Somaesthetic Socio-Cultural Design for Disability:
Rethinking Body Marginality
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Abstract: *Although design anthropology, disability studies, and somaesthetics share overlapping concerns, they have rarely been explicitly linked. Each brings distinct strengths—practicality, inclusivity, and theoretical depth—that merit integration. This paper explores how design historically caters to a standardised body, side-lining marginalised bodies as 'unfit'. By juxtaposing these three frameworks, we argue for a reimagined design ethos that advances social justice through deeper embodiment. Using non-European case studies, we highlight the aesthetic, functional, and political potential of inclusive design grounded in diverse bodily experiences.*

Keywords: *design anthropology, disability studies, somaesthetics, social justice, design culture*

When Disability Meets Design Anthropology

We begin with two quotations that set the tone for the investigation that follows. In A sense for the other: The timeliness and relevance of anthropology, Marc Augé writes:

> *In its second meaning, le sens des autres refers to "the sense of the other"; that is, the others' "sense" or that which has meaning for others. Here the other is no longer object but subject, the generator of meaning: we are confronted with the sense that others, whether individuals or social groups, elaborate for themselves. But the two meanings go hand in hand, for in both cases the "sense" in question is social meaning, the constellation of symbolic relations instituted among and lived by people within a given social group, such that the group can in fact be identified as such by that constellation of relations. Anthropology is first and foremost the anthropological study of the others' anthropology. This is because no society exists that has not defined, more or less strictly, a series of "normal" -that is, instituted and symbolic-relations between generations, first-born children and their siblings, men and women, allies, lineages, age groups, free persons and captives, indigenous members and foreigners, and so on. An anthropologist's first task is to draw the map of this relative identity and otherness* (Augé, 1998: xv-xvi).

In Höök, K. (2018). *Designing with the body: Somaesthetic interaction design*, Kristina Höök writes:

> *The prevailing brainstorming methods focus on getting ideas out there rapidly by relaxing*

> *your reflective, critical mind. The drawback of this approach is a narrowness of design and a potential lack of aesthetic enjoyment on the part of the user. Soma design, on the other hand, provides an alternative to this aggressive, goal-oriented design process; it offers a slower, more thoughtful approach. Although a high-pressured industry will certainly resist such change, such a process would yield better products and create healthier and more sustainable companies in every sense* (Höök, 2018: xvii).

In his eloquent manner, Marc Augé highlights the importance of anthropology - "to draw the map of this relative identity and otherness". That is indeed a noble call, yet one that needs a flexible yet applicable definition of what this relative identity is and to which otherness we are referring. While noble and important, true and accurate, and even crucial for understanding cultural contexts, historically, anthropology was and, in a way, still is a part of the problem, as it struggles to define these concepts in a theoretical manner, leaving the practical, applicable outcome to adjacent disciplines. Though there are exceptions, such as the action anthropology of Sol Tax: see Watson, this volume, applied anthropology (and design anthropology, which affects our own research), remain the bulk of practice-oriented research. Surprisingly, nor has anthropology engaged with the intricate socio-cultural issues of disability and when it did, this was sporadic at best (Kasnitz and Shuttleworth, 2001a; Staples and Mehrotra, 2016). While the connection between anthropology and disability studies should have been a natural relationship, this has not been the case. Even so, in the last 10-15 years, anthropologists (mainly from medical anthropology) created fruitful links between the disciplines, albeit a minefield of critical theories involving the attempt to delink medicalization and disability (Ginsburg and Rapp, 2013). Two good examples of this integration lie when delving into the intricacies of embodiment or the disabled body, also relevant to somaesthetics and design. Hammer's (2021) focus on the disabled body in performance she interprets as a way of physical translation, resonates with our own interests in design for disability. Mainly, her focus on the choreography of motions curated between daily designed products and our body. Hammer's (2021) exploration of the disabled body in performance art, particularly its role in physical translation, between dancers and their wheelchairs, resonates with the idea that designed products should be better choreographed with the disabled body. Indeed, using the intermediary of designed products has been debated in STS and design theory relating to the agency of designers and objects alike (Gal and Ventura, 2023). As we shall see, the sensorial ability of harnessed technologies could affect disabled people's lives for the better. Another example of sensorial-focused disability anthropology is highlighted through what Friedner and Kusters (2020) call 'deaf anthropology', or the focus on the ways deaf people define themselves and navigate their surroundings. Indeed, customized technology which is crucial in disability and design, has had an immense influence on both deaf identity and sensorial ways of communication and being in the world. DeafSpace[1] , developed at Gallaudet University, offers ways of being and communicating through space and proximity, sensory reach, mobility and proximity, light and color, and acoustics. Another direction, crucial in our case, would be to use design to generate and ameliorate the affordances of everyday objects. While decolonizing disability studies might be a good approach to invigorate the dialogue between disability studies and anthropology (Staples, 2020), we would like to add to it the practice-based approach of design anthropology. While not perfect, it holds a crucial link between disability, it presents an important overture to disability and holds out the promise for the development of viable and practical solutions in addition to a holistic approach towards the body and the designed world.

