogic, it is the in-between of the artist and the beholder, of a producer and a consumer. Then, the *Radicant* describes forms as wandering, as circuits and trajectories. Thirdly, in *Inclusions*, I insist on another kind of movement, the one that displaces the borders between matter and form. That is why I tend to use the word “formation” instead of “form.” My texts are anti-Platonic, anti-Hegelian. According to Hegel, reality is ontologically rational, as the history of humankind is equivalent to the development of the “spirit”—in other words, a total victory over nature, and a total denial of the chaotic and fluctuating nature of reality. For me, the flux of relations is what the material reality is made of. Here, I agree with Karl Marx who defined “human nature” as the sum of human actions: reality (and sociality) is an ongoing construction. It is nothing more than the temporary result of human behavior. The world is not a solo show where human beings would be the only actors. It is a group show, and we don't know how it will evolve.

The theoretical extension of relational aesthetics to non-humans, which I started in 2013, was fed by an in-depth study of anthropology. Claude

Lévi-Strauss, already in 1962, wrote that the opposition between nature and culture is not objective, but a human construction. And more recently, Eduardo Viveiros de Castro describes European culture as a place where people “seem to live in a world where other living creatures are only part of the environment.” I also took into account the works of the physicist Karen Barad, who draws on the principles of quantum physics to argue that there are no isolated objects in the universe, because everything that exists emerges from a relationship. Nothing is a simple “thing,” and all interactions are “intra-actions” within the unity of matter. So, why are relations ontological for me? Because they are the main constituents of reality. All around me, I only see relations. And of course, before relational aesthetics, art has always been based on relationships: an artist produces an object from his or her own vision, and this vision modifies ours. What happened in the 1990s is that a bunch of artists started to place those social interactions at the center of their practice, to focus on the social state of the artwork. But today, those interactional practices have changed status: they are becoming tools of resistance against the automation of society, against all automatic alterities we are offered. Artificial intelligence is a machine pretending to be your friend, and human encounters are processed by Tinder or thousands of other applications. We need to fight against those products.

KH: If relations are the very substance of reality, as you suggest, how do we account for asymmetry within relational fields? How can we still think conflict, domination or inequality without reducing them to mere variations within a shared continuum?

NB: A continuum can hardly be homogeneous, the same way time is not purely linear. It is precisely because relations are the substance of reality that conflicts, domination, and inequality exist. In a world constituted of pure autonomous *monads*, to quote Leibniz, relations would not exist, and we would live in parallel channels, without friction. To suppress conflicts or attenuate inequality, the only way is to set another kind of relations, establish rules, frames, make laws. Domination is inscribed in any animal milieu. Imagine a symmetrical reality, where relations would not be prevailing: then, the organization of individuals could be mathematical. And actually, that is the goal of the ruling techno-power: naturalizing social relations through algorithms, installing a real symmetrical order, under the supervision of AI, that would “naturalize” the division between

the dominant class and the mob. For the time being, social relations are still asymmetrical, and it is not a bad thing in itself. I mean, they have no specified contents nor regulated intensities: politics start when we organize them, by establishing systems that give them a content, that position them within a collective. I am in favor of accidents, within a regulated frame.

KH: Across your work, modernity appears less as a stylistic period than an energetic and economic regime (one organized around acceleration, expenditure, and the abstraction of value) whose exhaustion has left us with fragmented narratives and a shared technical ground rather than a shared political horizon. Against both modernist universalism and post-modern relativism, you propose translation, post-production and the notion of the radican as ways of producing meaning without fixed origins. How does this shift reframe the very task of critique today?

NB: In 1859, the first oil gusher was built near Titusville, Pennsylvania. The Modern era was ruled by the cult of fast combustion, the adoration of explosion, which is a quick liberation of enormous quantities of energy. This is the way I understand the expression “less is more:” small device, huge explosion of meaning. Modernism is determined by this superabundance of energy. If modernism was a cultural sequence based on spilling, one could also say that colonialism was a by-product of the steam engine. For me, the post-modern era starts with the oil crisis, in 1973, and extends until the subprime crisis, in 2008. Why? Because 1973 was the end of this abundancy, the moment humanity foresaw the limits—as stated in *The Limits to Growth*, a document which was made public in 1972. And twenty-five years later, the subprime crisis showed how the world economy had reached the limits of its disconnection with physical reality. 1973–2008: during this postmodern period, radicalized by 1990s economic globalization, identity became the new aesthetic value. In a floating world, roots are valorized, they are the steady elements. Today, identity politics is a concept upon which both radical leftists and alt-right or neo-fascists agree. This common interest is enough, in my view, to be suspicious about any cultural essentialism. In 2010, *The Radicant* attempted to cast doubt on this post-modern fetish: the botanical term “radicant” describes plants that grow their roots while advancing, not depending on an original unique root. In other words, my identity is dynamic, it has yet to happen, it depends on the territories I pass by. This theory might actually have something to do with curating. In our teenage

years, we use culture, especially music, to differentiate ourselves: we wear badges, we build our ego through artists or bands. A curator is someone who never gives up on those dynamics, because he or she lives through the works of others, and builds his/her identity through successive artistic experiences. You mention translation and post-production, which are two practices based on recycling or processing things that already exist. It is ontologically linked to critique, it is all about interpretation. A word that comes from the Latin word “explain.”

KH: You engage the term Capitalocene rather than Anthropocene as the key framework of our time. How does this shift affect the ethical and political responsibility of artists—can art still articulate resistance, or only modulate visibility, circulation, and value within those circuits?

NB: The term “Capitalocene” was invented by Andreas Malm, and it seems more appropriate than “Anthropocene,” because climate change is due to a political system, not to the human species as such. Nevertheless, in the 20th century, communist countries were heavy polluters, and the USSR was not more ecological than the US. If Lenin adopted productivism and Taylorism in 1919, he could have thought otherwise. I am not fighting over the term: if “Anthropocene” is widely understood, let’s go for it. The most important thing is to understand how climate change modifies our perception of life, and how artists are adapting to this new situation in order to create new visions of time and space. The ethical responsibility of any citizen is to fight against this global deterioration, but the ethical responsibility of the artist, at the specific level of his/her practice, is to produce representations and mental frames. Artists can of course be also militants, but it is not essential. On the same note, art cannot save the world, but, more importantly, I would say, it saves people, by enlightening or disturbing their minds. Not only by informing them: we have newspapers and books for that. We have to be “saved” one by one. Art has no collective reception, unlike cinema or music, it touches us individually. I would say that the core impact of artworks upon us comes from their faculty to re-edit reality: it is an alternative editing table for reality, as I argued in my book *Postproduction*. Politically speaking, art constitutes an individual intervention, the artist “intervenes” within reality, like a surgeon on a human body or a shaman interceding between humans and spirits. It can also be a deliberate interference, a visual bug. But all those notions are about resistance.

KH: Your notion of co-activity suggests a form of coexistence beyond identification. Could this be understood as a shift from empathy as projection toward resonance or affective attunement within more-than-human relations? Can empathy be extended to non-human entities without turning them into metaphors for human concerns? How, then, do you distinguish between resonance and depoliticization?