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[1] https://infoguides.rit.edu/deafspace/principles

The dilemma of whether to define design anthropology (DA) as an applied or theoretical sub-discipline also affects its definition and its future. Trying to successfully define DA far surpasses the scope of this article (see Ventura and Mattozzi, forthcoming). In a nutshell, design anthropology is based on several key attributes: it deals with a deep understanding of individual and communal behavior and relationships; it has a temporal nature, meaning that like design it is aimed at the future; it is based on a combination of theory and practice; it is grounded in socially-oriented core values, including critical thinking, attention to people's actual everyday practices and values humanism, pluralism, and empathy; and finally, it is based on a collaborative and interpretive joint action between various stakeholders (Ventura and Bichard, 2016). The third point is extremely important when adding 'disability' to design anthropology. As in the broader disability study theories, critical thinking, vying for a better application of the body politic and helping people with their daily lives, offering an alternative to a 'clean' standard is crucial.

As Hamraie (2016) rightfully avers, universal (and inclusive) design practices, while welcome, offer practical and pin-point solutions while leaving political issues out of the debate. While disability studies are critical, universal design is occupied primarily with notion of 'good design'. Indeed, positioning socio-physical diversity as yet another marketing concept is not what we, or critical disability studies, are vying for. A major difference between our approach – socio-cultural design oriented critical disability studies – and universal/inclusive design is that the latter is market-oriented and engulfed in an imagined overall concept of 'good design'. What we believe in stems from a concept of social justice that views design as a critical practice with the aim of making our surrounding better for everyone - or "ameliorative" through and through (Shusterman 2012).

As in the case of the Augé quote (above), the second quote (from Höök) points to another lacuna relevant to our research which is the essence of mainstream commercial design, driven by profit, to focus on creating products for a "clearly-defined audience" – i.e., a profitable standard. This inherently excludes those whose needs fall outside an imagined standard, including many disabled individuals. The pressure to create marketable products often overshadows the needs of marginalized groups. Finally, somaesthetics, while offering valuable insights into the relationship between body, sensation, movement and aesthetics, lacks a crucial connection to practical outcomes. While it can shift perspectives, it doesn't necessarily translate those shifts into tangible changes in the material world for disabled people. Naturally, disability studies were supposed to tackle relevant practical issues relating to these issues, yet the discipline remains mainly theoretical, with other under-developed layers, one of which - the relevance of culture to disability - is discussed in a current publication (Das, Ventura and Dubey, 2025).

More importantly, even when accessibility is addressed by design practitioners, the deeper questions of core social, cultural, political, and economic values surrounding disability often remain unexamined. All three disciplines—design anthropology, somaesthetics and disability studies—fall short due to these distinct yet related limitations. They haven't effectively integrated theory, practice, and a robust set of core values to truly address the complexities of disability. Thus, we believe that two added attributes must be considered to transform these adjacent disciplines into a formidable and relevant contribution. First, core values, or ideology, should permeate into practice and education. This means reframing the relationship between disability and design and moving beyond mere functionality to consider the ethical and social implications of design choices. Second, social and cultural design can and should serve as the practical bridge between theory and action. By incorporating cultural understanding and social awareness into the design process, designers can create more inclusive and empowering solutions for disabled individuals. This approach can be disseminated and implemented through design professionals.

While “the other” has been and will be the focus of various studies and research in myriad disciplines, we wish to focus on perhaps the penultimate other. Echoing the classic Freudian approach, the other at the center of this article threatens our perception of self, our imagined identity and our deepest fears - of death, injury or plain ignorance. We wish to reframe our understanding of the disabled body through three quite relevant and important disciplines - (design) anthropology, critical disability studies and somaesthetics. By viewing this important topic through an alternative lens - a mixture of social design and cultural disability theory, we wish to offer another understanding of the standardized body and its implications.

Auge’s exploration of the Other, and the differing norms and values they represent, is certainly compelling. However, the primary role of anthropology in this context, while valuable, is simply to foster acceptance. While indeed accepting disabled people in our daily lives is needed, a more active stance is imperative. Recognizing the existence of multiple embodied selves, and understanding that disability is not a personal failing or a source of guilt, was an important initial step. However, simply accepting this is not enough; we must actively advance this understanding. While design might have been the answer since it encompasses our visual and material surroundings, the answers or clear statements that design offers regarding disability are still lacking.

At first blush, anthropology was supposed to be the perfect mediation between the individual body, social norms and conventions, and the possibilities for another perception of disability. As a designated sub-discipline, the anthropology of the body focuses on topics such as embodiment, socio-cultural aspects of illness and disease, bio-power and more. While these issues are crucial for understanding our intricate relationship with our bodies, they lack the applicable layer we are looking for. Moreover, it seems as though linking the disabled body and anthropology was left for adjacent disciplines, such as critical disability studies.

Interestingly, Hartblay (2020: S26) proposes the term “disability expertise”, which for her is “the particular knowledge that disabled people develop and enact about unorthodox configurations of agency, cultural norms, and relationships between selves, bodies, and the designed world. Disability expertise is a descriptive domain, that is, a container into which ethnographers might enumerate observations about how disabled people enact personhood and moral agency in diverse cultural settings.” Her research on accessibility in Russia highlights exactly what we claim here, namely, that the intricate relationship between the personal disabled body, public sphere and agency can differ significantly in a specific socio-cultural context. In her research (Hartblay, 2017: 10), she found that “the idea of access becomes an object of desire, circulating beyond disability-advocacy communities.” Hartblay’s approach is ground-breaking and significant to both anthropology and disability studies as it challenges ableist assumptions, centers disabled voices and offers a new framework for understanding disability. Indeed, her research shows the ability or ineptitude of designers to serve as mediators for social change, or their reluctance to do so. Yet, it remains once more mainly theoretical. Hartblay shows in her ethnographic research (2017) the significant gap between accessibility defined as ‘good design’ by designers or official bureaucrats and yet function as ‘bad design’ for the people that actual use these solutions. This is where design, or design anthropology could serve as a meaningful additional layer. Following this assertion, Pullin (2017: 2-3) stresses a practice-oriented approach to disability, claiming that “I will use design for disability as a looser term, encompassing design for special needs, inclusive design, and other activities that challenge the division between designing for people with or without disabilities. Perhaps it would be more accurate to describe it as design against disability, as others have coined the term design against crime.” This is an important addition since Pullin’s approach is not only proactive but embedded with empathy-related design strategies that vie to see disability as another layer to which designers must contribute. The addition of inclusive design for disabled people is important since design for inclusivity takes excluded communities into consideration while designing good products for everyone. Thus, the element of highlighting a person through specialized design is neglected in favor of inclusion in shared well-crafted products.

When you focus on these issues through the lens of design, this seems even more like a match made in heaven. However, while design anthropology has been a promising and innovative sub-discipline, it has had its share of problems. First, while the body is crucial in design, it is seldom present in design anthropology. Second, and important, is the decline of design anthropology in the last few years, in favor of adjacent sub-disciplines, such as social design (working with communities, social justice etc.) and design culture (material culture and design, vernacular design, etc.). While this process can be understood and developed (see Ventura and Mattozzi, forthcoming), the theoretical and applied layers of the dialogue between the individual non-standard) body, the socio-cultural sphere and design practice have been neglected. Into this crucial void, we would like to offer a possibility for discourse, both theoretical and practical.