NB: Nowadays, empathy seems to be widely directed towards non-humans. Machines pretend to be our friends, exploiting humans' capacity to project their feelings towards anything. That is what fetishism is about. We start by projecting our feelings upon a teddy bear or a doll, and we end up displaying our intimacy to our AI. So, empathy has no object, because we tend to humanize any object. This is what is now called "automatic alterity," which is the dominant relational regime today. This regime leads to a dangerous depoliticized sphere, because democracy concerns people (*demos*) but not the tools they use. If politics includes AI, then it becomes metapolitics, which is embodied today by automatized deadly weapons and automatic mass surveillance. Against that depoliticization process, whose nucleus would be the exclusion of human control over machines, I proposed the concept of co-activity, an inclusive way of thinking. For an artist, it means the construction of a relational space, composed of subjects rather than objects, a space including multiple agencies, multiple others. Artists have to disrupt the "machine to human" system, which is quickly establishing itself before our eyes, by inventing a "human and others" system. It is interesting that you oppose "depoliticization" and "resonance," because it was a main theme of my exhibition for Gwangju Biennale in 2024, *Pansori: A Soundscape of the 21st Century*. Its first part was placed under the sign of the feedback effect, i.e., saturation, suffocation, lack of space. A feedback effect is so strident that it does not allow resonance. It might be a metaphor for our current situation.

KH: From the perspective of architecture and spatial practice, what distinguishes translation as an ethical and political operation from its reduction to mere compatibility with dominant formats of circulation and valuation? When architectural space is increasingly shaped by technical protocols, temporal regimes, and standards of communicability, how can translation produce distance, friction or delay, rather than merely optimizing legibility, mobility and exchange within existing systems of power?

NB: Translation has two sides: it can be an act of interpretation, a re-load. Also, as Walter Benjamin argues in *The Task of the Translator*, it is an act of preservation. A text survives by being translated. On the other hand, translation can be about adaptation and compromise. But I also consider the mathematical signification of the word: a displacement, a transfer. Since the 1990s, architecture has entered into the sphere of post-production: to mention only French architects, Lacaton & Vassal or PCA-Stream developed a practice of recycling buildings, which makes me think of the Japanese art of kintsugi, which consists in repairing objects with gold powder. Their reflection goes into space, processes, and the use of the existing, rather than the cult of the new building-object. We are now far from the “Bilbao effect” produced by Frank Gehry, whose style is linked to the 1980s and Jeff Koons sculptures. No more “Bilbao effect:” we need an architecture with a better scenario, an architecture of translations, in the mathematical meaning of the term: displacing the stakes of architecture from style to the production of new ways of living. In art too, it is about translations: when Philippe Parreno inquires about an exhibition project, the question is not the size of the space, but “How much time do I have?” It is a translation from space to time, from volume to duration.

KH: You argue that molecular art insists on the singularity of each form of life against standardization. Is singularity today a political value, an aesthetic one—or a fragile remainder within an increasingly algorithmic world? If contemporary art prepares us for a world of lethal entanglement, is this preparation emancipatory, or does it risk normalizing ecological catastrophe—especially when the invisible (viruses, particles, chemicals) has become a primary historical agent? How can art engage such forces without aestheticizing catastrophe?

NB: Let’s first define this “Molecular Art:” Dora Budor, Max Hooper Schneider, Pamela Rosenkranz, and many other artists who emerged in the 2000s, are observing the molecular structure of social realities, the atomic relations that compose the world. In *Inclusions*, I defined the stakes of this new tendency as such: “If the revelation of the social relations hidden within our relations to things was the major theme of Marxist thought, the Anthropocene has extended this reflection to the whole of the living, clearly showing that our relations to the ‘natural’ world reflect the totality of social relations.” As exchange value has become the

common denominator of all forms of existence, with a price tag on all of them, it is crucial to shift our gaze, to draw it toward the molecular level of reality (made up of dust, fluids, gases, etc.). What I call molecular anthropology is the study of the human effects, traces and imprints on the universe, and the interaction of humans with non-humans. So, I don't think there is any normalization or aestheticization in the works of those artists, rather an inquiry, an analysis. Artists who currently deal with the causes or effects of climate change are not making it spectacular. Anyway, was Pablo Picasso "normalizing" bombings when he painted *Guernica*? I believe in a forgotten quality of the artwork, clearly expressed by Paul Klee when he said that art does not represent the visible, but makes the invisible visible. Representing the fluxes of capital, the trajectory of the teargas or the path of invisible pollution might be the most political gesture today. It is the opposite of a situation where the blind are leading the blind.

KH: Does this focus on the molecular level also shift our understanding of the value of life, especially in a context where all forms of existence are increasingly reduced to quantification and exchange? Can artistic practices intervene in this logic of valuation without becoming part of it?

NB: From my perspective, the value of life forms is not absolute, because they all are correlated to their neighbors, caught within a net of inter-dependencies and cooperation. I would rather introduce the idea of the *relational value* of life forms, as opposed to the traditional notions of *exchange value* and *use value*. It is important to read Charles Darwin today, because he is much more subversive than one might think. The theory of evolution presents life as unpredictable and adaptive, always tending towards diversification. At the end of his life, Darwin privileged the "beauty criterion" to the "struggle for life," arguing that the notion of beauty was the main factor of evolution. In parallel, art is also a permanent invention of new forms of existence. It brings brain-diversity, infinite neurodivergence, against the modernist process which consists of standardizing behaviors in the name of calculation and rationalization.

KH: If contemporary environments are designed to maximize flow, transparency, and continuous availability, can architecture still intervene at the level of time—by producing delay, interruption or temporal density—or has duration itself become fully formatted by capital, such that even

slowness functions as a neutralized experiential value rather than a site of political or aesthetic resistance, or reflective distance?

NB: As a young man, my vision of architecture was deeply influenced by Guy Debord, Ivan Chitchevlov, and the Situationist International. I have limited knowledge of the architectural field, but I always kept *la dérive*, the urban drift, as a mental background. Also, the utopian city imagined by Constant. So, I never saw architecture as limited to the building itself. It is a way of acting upon the environment. Any architect has to diagnose a complex situation, find effective solutions, and embody them in a vision he or she knows how to implement. Architecture is also a meeting point for various forms of human knowledge, a link between theoretical thought, art, and technology. It is the art of inhabiting the world. Artists can envision time in many ways, and play with it, but architects have to deal with obligations and norms, constraints which shift their creativity to the use of the buildings: what are the new ways of inhabiting? How can we use the world we build? It implies time—rhythms. In a 24/7 productivist world, the speed of life takes on a political connotation, and accelerationism is everywhere. Slowness in itself becomes an act of resistance.

KH: In one of your lectures, you define beauty as “the energetic capacity of a form to resist interpretive exhaustion.” How can beauty still work in this sense in a culture of immediacy and constant circulation?

NB: To answer your question I must give a definition of Beauty. Every work of art can be compared to the emission of a signal, and we know that every signal needs energy to maintain itself. If it is loaded with this energy, an artwork will resist entropy and its fate as waste, an energy that can be used by future viewers—once “translated” into their own context. This energy is like a propelling force, which is to me the only universal definition of “beauty” as a concept. It has an equivalent in every culture, but it is always a combination of formal mastery, visual and intellectual complexity, and the artist’s ability to encode intense information, thoughts, and sensations into matter, to capture the issues of their time. In the current times, marked by the volatility of signs, “beautiful” is mistaken for “attractive.” Today, there are more or less three billion images produced every day and circulating on social media, so the “economy of attention” is central. But would you choose a life partner only because he or she is

spectacularly good-looking? Beauty is something else. It has something to do with sustainability, with time. Tamara de Lempicka was the most successful artist in the 1930s, or Banksy nowadays, but I feel sorry for them, their works are not the most beautiful of their times. They are only the most attractive. There is the same difference between pulsion and desire.