Towards Another Body Model

As previously mentioned, the intricate relationship between disability studies and anthropology stems from the transition from medicalization to non-medicalization of disability (Kasnitz and Shuttleworth, 2001b). Indeed, the addition of (applied) design anthropology to critical contextualized disability studies steers this debate to more useful shores. Disability studies scholars have explored how disability challenges conventional notions of bodily normalcy and the ideal or average body. As Shilling (2012: 2) argues, many societies operate from a “somatocentric” perspective, placing the human body at the center, often making it a site of conflict and contention. Historically, the well-functioning body has been viewed as the primary marker of humanity and the epitome of health and strength. This perspective informs what Garland-Thomson (1997:7) calls “hierarchies of embodiment,” where the disabled body is perceived as anomalous and inferior to a culturally valued ideal, deviating from the able-bodied norm. This “somatocentrism” cultivates a cultural ideal or “fantasies of identification” (Samuels, 2014) that positions the experiences of disabled individuals as abnormal, alienating, and exclusionary, leading to the devaluation of their identities. Quayson (2007) describes this unease that disability can evoke in able-bodied individuals as “aesthetic nervousness,” a reaction to the recognition of bodily contingency when confronted with a non-normative body. This non-normative body can become the subject of “an aesthetics of human disqualification,” a “symbolic process that removes individuals from the ranks of quality human beings, putting them at risk of unequal treatment, bodily harm, and death” (Siebers 2010: 23). Mass cultural spectacles, such as freak shows, and modernist art both contributed to this “aesthetics of human disqualification” by showcasing bodies considered undesirable, thereby reinforcing a sense of bodily integrity and vitality in the observer (Garland Thomson 1996, 1997; Davidson 2015). This cultural preoccupation with “enforcing normalcy,” as explored by disability theorists such as Davis (1996), found reinforcement in the high art, design, and mass culture of the modern era, which often served as a kind of “prosthetic” validation of able-bodiedness.

However, disability transcends the physical body. As Shakespeare (2013) argues, disability is not merely a medical issue but a social construct. The physical body exists within a complex space intersected by psycho-emotional factors including internalized ableism. Besides, disability is also constructed by and within societal and cultural contexts, defined by able-bodiedness or the perceived lack thereof. In this context, by considering individuals as “lacking” or “void,” as noted by Wendell (1996), ableist narratives ascribe a variety of cultural meanings and negative values to the personhood of individuals with disabilities. These constructed categories grant power and legitimacy to the lives of certain individuals, such as those considered “bodily autonomous,” while denying it to others, for instance, people with physical or sensory impairments. They subtly shape our understanding of the world, molding our perceptions and perpetuating societal biases in addition to reinforcing existing power imbalances. More interactionist approaches (signaling a shift from the earlier social constructivist ones) talk about disability as an identity that is “complexly embodied” (Siebers,2008). The theory of complex embodiment acknowledges that disabling environments significantly impact the lived experience of disability, but also recognizes that some aspects of disability, like chronic pain or aging-related issues, originate within the body itself. These bodily-derived disabilities must be considered alongside social factors in understanding disability. Complex embodiment posits a reciprocal relationship between social forces and the body, unlike the seemingly simplistic medical model for disability presenting the disabled body as a problem facing several (usually uninspired) solutions Complex embodiment proposes that social forces and the body mutually influence each other, a departure from the social model, which focuses solely on societal barriers, and the medical model, which predominantly views disability as an individual bodily defect. In other words, as we shall see, *critical disability jugaad* stems from a different understanding of the body, its functions and relations, in a specific socio-cultural context. Therefore, the material solutions propagated by the individual will hold deeper interpretative meanings and better prospects for success. Others discuss disability as a minority identity (Barnes, 2009) and also in affirmative or empowering ways – alternative discourses developed by disabled people who have developed a disability identity rooted in notions of power, respect and control (Cameron, 2007).

The field of Disability Studies has, thus, extensively dealt with ontological and epistemological discussions of the disabled body and has, broadly speaking, been engrossed in disentangling disability identity from stigma by redefining it in more positive ways. Today, Disability Studies is a burgeoning field that challenges traditional notions of disability. “Crip theory” reclaims disabled bodies, while “critical ableism studies” (Campbell, 2009) deconstructs ableist norms; queer disability studies explores the intersection of disability and LGBTQ+ identities (McRuer and Mollow, 2019) while posthumanist approaches redefine disability through biotechnology and environment (Braidotti, 2018). Scholars from the global South are also contributing, decentering Western perspectives and offering diverse, locally situated insights (Geurts, 2016).

While disability culture and representation have become well-established in fields such as visual and performing arts, theatre, film, and media studies over the last 30 years (see, for example, Millet-Gallant and Howie, 2017, 2022; Kupers 2003, 2011, 2014; Hadley and McDonald 2019), they remain inadequately addressed in design theory and practice. Discourse continues to be mired in (mostly) able-bodied design perspectives focused on how design intervenes for disability through adaptable design approaches, assistive design, inclusive design or universal design approaches and interventions. A major problem in design (especially in industrial design) is the value accorded to anthropometry. Defining anthropometric dimensions or a “standard” for human bodies presents a significant challenge, and is arguably an anathema, to truly inclusive design for disability. The very concept of a standard body inherently excludes the vast diversity of disabled, ageing and other “different” bodies. Even within a specific disability category, individuals exhibit a wide range of physical characteristics, proportions, and functional abilities. A “one-size-fits-all” approach based on average measurements or perceived “typical” body types will inevitably fail to accommodate the unique needs of many, if not most, disabled individuals. Attempting to create a standard for disability ignores the fundamental principle that disability is not a monolithic experience. Such standardization can lead to designs that are not only uncomfortable and ineffective but also potentially harmful, further marginalizing disabled people and reinforcing the notion that their bodies are "deviant" from the accepted norm. True inclusive design must embrace the inherent variability of human form and prioritize personalized solutions that cater to the specific anthropometric dimensions and functional requirements of each individual. Design should aim to accommodate a wide range of users, not just the "average" person.

An interesting approach, suggested by the activist Piepzna-Samarasinha (2022), accentuates the unique position in which we currently find ourselves. In an innovative voice, she stresses the importance of disabled knowledge not for disabled people, but for the future of humankind. Looking at the heap of calamities triggered since 2020, our futures are constantly at risk. Be it due to global pandemics, climate change, local or regional wars, the ever-growing socio-economic gap, or populist regimes abhorring the less than 'standard', disabled people hold the knowledge and the strength to fight for a better outcome. Her theory might be radical, yet integrating a fairly distant yet plausible future, with the pertinent reality of the present has the potential to reshape what we view as critical disability studies.

While much of mainstream discourse still associates disability with deficit or deviance, disability studies has offered a critical counter-narrative that engages theory alongside activist practice. From its inception, disability studies has operated as a profoundly interdisciplinary and activist field, intervening in domains such as architecture, law, healthcare, and education. Central to its critique is the recognition that mainstream design has historically catered to a narrow, standardized conception of the body—typically able-bodied, male, white, and heteronormative. This hegemonic design paradigm marginalizes those who do not conform to its assumptions, including disabled, gendered, racialized, and queer bodies. As Ahmed (2006) and Costanza-Chock (2020) argue, such exclusions are structurally embedded within the built environment and technological systems, not accidental oversights. Disability studies has long challenged these exclusions by demonstrating how physical and symbolic infrastructures reproduce normative ideals under the guise of neutrality. It offers an alternative vision rooted in embodied diversity, relational access, and intersectional justice—not merely accommodating difference but fundamentally reimagining design through a politicized, inclusive lens.

Titchkosky's work (2011)— exploring the more intimate experience of disability through a discussion of embodiment, metaphor and the intimacy of narrative to foreground a politics of transformation—has much value. So does Guffey's critical insight (2018) that spans design history, material culture and recent critical disability studies to examine not only the development of a design icon and how it became a mark of identity (the International Symbol of Access), and a product that has profoundly impacted the lives of many disabled people from the 1930s onwards (the wheelchair), but also the cultural histories surrounding them. She focuses on how design both creates and responds to different notions of disability in addition to contributing to our understandings of disability experiences and subjectivities. Furthermore, she illuminates how design works in the real world, forcing a rethink of the top-down professionalized practice of universal design which has dominated thinking and practice around design for disability for decades (Guffey, 2017; 2023).