Interview conducted by Andreja Prokopijević and Sara Dragišić.

ARCHITECTURE BETWEEN SOCIAL ACTIVITY AND NON-DISCURSIVE ART: CONVERSATION WITH EDUARDO SOUTO DE MOURA

During my stays in Porto, I visited the architectural objects of Eduardo Souto de Moura. The shelves of his office contain lots of books devoted to his work. These books naturally include the objects in Porto. It makes me wonder whether these and other works belong more to the architect who designed them or to the cities and places where they are located. In philosophy, architecture is also defined as a collective art. In his text “Le Thoronet,” Souto de Moura describes architecture as a “social art” and emphasizes the importance of “collectivity” in the life of architectural objects. I have noticed that, at least in one of his lectures, he favors the term “social activity” when talking about architecture. “It is better to put quotes around the word ‘art’”—says Souto de Moura—“because I don’t consider architecture to be an art.” I ask him why.

“Art is autonomous; it does not depend on function. In art, we decide, and we are independent. In architecture, although we do decide, we are dependent because no one creates architectural work just because they feel like it: architecture is produced because there is a demand from a client who pays us. There is a problem, and just as a doctor is called when someone falls ill, so is the architect. A plot of land, a family or friend who wants to build a house, but does not know how. This is a problem, and so you call an architect.

Architecture, for me, is an activity between science and art, but it is not art. It is neither pure art nor pure science. I believe architecture follows this trajectory: there is a problem, and the architect is called. A painter, for example, needs nobody: they paint and do as they like. When they are unhappy with the work, they tear it up. When an architect makes a mistake, the trace remains, and the defects cannot be hidden. So, architecture is not an art. It has a subjective beginning; it comes into existence, and when it does, it provokes a collective reaction—either positive or negative—and when that reaction is positive,

it becomes a legacy. When it becomes a legacy, it no longer belongs to its author but to the collective, to society.”

One of the books on the shelves is *Eduardo Souto de Moura: Atlas de Parede. Imagens de Método* [*Eduardo Souto de Moura: Wall Atlas. Images of Method*], edited by André Tavares and Pedro Bandeira. I tell him that I knew he was interested in construction at sea, such as aircraft carriers or oil platforms.

“I am drawn to construction at sea because I like Le Corbusier’s idea that ‘a house is a machine for living.’ A machine, then, is not an object with the initial function to be poetic; it may become that later, like Duchamp’s urinal that becomes a fountain, but in the beginning, a machine is made to serve the community and has another function. When it stops having that function, it can become a sculpture or be whatever it wishes. I like the idea of a house as a machine, although it is later no longer merely a machine, but has a different function, perhaps an artistic one.

Architecture is not only a social “art” (with or without quotation marks), in the sense previously mentioned, but also a collective activity—teamwork in designing buildings—that involves the ability to improvise and respond to various stimuli in a timely and efficient manner. Knowing he is a jazz lover, I ask whether he sees his collaborations with other architects and members of his bureau as a sort of jazz performance.

“As for the analogy between the architect and jazz, I believe the means are different, but the goals are the same. We work with stone and concrete; jazz musicians work with sound. A jazz musician begins with a theme, repeats it, makes variations on it, and then other musicians enter (who develop and vary the theme further); it’s much the same in architecture. There is a theme (it is a program); the architect draws, then the engineers come in and often make their own variations on what the architect has drawn. So, the analogy holds. And it’s no accident that I have Miles Davis here, who used to say, ‘Leave behind the notes, liberate sound.’”

There are various jazz albums in Souto de Moura’s office. I remember spotting Enrico Rava and Stefano Bollani’s *The Third Man* in a shot

from *Reconversion*, the documentary about the architect's work, directed by Thom Andersen. Álvaro Siza describes the joint work of two architects as a jazz duet, and Souto de Moura worked with Siza.

"Yes, it can be a duet, but in the critical moment, he is the one to decide. If we agree, we make the decision together; if not, I'm not going to pretend to be important, so I say, 'Siza, let's do it your way.' Because I admire his work very much (and Siza's work rarely turns out badly), I can easily agree with him. It is like the Portuguese saying 'to write straight with crooked lines' [*escrever direito por linhas tortas*]. That happens with Siza. Or like that Albert Einstein sentence: that the shortest distance between two points in uneven space is a curve, because it must avoid obstacles. That is what I like about working with Siza – he goes slowly until he reaches the end."

In his texts, collected in *Architetti, architettura* [*Architects, Architecture*], Souto de Moura often states that he does not enjoy writing. He also says he prefers to write about others. For instance, I noticed that all the writings devoted entirely to a specific building in that book are concerned with the work of other architects (as in "Távora's Tower").

"The problem is that I am very demanding. In architecture, I work hard to make everything right, to be a good architect, because I don't have the right to make something flawed for a collective (I do in my own house, because it is mine and I will use it—it can be ugly, horrible, antisocial—but in the city, I don't have that right). That is why, when I write, I feel the duty to write well. Because I am not a writer, I struggle and worry I will write poorly. And so, I read a great many books by writers explaining how they write, because I use the same analogy for architecture as well. They write better than architects, which is why they are writers."

In some professions, the word is the principal means of creative expression, such as literature and philosophy, but not in all, as is the case of painting or sculpture—the "mute arts," as Maurice Merleau-Ponty named them. For the latter, the word is of secondary importance. The question is where the architect can be placed between these two extremes—the desire to speak and the will to be silent.

“The matter of ‘mute art’ is mostly directed at architects who speak too much,” Souto de Moura responds with a laugh, adding: “What I wish to say is that the work is what it is. No matter how many speeches you give or how much you talk about it, the work stands on its own merits. It is ‘mute’ because it says nothing on its own: you either like it, or you don’t.”

With chatterers, before you have even finished your question, they already have the answer and have been speaking for half an hour. Siza was once in Italy with an architect, a friend of mine, who asked him a question that went on for so long that Siza simply replied: ‘I’ll answer you tomorrow.’”

The work of an architect is defined by what they have designed, but also, what they have *not* designed. What I mean by this is what they have decided not to design or never had the opportunity to. A truly remarkable body of architectural objects designed by Souto de Moura has been constructed, including the metro stations in Porto, the crematorium in Kortrijk, and the hydroelectric power plant in Alijóu. What about libraries?

“I am currently working on the main library in Porto, which occupies an entire city block. It has not yet been realized—the project is ongoing, and there is currently a call for contractors. Actually, one tender has already been held, a contractor was selected, and just as the contractor was about to sign a contract—between the city and the contractor—they asked for more money. The city government rightly refused to pay more. And so, the tender was canceled, and they launched another one.”

Architecture, as a social activity, involves many actors in constant interaction, as well as many limitations, challenges, and problems. I mentioned the Hospital de Todos-os-Santos in Lisbon.