In India, for instance, discussions on the intersections of disability, embodiment and design as embedded in specific socio-cultural contexts is restricted to one of the authors of this paper (Das, 2020; 2024). Here, we would like to discuss how *jugaad* or rather what we may call "disability *jugaad*", a unique principle to the Indian context merits in-depth consideration. *Jugaad* is a fascinating and complex, deeply embedded Indian socio-cultural practice of navigating daily challenges. It's more than just a word or concept; it's a mindset, a way of life, and a testament to the resourcefulness, efficiency, and ingenuity of the Indian people. It involves thinking outside the box, using whatever is available, and adapting or improvising existing solutions for new purposes. *Jugaad* is also about making things work, even if it means bending the rules or taking unconventional approaches. It signifies frugal innovation, grassroots ingenuity, and resourceful problem-solving, particularly in contexts of constraints or scarcity. It is not just a technical workaround but a mindset that blends resilience, improvisation, and adaptive reuse of materials to achieve functional outcomes. In India, *jugaad* reflects systemic challenges such as infrastructural deficits, socio-economic inequality, and bureaucratic inaccessibility—contexts in which the population must often rely on personal initiative and locally-situated knowledge systems to "make things work."

Gupta (2011) describes *jugaad* as a form of "innovative fix" or "workaround" born out of necessity, often executed by non-experts, using available materials and intuition. Radjou, Prabhu and Ahuja (2012) conceptualize *jugaad* as a form of "frugal innovation" — a bottom-up innovation paradigm that empowers the economically marginalized to create value with limited resources. These interpretations have been popularly valorized in management and innovation literature, sometimes abstracted and exported globally as part of India's "innovation ethos."

However, while mainstream interpretations tend to romanticize *jugaad* as entrepreneurial ingenuity, they often overlook the structural inequalities that make such improvisation necessary in the first place (Mukherjee, 2015). The practice, when decontextualized, may serve as a symbol of creativity but fails to address the systemic exclusions that necessitate such improvisation.

Jugaad has become an essential tool for many disabled people in India to navigate a world that is often not designed with their needs in mind. "Disability *jugaad*" refers to adaptive, creative, and often self-engineered solutions devised by disabled people, often outside formal design ecosystems, to overcome environmental, economic, and infrastructural barriers in a society that does not design for them. Unlike mainstream *jugaad*, which is often celebrated for its marketable innovation potential, "disability *jugaad*" emerges from a politics of survival. It arises due to systemic neglect: inaccessibility of built environments, unaffordable assistive technologies, and minimal state support for disabled citizens.

Disabled individuals often repurpose everyday items to create makeshift assistive devices or modify existing ones to better suit their needs, such as transforming a plastic bottle into a handle for easier gripping, using cardboard to create limb support, or modifying bicycles into wheelchairs, Due to the high cost and limited availability of specialized assistive devices, many rely on customized DIY solutions, creating their own mobility or other aids from readily available materials like bamboo, metal pipes, or even bicycle parts. *Jugaad* can also improve the functionality of existing assistive devices; for instance, someone might add padding to a wheelchair seat or modify a prosthetic limb for increased comfort and adaptability. Furthermore, disabled individuals and their families often use *jugaad* to make their homes and surroundings more accessible, either by installing grab bars, or modifying furniture and even vehicles. *Jugaad* can also be used to overcome barriers in public spaces. For example, someone using a wheelchair might create a makeshift ramp to access a building equipped solely with steps, or someone with a visual impairment might use a modified cane to navigate crowded streets. Ultimately, by creating their own assistive devices and adapting their environments, disabled people in India utilize *jugaad* to promote their inclusion and participation in society.