“This ended in court, and besides, it is a process I disapprove of—the so-called ‘design-construct’ [*conceção-construção*], which should more accurately be called ‘construct-design’ [*construção-conceção*], because it is the constructor and money that make the decision in the end. In the case of the Hospital de Todos-os-Santos, the project was irregular because the program required all rooms to face south, while the

rooms were oriented east-west. I filed a lawsuit but decided I didn't want to continue because I'd have to pay for lawyers, which I didn't care to do, and so I lost the case. Later, I was given the project for the hospital in Évora, which is currently under construction."

Souto de Moura wrote that Fernando Távora thought of books as friends. If books can be regarded as friends, I wondered which books he considers his closest companions—those that accompanied him throughout his life and with which he mostly gladly spends his time.

"As for architecture, I read few architectural books, because I work a great deal, and when I come home, I have already spent around eight or nine hours around architecture, and I always have papers to read and correct with me. But there are two books that have left a mark on me as an architect: *Complexity and Contradiction in Architecture* by Roberto Venturi and *A Scientific Autobiography* by Aldo Rossi. The book *The Architecture of the City* is also significant, but *A Scientific Autobiography* contains an old wisdom—that architecture is not made based on a single method but through a set of circumstances that lead toward something. These two books are very important.

Then, I love writers. My favorite writer is perhaps Thomas Bernhard. I'm currently reading a book about his life, but my favorite of his is probably *The Loser*. There is also Vila-Matas, a Catalan writer who is very good and has written a very small book—one that I may love the most—called *Perder teorías* [*Losing Theories*]."

I believe Italo Calvino should be included, but I steer the conversation toward philosophy. "I think that 'pure and hard' philosophy is difficult; I prefer poets who are also philosophers, like Fernando Pessoa. *The Book of Disquiet* is a book that is always by my bedside." I think of the intervention *Out Here: Disquieted Architecture* at the 2008 Venice Biennale of Architecture. I add that I remember him saying that Pessoa's book can be seen as a journal of an architect. "Indeed," he answers, "as to philosophers, I like Gilles Deleuze." When I ask why, he says: "Because he wrote a book that left a profound mark, *The Fold*, which explains Baroque and contemporary architecture very well, if we follow the analogy presented in it."

In an interview with *El Croquis*, Souto de Moura said he was interested in houses where writers and painters—discursive and "mute" or

non-discursive authors—live and work. “A house is the most conservative institution there is. My question is: why do avant-garde artists, who create new codes, shift from romanticism to realism, from realism to surrealism, and then to modernism, those who are avant-garde in their profession, live in old houses that are the opposite of avant-garde?”

I mention Ludwig Mies van der Rohe for a reason. His work is highly respected by Souto de Moura and, as he has written in a text that I will refer to soon, he collects books about him. “Yes, I have a lecture about why Mies van der Rohe never changed his house. But there are many such examples: all the painters I showed during that lecture. For example, Picasso lived in old houses only, and the more money he had, the older the houses he bought: from the 19th century, then the 18th, then the 17th, even though Picasso was avant-garde itself.”

Works can point us back to their authors. I find myself thinking about the questions of self-portrait and autobiography in relation to an architect. I ask Souto de Moura whether he regards his own buildings as self-portraits. “Do I see the buildings I designed as self-portraits?” he repeats the question. I confirm, adding that I mean abstract self-portraits. “Yes, of course; they can only be abstract, otherwise they’d have to be fat buildings,” he responds, laughing, and adds:

“But yes, perhaps self-portraits in the spiritual sense, in the sense that my style may be recognizable in the buildings I design. There are other interesting phenomena as well—like when, at the airport, I look at pictures in magazines and think, ‘This house is in Portugal,’ or photographs of exhibitions in magazines or newspapers and think, ‘This is in Porto,’ ‘This is by some architect from Lisbon.’ Yes, I can recognize that identity. Architecture has no stamp, but it has an atmosphere that we recognize.

However, I am not sure whether what I am doing can be called a self-portrait, because I change a lot. Luckily, I wouldn’t say I have a defined style. That is at least what I think, even though many claim the opposite, and it is not something I strive for. There are those who say I make all houses the same, and that all houses in Portugal have now come to resemble mine. There is even a lecture titled ‘Soutomourization of Territory.’ I don’t believe in it and have no wish to sound pretentious. I don’t care whether I have one style or ‘one’ architecture. What interests me is ‘architectures,’ in the plural.”

In a text about Thomas Bernhard, he wrote: “There are writers who believe all their books are autobiographical.” I cite his words to him. “Yes, I believe all books are autobiographical, but autobiography is not a linear movie. To understand the biography of a writer who has written an autobiography means to realize that they impose censorship; they are neither direct nor clear, it is not simple.”

An unpretentious autobiographical piece of writing by Souto de Moura—noticeably brief as well—is titled “Slightly Scientific Autobiography”—an allusion, perhaps with a touch of humor, to a work by Rossi he referenced both in his text and in this conversation. Here, he discusses certain philosophical and theoretical schools of thought that were dominant during his secondary school years and his university studies: existentialism, Marxism, and structuralism. The question of influences during this formative period naturally becomes relevant.

“I am unaware of my influences; I know only what subjects interested me. In my youth, that was existentialism, then structuralism (like Michel Foucault), then Gilles Deleuze, who somewhat challenged structuralism, some sort of post-modernity or post-post-modernity.”

I wonder what else I could have asked Souto de Moura. Maybe about the question of quotations in his architectural practice and in his texts. I am also curious about his thoughts on so-called anonymous architecture. After all, the mark of any good conversation is that it has a limit yet could be limitless.

Miloš Ćipranić

THE OTHER IN VIEW: EMPATHY, ATTENTION AND VISIBILITY. AN INTERVIEW WITH SUSANNE SCHMETKAMP

KHÖREIN: How do you understand the concept of “emotionality” in your research, and what theoretical implications follow from it in comparison with traditional theories of emotion?

SUSANNE SCHMETKAMP: I advocate a narrative component theory of emotion. On this view, emotions consist of several components, including a judgment, a bodily sensation, a motivation, and a valence (pleasant or unpleasant). Many emotions, especially intense ones such as anger or jealousy, are narratively structured: they unfold through a beginning, a climax, and an end and can, so to speak, be “told.”

KH: To what extent are emotions dependent on culture and context, and what methodological consequences does this have for philosophical analysis?

SS: Emotions have transcultural features, but their concrete manifestations are shaped by culture and context. Cultural and social norms can strongly influence not only how people express emotions, but also how those emotions feel.

KH: In what ways can emotions perform epistemic functions, and under what conditions may they be regarded as legitimate sources of knowledge?

SS: Emotions can have considerable epistemic value. Through them, we can understand the perspective we take on a situation, an object, a person, or a place, as well as the judgment embedded in that perspective—for example, that something is threatening or that someone gives us a sense of security. In seeking to understand the emotions of others, we can likewise discern this epistemic content.

KH: It sometimes seems that contemporary societies are increasingly impatient with grief, dependency, and vulnerability. Do you think this difficulty in remaining present with the suffering of others also weakens our capacity for empathy?

SS: Empathy presupposes a particular form of attention—more precisely, attention to another person’s concrete perspective, experiences, and concerns. The phenomenologist Thomas Fuchs diagnoses a narcissistic tendency in contemporary society: people increasingly seek self-presentation and self-mirroring, which means that, instead of truly being “with the other,” they remain with themselves. Regarding impatience, I see two further tendencies. One is the impulse to overcome suffering and pain as quickly as possible, to heal and optimize one’s life and oneself without delay. This tendency is inscribed in capitalist, neoliberal societies. The other is an overemphasis on one’s own vulnerability and woundedness. It is both good and important that suffering be perceived and acknowledged, but overidentification is just as problematic as disregard.

KH: Iris Murdoch often describes attention as requiring a temporary loosening of the ego—what she calls “unselfing.” Could one argue that contemporary social and media environments make such moments increasingly difficult?

SS: As I have already suggested, there are tendencies—and diagnoses—of this kind. Many people find it difficult to step back from themselves and set their own ego aside. Even in seemingly empathetic conversations, people often move very quickly to their own experience and project it onto the other. Empathy and ethical attention in Murdoch’s sense require an “other-oriented viewpoint” rather than a “self-oriented viewpoint.”

KH: How should philosophy and ethics approach emotions that are socially stigmatized or pathologized—such as shame or anger—particularly in political and clinical contexts?

SS: Grief provides a revealing example. Philosophy, but also society more broadly, often struggles to allow or examine this feeling—or cluster of feelings—because it is stigmatized as “unpleasant” or “negative.” As a result, its epistemic value is not brought into view. Grief may instead be categorized as a “disorder” after a relatively short period, for example

when, after six or twelve months, a person continues to think obsessively and longingly about someone they have lost, or about something else of existential significance. Grief is then perceived as a deficiency or a state of lack, rather than taken seriously in terms of its possible value. Anger, meanwhile, shows how emotions can be perceived and evaluated differently along gendered lines. Recent work in philosophy and cultural studies has increasingly examined the value and appropriateness of such emotions, particularly in relation to marginalized groups.

KH: You describe aesthetic experience as a possible way of loosening the ego's hold on perception. Do you think art can still cultivate forms of attention that are increasingly displaced in contemporary social life?

SS: Absolutely. Art—as well as other objects, activities, and experiences not governed by a specific purpose—fosters different forms of attention. Contemporary society privileges functional, goal-directed, and instrumental attention. Yet free-floating attention is equally important: at its best, it allows us to experience ourselves in the here and now. Aesthetic attention in particular has a distinctive quality; it is free from determining judgments, prejudices, and projections. Cultivating it therefore also has political and democratic significance.

KH: Simone Weil and Iris Murdoch both suggest that the moral life depends less on applying rules than on the quality of our attention. Do you see empathy as connected to this idea of moral attention?

SS: In its strongest sense, I understand empathy as an allocentric shift of perspective: taking up another person's perspective while distancing oneself as far as possible from one's own first-person perspective, judgments, desires, and experiences. Weil and Murdoch describe moral attention, or the "loving gaze," in a similar way—as a selfless attitude detached from one's own ego. Murdoch also shows how this detachment from the ego can be achieved through aesthetic experience.

KH: Your reflections on architecture suggest that visibility is never neutral: spaces direct attention toward certain bodies while rendering others almost invisible. Do you think empathy, too, is politically shaped by regimes of visibility and invisibility?

SS: Yes. Empathy presupposes attention, and attention is strongly directed within political space. Who is deemed worthy of attention? On whom does the gaze of others fall, and in what way? These questions strongly affect whether and how we empathize and feel with others.

KH: There is an apparent paradox: people sometimes find it easier to empathize with fictional characters than with the people they encounter in everyday life. What does this tell us about the nature of empathic understanding?

SS: I would not describe this as a paradox. Fiction offers a kind of “moral relief.” we are relieved of the obligation to intervene in what fictional characters undergo because we cannot intervene and therefore need not do so, in keeping with the principle that “ought implies can.” This allows readers and viewers to engage differently with what happens in fiction. The motivational component of the emotions involved—fear for a character, for instance, or compassion for them—is, as it were, suspended. This does not mean that such emotions have no consequences or relevance, or that they cannot entail moral responsibility. Empathic engagement with fiction becomes epistemically and ethically valuable when it transfers into real life—for example, when it enables or facilitates the understanding of others, especially perspectives that are unfamiliar to us.

KH: You argue that aesthetic attention differs from ordinary practical attention because it does not immediately select and evaluate according to utility or self-interest. Might empathy require a similar suspension of instrumental perception?

SS: Ideally, empathy, understood as the shift of perspective described above, should be guided by curiosity, openness, and appreciation of the other person. Tactical or instrumental forms of empathy certainly exist. But when we call someone particularly “empathetic,” we usually mean something more: that they are especially capable of engaging with others with genuine interest and of putting themselves in someone else’s place—not merely out of instrumental interest, but for the sake of the other person.

KH: Architecture structures how people appear to one another—who becomes visible, who remains peripheral, and how attention is

distributed. Can such spatial arrangements shape in advance what is perceptible in others at all?

SS: Architecture does direct attention. If a lift for people with mobility impairments, wheelchair users, or those with prams is positioned outside the relevant frameworks situated outside the relevant configurations—for example, away from a museum’s principal entrance—these groups effectively disappear from view. They may formally have “access,” but that access is usually visible only to those who need it.

KH: You have also written about empathy in relation to humanoid robots and artificial intelligence. What interests you philosophically about these relationships and does empathy necessarily presuppose another consciousness, or can it also arise through projection and interaction?

SS: I find it fascinating how readily we ascribe human qualities to AI—something we already do with fictional characters in literature and film, so in that sense it is not entirely new. What is new, and increasingly common, is the emergence of new kinds of relationships with AI, including friendships and even romantic relationships. Empathy does not necessarily presuppose another consciousness: as children, we already empathize with fictional characters, and this is a very important experience for our development. It is possible that empathy is also exercised through such interactions.

KH: Which spatial qualities—such as lighting, materiality, or proportion—seem to you empirically and conceptually most relevant to fostering or inhibiting particular emotional states?

SS: Spatial design, acoustics, and materials clearly shape whether, and in what ways, people feel at ease. At the same time, this varies individually and culturally. I also believe that individuals have some responsibility for discovering what supports or hinders them personally. Following Hartmut Rosa, however, I would agree that certain factors intensify our resonance with others and with the world, while others diminish it, and that resonance is a valuable experience within a good life.

KH: Which open questions in the philosophy of emotion do you consider most urgent?

SS: I see considerable research potential in empathy and attention, especially aesthetic attention, a concept I have emphasized in my own work. Loss, grief, and trauma also seem to me crucial fields of inquiry. Grief in particular has only recently begun to receive sustained attention; it was previously largely ignored by mainstream philosophy. Yet grief is perhaps the emotional experience that all of us will undergo, albeit differently and sooner or later, and the ways in which it is recognized—or not recognized—reveal a great deal about our societies. In Western societies oriented toward progress and self-optimization, loss and grief are treated as scandalous and shameful. This attitude not only obstructs the vital process of grieving, but also undermines its potential.

KH: What do you think contemporary philosophy still finds most difficult to acknowledge about emotional life?

SS: Although philosophy is now devoting more attention to these matters, it still does too little work on so-called negative emotions, psychological distress, illness, and pain. All of these are also part of our lives and should be given more space.

Interview conducted by Željko Radinković and Sara Dragišić.

Jordan Whitewood-Neal*

WANDA KATJA LIEBERMANN, *ARCHITECTURE'S
DISABILITY PROBLEM*, ROUTLEDGE, NEW YORK, 2024.