But *jugaad* is a double-edged sword. While it is of, by, and for disabled people, and thus respects their subjectivities and embodiments, granting them empowering agency—in contrast to institutionalized 'assistive technologies'—it is also a product of mainstream design's disabling approaches and its failure to adequately address disability within the socio-economic and cultural contexts of South Asia. To further contextualize this, it is important to understand how dominant design paradigms historically marginalize certain bodies, and how disability *jugaad* emerges not only as a response to this exclusion but as a redefinition of design as a practice. Mainstream design practices have long privileged normative, able-bodied, male-centric models, leading to the systemic marginalization of bodies that fall outside these frames. Wheelchair users routinely encounter inaccessible public architecture (Imrie, 1996); women's bodies are excluded from industrial and digital design standards shaped around male dimensions (Criado Perez, 2019); and racialized communities experience infrastructural neglect and design bias that render their needs peripheral or invisible (Costanza-Chock, 2020). These exclusions are not incidental—they are embedded within what design historically valorizes as "universal," "rational," or "efficient" (Ahmed, 2006). *Disability jugaad*, by contrast, arises from within these zones of exclusion. It repurposes everyday materials through embodied, relational knowledge, offering functional, aesthetic, and ethical responses where formal design fails. As a practice, it exposes the limitations of normative design logics while enacting inclusive alternatives grounded in lived experience, adaptation, and critical resistance (Das, 2020; Hendren, 2020; Dokumaci, 2023).

Cross-cultural perspectives on inclusive architecture further underscore how accessibility is not a fixed standard, but a situated, negotiated practice. For example, vernacular Indian architecture in older cities like Ahmedabad or Jodhpur often allowed flexible thresholds, multi-sensory spatial cues, and intimate scales conducive to interdependence—a far cry from the hostile minimalism of contemporary urban design (Mehrotra, 2008). These examples complicate the assumption that "universal design" is neutral or globally applicable. *Disability jugaad*, by operating within such specific social-material ecologies, reveals that accessibility is often achieved not through compliance with formal codes, but through embodied negotiation, community care, and spatial improvisation.

Mainstream *jugaad* is often framed in apolitical terms — as cleverness under constraint. But disability *jugaad* is inherently political. It is a form of agency and resistance, highlighting the gaps in public infrastructure and design that exclude disabled people from full participation in society. As Hartblay (2020) suggests through her concept of "disability expertise," such practices reflect alternative ways of knowing and being that resist ableist norms and institutional failures. While it can empower disabled individuals through self-determination and embodied knowledge, disability *jugaad* also runs the risk of reinforcing neoliberal ideologies where the responsibility of access is offloaded onto the individual. This may enable policymakers to abdicate their responsibility by romanticizing grassroots resilience rather than addressing structural inaccessibility (Staples, 2020). Mainstream *jugaad* is often assessed based on technical ingenuity; disability *jugaad* introduces an aesthetic and ethical dimension. It highlights how disabled users modify not just the function of everyday objects but also reimagine their *form,* reclaiming dignity and aesthetics often denied by mainstream design (Das, 2020; 2024). These modifications are deeply somatic, shaped by how disabled bodies engage with the world, echoing Shusterman's (2012) somaesthetic principles.

This is where the concept of crip authorship becomes particularly generative. It offers a theoretical lens through which to understand *disability jugaad* not merely as a set of improvised practices, but as a methodological and epistemological intervention in design. In this regard, the work of Mills & Sanchez (2023) on crip authorship is useful. Crip authorship refers to the creative, critical, and methodological practices rooted in disability experience—as a generative approach to knowledge-making across writing, research, media, and design. Disability becomes a method, revealing how dominant practices in production, aesthetics, and access can be critiqued, reimagined, and deconstructed. It is also a critical and political framework that challenges neoliberal ableism and normative corporeality and expands into *cripistemologies*—epistemologies grounded in embodied, relational, and intersectional vulnerability and resistance (Kafer, 2013).