There is a growing, albeit still limited, number of architectural texts that approach architecture directly through the lens of disability theory and history. Several years ago, we had David Gissen's *The Architecture of Disability*, and now Wanda Katja Liebermann has written a rich and comprehensive study of disability's place within the tensioned conditions of architectural pedagogy, practice, and the wider state and federal policies that inform them. It is a study that provides readers with a historical and embodied collection of insights into, specifically, the US context of jurisdiction, professional practice, and education.

Liebermann makes it clear from the beginning that her intention is to show how, "[t]he body is the link between cultural capital and ableism in architecture because it both incorporates values and generates them"¹ and where the possible scales of architectural production through and with disability enable ways of subverting ableist notions of disabled bodies. The book's focus on multiple forms of practice is intended to underpin how this practice materialises wider social and cultural perspectives, where, "by scrutinizing building design, one can discover the explicit as well as tacit beliefs that architects and clients hold about disability, a reflection of wider social values".² She argues that by, "theorizing connections between othered disabilities, incarceration, and liminal civic status helped me make sense of my findings outside dominant (liberal) epis-temic fields and their contradictions"³

¹ K. W. Liebermann, *Architecture's Disability Problem*, p. 60.

² *Ibid.*, pp. 6–7.

³ *Ibid.*, p. 7.

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Liebermann begins by establishing the trajectory of theory regarding disability in parallel and intersection with various other fields; cybernetics, linguistics, phenomenology, psychoanalysis, sociology and geography. This highlights the historical lack of attention given to disability within the field of architecture, which has itself engaged with and utilised many of these epistemologies. Liebermann directly adopts the framework of ableism from Critical Disability Studies to show how the possible scales of architectural production through and with disability reflect the ableism inherent in capitalist regimes of spatial practice. One of the most admirable parts of this book is its extensive use of multiple methods of research which directly critique traditional objectified engagement with disabled experiences. Instead, opting to gather and reflect back on Liebermann's own embodied experience across policy, pedagogy and practice, and the wide-reaching set of actors she encountered during this work. From archival, observational, biographical, and ethnographic research, to formal analysis, interviews, and media, the book surveys and makes use of these multiple narratives within the field.

One of the most important arguments Liebermann begins with is how the ADA (Americans with Disabilities Act) transformed access into a juridical project, where not only were disabled people in the eyes of the judiciary often placed in a state of exceptionality, but simultaneously it constructed the ideal disabled subject. The chapter on policy narrates the convoluted, contradictory and inequitable bureaucratic systems through which disabled people are often forced to navigate. Liebermann references the work of law scholar Mita Chatterjee, who argues that the "lack of jurisdictional uniformity trivializes the importance of accessibility for people with disabilities, as well as underestimates the magnitude of the civil rights principles supporting the ADA."⁴ The consequences of these judicial approaches, it is argued, meant there is limited attention to exploring design via the culture and nuance of disability and the history of Disability Justice. Instead, practitioners end up wrapped up in legal frameworks which reduce disability to policy negotiation, forming a constitutional divide.⁵ Although the section on policy shows a rigorous attention to the troubled processes and implications of the ADA, there is arguably a lack of attention to the way such policies have intersected

⁴ Access Denied and Not Designed: The Ninth Circuit Drafts a Narrow Escape for Architect Liability under the *Americans with Disabilities Act* in *Lonberg v. Sanborn Theaters, Inc.*, 9 Jeffrey S. Moorad Sports L.J. 293 (2002).

⁵ K. W. Liebermann, *Architecture's Disability Problem*, p. 26.

and existed in tension with other movements of civil rights—from race, gender, to trans rights.

The chapter on pedagogy addresses the many ableist conditions created by architectural education, from studio cultures harmful to students, to student/tutor dynamics which reinforce certain forms of design, language, and style which neglect any idea of disabled embodiment. The chapter is structured as follows: Space, Body, Time, and Words and Images—moving across spatial scales and temporalities of the architecture school, reflecting on the tensions between pedagogical labour and, for example, disability principles such as crip time. Liebermann addresses these tensions by framing the ableist habitus of architectural education, where “habitus describes the recursive mechanism for transmitting meaning between cultural values, social structures, and individuals.”⁶ This reminded me of Stuart Hall’s concept of encoding/decoding where media produces (encodes) with intended meanings based on dominant ideologies, but are interpreted (decoded) by audiences in varied ways based on their own social context. Liebermann’s focus on ableism as a process which is facilitated through proliferated cultures in the architecture school is an important contribution. Later on she references how this ableism manifests in civilising and eugenic terms:

The sociologist Bill Hughes connects ableism to what Norbert Elias calls the civilizing process. Elias’s thesis was that as Western societies moved into the modern age, formerly acceptable bodily properties and habits had to be hidden from sight. This shroud of “intimiza-tion” left only so-called healthy, clean, invulnerable bodies acceptable for public viewing. Hughes notes that eliminating disability was essential to this movement because the vulnerable and exposed bodies of disabled people disrupted the bodily control now demanded by society.⁷

However, what I hoped from this chapter was the exploration of pedagogy at the scale of the brief, how disability often finds troubled ground in the conventional design brief and looking towards examples of pedagogy that challenge disability beyond ADA—through contexts of debility and disablement both in the US and beyond. By focusing on

⁶ *Ibid.*, p. 57.

⁷ *Ibid.*, p. 60.

ableism and pedagogy primarily through student and faculty experiences of disability within the functionalities of the academy (following other critical works by Jay Dolmage, Tanya Titchkosky, and Margaret Price) the book addresses only one dimension of pedagogy.

The most forward-looking moments of the book often occur briefly at the end of the chapters, specifically how the COVID-19 pandemic, in Liebermann's words, created "a call for elevating the importance of embodied knowledge—of *lived* bodies—for new emancipatory material practices and cultural formations."⁸ But these critical reflections and insights feel sometimes left too late.

Although Liebermann surveyed 3 case studies for the chapter on practice (first the Ed Robert's Campus and then Gallaudet University) I have chosen to focus on the lesser-known study of St. Coletta School of Greater Washington. This chapter is the book's most valuable contribution to the intersected fields of architecture and Critical Disability Studies. It brings together several complex components: Liebermann's own familial experience of learning disabilities through the story of her brother, learning disabilities history in the United States and the troubled and often critiqued sites of both institutions and special education schools, and finally the question of citizenship and civic space through the St. Coletta case study which raises questions around segregation, civility, and control and surveillance.

The chapter importantly details the history of intellectual disability—and "how architecture, democracy, the US education system, and intellectual disabilities are construed by designers and others who shape the lived experiences of people with intellectual disabilities."⁹ In her strongest critique of St. Coletta school, Liebermann critiques the institution's approach to education and the hidden or implicit modes of control and civilising practices. She says: "Eugenics' centrality to capitalist systems thus maintains the sorting and elimination of superfluous bodies (labor). St. Coletta contributes to this wholesale separation of people with intellectual disabilities from society."¹⁰

One of the key focuses is the redesign of the school building, a process entangled with postmodernist approaches and style, and educational practices favored by the school's head. The question of student

⁸ *Ibid.*, p. 78.

⁹ *Ibid.*, p. 163.

¹⁰ *Ibid.*, p. 168.

agency sits at the heart of Liebermann's critique, arguing how the students' voices were mostly absent from the design processes and inherently perceived as incapable of engaging. "From pre-design discussions to contemporary rhetoric about St. Coletta, students have been imagined as the heart of the endeavor even as they were left out of the process."¹¹

Two intersecting spatial and social motifs of the school are its domestic typology, which Liebermann links to historical examples of colony plan institutions, and the domestic practices that made up part of the schools pedagogy—where the key goal was becoming better family members and citizens. Liebermann argues how these conditions are responsible for imposing a spatial and civic normativity.

Segregated education perpetuates more segregation. In other words, out of desperation, resignation, and socialization, parents and teaching professionals come to accept, even extol, segregated learning. By doing so, they reinforce existing practices and the belief systems on which they are premised. This in turn supports the dehumanizing geography of differential human worth based on socially constructed and dubious measures and ranks.¹²

What Liebermann uses this study to demonstrate is that a non-segregational approach to education has the potential to offer alternative ways of theorizing and designing architecture and its pedagogies. But she also acknowledges the feedback received by students (who critically, do have voices)—in which they state positive feelings towards the school. The narrative and tensions explored in this chapter expose the ongoing tensions and opposing frameworks of the schools leadership and architects with disabled practitioners and scholars.

The book's methodology, highlighted densely in the exploration of St. Coletta, of engaging with the multiple stakeholders that are (directly or indirectly) involved in disability and architecture collectively—also raises the question of empathy. Empathy is explored most directly by Liebermann towards the end of the chapter on Gallaudet:

While empathy is an essential capacity for humans and architects, it is also problematic in the architectural (and other professional) context. Empathic projection is often undertaken by persons who

¹¹ *Ibid.*, p. 173.

¹² *Ibid.*, p. 187.

do not share the lived experience or identity of the design recipients. Thus, it places the architect in the role of ventriloquizing the needs of other (Deaf, disabled, POC, queer, etc.) people. [...] Especially when power differentials exist between empathizer and object of empathy, empathy involves a displacement of the user's position by the architect usurpation that can produce partial and even false knowledge. This seems particularly acute given how little attention is paid to embodiment, experience, and subjectivity in architectural education.¹³

Empathy, Liebermann shows, is a challenging and contested emotion and ideology. It continues to inform relationalities between disabled and non-disabled people, and can even sometimes be exploited as a tool of ableism to disenfranchise disabled agency. In the conclusion of the book, Liebermann turns to the idea of deconstructing and (un)mapping (or arguably re-mapping) the fields of disability and design by attending to "architecture's disability future"—asking: "How can we reconcile capitalist pressure with what queer theorist José Esteban Muñoz calls the "crazy, risky, wild leaps into the world" needed to access disability futures?"¹⁴

This book would provide any student, practitioner, and researcher interested in the entangled histories of disability and architecture in the United States with an in-depth introduction to some of the key questions and critiques around access, educational practice, and most importantly, the tensions embodied between empathy, citizenship and agency. The book arguably has limitations in how disability (and disablement) is considered—and some of the earlier intentions of the book regarding disability's links to justice, incarceration and other civil rights, are not fully explored. Education and practices roles in the proliferation of violent architectures or urban segregation are absent, and pedagogy is reduced to more pragmatic experiences of the academic environment. But regardless of these critiques, the book is a welcome contribution to the field, and a key text for introducing those outside or tangential to our complex discipline, to its vital histories and ideas.

¹³ *Ibid.*, p. 150.

¹⁴ *Ibid.*, pp. 208–209. And see: J. E. Muñoz, (2019), *Cruising Utopia: The then and There of Queer Futurity*, 10th anniversary ed., New York University Press, New York, 2019, p. 147.

Michael Faciejew*

DAVID GISSEN, *THE ARCHITECTURE OF DISABILITY: BUILDINGS, CITIES, AND LANDSCAPES BEYOND ACCESS*, UNIVERSITY OF MINNESOTA PRESS, MINNEAPOLIS; LONDON, 2023.

Since the 1970s, disability activists and scholars have vigorously contested architecture as an inhospitable discipline. Yet impairment, as a fundamental human condition, has shaped the built environment for thousands of years. As the architectural historian, theorist, and practitioner David Gissen writes in *The Architecture of Disability*, even the ascent to the Acropolis in ancient Greece (when it was likely enabled by a continuous ramp), would have been considered from the vantage point of blind, elderly, or pregnant people. It would, however, be politically insufficient to draw lessons from such past practices only to make historic monuments and other spaces more “accessible” for disabled people. As Gissen consistently reminds the reader of his book, access is a flawed category, limited by our modern (and capitalistic) orientation towards efficient use and normative function. Rather, to read impairment (as well as weakness, incapacity, and dysfunction) back into architecture—where it has always been—is to fundamentally redefine “its character and ultimate intent.”¹ This is because “architecture alienates disabled people beyond the utility of it.”²

In this thought-provoking yet digestible book, disability sets up a *structural* disciplinary critique which offers for Gissen “opportunities for alliances among those seeking to reimagine the politics of architecture and its engagement with human subjectivity and rights.”³ A multivalent engagement with subjectivity here is crucial, and on the methodological

¹ D. Gissen, *The Architecture of Disability*, p. xvi.

² *Ibid.*, p. ix.

³ *Ibid.*, p. xi.

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level Gissen implements it through an equally multivalent first-person subject in various evidentiary and argumentative registers. This begins in the introduction's first page, which situates a straightforward critique of techniques for architectural "accessibility" as "ultimately belittling of disabled people like me."⁴ The strategic insertion of personhood here and throughout the book moves beyond the ethnographic approaches by disability and built environment scholars such as Raymond Lifchez, whom Gissen references. Yet such passages (e.g. "it is difficult to imagine this book with my own experience of this path..."⁵) should be understood less as acts of centering the author himself, but to suggest that "people like me" are both highly individuated in their experience of the built environment and therefore also highly differentiated from each other. "*People like me*" becomes a form of collectivization that projects into the political, physical, and cognitive experiences of other disabled people, but also, in a more intentional way, disabled architects and commentators of the built environment. This expansion of individual impairment into a matter of collective attention is politically operative for the book.

Impairment is distinguished from disability in that the former concerns a factual "lack" (a missing limb or a defective mechanism) while the latter presumes a disadvantage and is therefore socially constructed. As the media scholar Jonathan Sterne wrote in *Diminished Faculties: A Political Phenomenology of Impairment* (2021), impairment is not necessarily a limitation, but a basic sociotechnical condition of everyday life (a bus that arrives late, a skilled dancer who trips). Gissen motivates a similar normalization of impairment in six chapters, each of which identifies impairment in a single architectural meta-category: monument, nature, city, form, environment, and construction. The chapters are "accessible" in that they are short, clearly written, and assemble a wide range of references that, the reader surmises, are linked to the author's personal experiences, either as a scholar, architect, professor, or person in the world. Gissen's explorations are unconcerned with the type of in-depth case study that readers might expect in today's conventionally "rigorous" architectural histories, which cover a narrow historical period. Instead, Gissen liberally employs transhistorical analysis and comparisons, revisiting the theory and practice of modern architecture (especially in Europe and North America), which, because of their unilateral orientation

⁴ *Ibid.*, p. vii.

⁵ *Ibid.*, p. xiii.

towards function, have excluded non-normative experiences and therefore calcified a hegemonic discipline that limits possibilities for collective liberation.

The book's first three chapters are connected by the latency of impairment in a larger scale of historical and spatial experience, of monuments, nature, and cities. In the first chapter, monuments such as the Acropolis and the basilica of St-Denis are vehicles for questioning the relationship between authenticity, originality, and disability in preservation discourse. Preservation techniques and procedures are evaluated for their role in monumentalizing history, that is, eliminating "weakness and vulnerability as cultural values" that have always been present in human settlements.⁶ In the second chapter, Gissen strings the artificial "wilderness" of Yosemite to the urban natures of early twentieth-century garden cities and beyond to reconsider assumptions about nature's purity and utility, which leave little room for understanding its inherent ugliness and impairment. For Gissen, environmental ethics is a lens for the valuation of humanity in its fullness rather than its usability. In the third chapter, the historical association of modern planning and infrastructure with hyper-efficient ideas of circulation and development (as in subterranean engineered hydrology and the colonial dynamics of private property) lead to a radical new proposal for urbanism, where flows are slowed, altered, and interrupted.

What comes across lucidly in these first three chapters is an opposition to a rationalization paradigm, an iconoclasm that destabilizes assumptions about modern "expertise" in the fields of preservation, planning, and landscape design. To develop each chapter's iconoclastic proposal, Gissen balances a surprising scope of evidence: canonical texts from architectural history, primary visual sources such as Piranesi's etchings of the Roman Forum, scientific research, critical scholarship by the likes of Elizabeth Povinelli, insights from key events in disability activism (such as the smashing of concrete curbs in Denver, Colorado, in 1978), and contemporary design practice (for example, West 8's *Salon de Pinos* in Madrid, a designed allée of "impaired" pines supported by prosthetic stanchions). This eclectic tendency unbalances architecture to reorient it towards bigger questions about contemporary *values* in Western society. In this way, it also generates a different kind of "accessibility" of readership, where the values embedded in specific design fields become legible

⁶ *Ibid.*, p. 11.

for readers not implicated in these disciplines. Impairment becomes an operative system for new forms of transdisciplinary integration.

The next three chapters are more closely linked to architectural practice. In the fourth chapter (on form), Gissen elaborates a critique of formalism (bridging sources such as Elaine Scarry, Bernard Tschumi, Heinrich Wölfflin, and Yve-Alain Bois and Rosalind Krauss) and considers how aesthetic knowledge created by different ways of sensing, including weakened senses, can dismantle racialized and hierarchical systems. In Chapter 5, Gissen skeptically interprets the architectural category “environment”, looking into its reliance on clinical and metaphorical understandings of human physiology. Here, Gissen substantiates a critique of the norms that endure in contemporary discussions of climate and comfort (including the ostensibly critical discourse of “postcomfort”) by incorporating observations about his own artificial limb, which requires him to seek out extra air movement to cool his body. The sixth and final chapter—on construction—leverages disabled labor to amend (Marxist) materialist critiques of production, which define human purpose through normative understandings of productivity. Gissen identifies settlements in Red Vienna constructed by wounded war veterans and widows after World War One (including a project designed by Adolf Loos). In these communities, the “meaning of work” is remade when the assumed *possibility* of impairment (via class precarity, danger, or injury) is seen not as a weakness but an elemental component of collective life.

With reference to its latter half, we can consider how the book performs a critique of contemporary scholarship through “disabled reading.” Expanding the idea of alt-text, Gissen introduces critical, narrative figure captions, which offer a parallel way of moving through the chapters. With these, Gissen seeks to “[embed] politics into experiments with text.”⁷ As a case in point, the book’s final figure is a close-up image of a brick wall whose caption reads: “The photograph shows the hand of Khadija McNair [a Black expert in African American heritage] pointing to a brick bearing the imprints of fingers and set into a larger brick wall. The imprints were left by the enslaved builders of Stagville Plantation in North Carolina, in the southeastern United States.” This salient narrative, which does not refer to disability as such and—just as importantly—does not feature in the chapter itself, raises interesting questions about the idea of “people like me,” which introduced this review. Here, the

⁷ *Ibid.*, p. xvii.

reader understands that Gissen's concept of impairment fluidly bridges disability justice and racial justice, precisely because both demand un-disappearing the marks made by all types of people upon the historical built environment. Other figures, for example a photograph of the path leading up to the Acropolis (designed by Dimitris Pikionis in the 1950s), translate relatable experiences into a disciplinary and epistemological critique: "the narrow ramp produces the idea that knowledge is solitary and physically demanding."⁸ This "disabled reading" of images reinforces the intersubjective position that introduces the book.

What ultimately matters in the book is how the multivalent centering of "people like me" transposes Gissen's personhood into more complex questions concerning the production of architectural knowledge. Writing about his skepticism of the primacy of archives in supposedly "insightful" architectural scholarship, Gissen addresses the importance of "my comparative weaknesses and incapacities, and those of others, as parallel sources of knowledge."⁹ The book's political and historiographical objectives are thereby tangential to contemporary understandings of "decentered" and "decentralized" knowledge, as proposed in a recent book by Leandro Rodriguez Medina and Sandra Harding (*Decentralized Knowledges: Essays on Distributed Agency*, 2025), where processes of intellectual co-creation are understood to reposition and replace canonical knowledge. As they write, this can (but does not always) lead to a restructuring of political power towards counterhegemonic ends. Gissen's embedding of a collective "me" or "we" in *The Architecture of Disability* triggers related questions about the concentration and centralization of Western architectural knowledge via its "functionalist" foundations. In this way, the book's broad scope and breezy references to "canonical" moments in architectural theory and practice become that much more intentional. This not only distinguishes it from other important works on disability and the built environment, including Aimi Hamraie's *Building Access: Universal Design and the Politics of Disability* (2017). Gissen's (gentle) sweeping rejection of architecture as such returns to a type of polemic that was more prominent in the postmodern period, for example in Robert Venturi's *Complexity and Contradiction* (1966), but is even more ambitious because of its explicit political and democratic intentions.

⁸ *Ibid.*, p. 15.

⁹ *Ibid.*, p. xvii.

In this epistemological decentering, the reader will note that Gissen concludes each chapter by positing possibilities for a radical departure from conventional spatial practice (a dark and gloomy city rather than a “solarized” one or landscape designs that require prosthetics) while stopping short of identifying a unique “theory” of praxis. As specific as they are, designed works are introduced in an unimposing and even noncommittal manner. While this open-endedness could be seen as a shortcoming, or a position of irresolution, the reader may instead interpret this as a refusal of the political centralization of architectural knowledge and an invitation to co-speculate with him. This is plainly stated in the coda, which introduces a secondary (or primary?) agenda, this time from the perspective of an architectural practitioner: “[T]he question should not be how does this book relate to practice, but how can we (you and I) re-imagine practice to relate it to those marginalized by it?”¹⁰ This shift to the reader themselves—the “you” and the “you and I”—mirrors the “modest” (and often collaborative) design projects produced by Gissen and discussed in the coda. The book ultimately offers a great deal of precision concerning its disability politics, in that architectural practice must not simply include more disabled voices but instead be fundamentally altered by a non-normative and relational understanding of spatial experience. Although Gissen does not aim to deliver a “philosophy” of knowledge or a specific theory of practice (as in the status quo of “universal design”), the book firmly repositions architecture’s speculative capacity in the space between “you and I,” whoever that “you” may be.

¹⁰ *Ibid.*, p. 140.

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