A compelling illustration of these concepts in practice can be seen in a rural town in Assam, India, where Nabajit Bharali—a young philosophy student with no formal engineering training—designed a self-driven, pressure-sensitive wheelchair using discarded bicycle parts, at a cost of under ₹5,000 (~£62) (*The Guardian*, 2017). This innovation, born out of necessity and exclusion from formal assistive technologies, exemplifies *disability jugaad*. Bharali's wheelchair navigates through shifts in body pressure, requiring minimal physical input, and is entirely maintainable using locally available components. As a practice of repurposing and reimagining, it transforms every day, off-the-shelf materials into functional mobility aids, extending the life of both object and body through frugal, tactical design. More than a technical workaround, Bharali's design enacts what Mills and Sanchez (2023) describe as *crip authorship*, affirms disabled agency and what Kafer (2013) calls *disability as method*, refusing to separate lived embodiment from technical ingenuity. In doing so, this case challenges both the exclusionary norms of mainstream design and the romanticisation of resilience, offering instead a grounded, somatic, and relational epistemology of access.

Despite growing theoretical work on embodiment and relational ontologies in critical disability studies, these insights remain underutilized in the field of design. While ontological and epistemological discussions of the body—particularly around embodiment, relationality, and situated knowledge—have been central to feminist and disability studies (Ahmed 2006; Garland-Thomson 2005; Kafer 2013), these insights have not been adequately integrated into mainstream design theory and practice, which continue to operate through abstractions of the "universal" or "neutral" user. As a result, design often elides the material realities, interdependence, and diverse embodiments of users, privileging normative assumptions. This paper addresses that gap by foregrounding disability *jugaad* as both a conceptual and practical intervention that arises from embodied knowledge and crip epistemologies. In doing so, it contributes to reorienting design frameworks toward more relational, political, and inclusive understandings of the body-in-context.

Another significant issue in critical disability studies on design is the lack of adequate discussion regarding what more nuanced, feminist disability studies-informed social model approaches advocate: how the lived corporeal experience of disability, including pain and discomfort, is acknowledged and integrated into design thinking. This should not be treated as a negative attribute, but rather as an embodied phenomenon. Further, the ways in which stereotypes of the disabled "unaesthetic" body are enacted and re-enacted, and how these need to be re-envisioned in design encounters with disability, require attention. Design for inclusivity has rightly aimed to shift the focus on stigma and difference, striving to create an umbrella of 'good design for everyone.' However, while positive at a macro level, designers still lack the practical, ground-level approach needed to truly understand these embodied attributes. Beyond simply calling for care and empathy, truly understanding the daily, lived experience of disability requires significant time and effort. Design must articulate what it *means* to be disabled, rather than marginalizing or rendering disability invisible within mainstream, able-bodied design discussions. It is true that disability disrupts conventional representation, communication, or aesthetic models and now, design needs to co-opt this disruption as part of its innovation agenda avoiding the rhetoric of design-for-disability which, in our opinion, is past its prime.

Thus, both Design Theory (and practice, as discussed previously) and Disability Studies inadequately address the nuanced theoretical and applied layers of the dialogue between non-standard bodies, such as those of disabled people, the socio-cultural sphere, and design practice. These gaps reflect, in part, the relative novelty of this area of inquiry, but also reveal the need to move beyond conventional thinking toward more contextually relevant, lived-experience-driven, and user-initiated design discourses and practices for disability. Such approaches, grounded in difference (specifically, the difference of the disabled body), offer alternative perspectives and open up new approaches, methods, and provocations.

One such novel approach could be to link disability pride and somaesthetics, i.e., to not hide the disability but foreground it. Campbell argues that an "abled imaginary" constructs an unacknowledged community of able-bodied and able-minded individuals. This community is unified by a shared, ableist perspective that privileges ableist norms (Campbell, in Ghai 2018: 40). Campbell contends that such ableist frameworks disregard the diverse ways humans express emotions and utilize their minds and bodies across cultures and contexts. What we call for in this paper is 'a disabled imaginary' that 'relies upon the existence of an acknowledged imagined shared community of disabled people, held together by a common world view that asserts the "preferability" of the norms of disability'; that underscores differences in the ways disabled people use emotions, thinking and bodies/minds in different cultures and in different situations; that asserts disabled identities.' Thus, the experience of negotiating selfhood within a disabled body can foster an alternative aesthetic, emphasizing ability and moral ideals. This process involves a reconceptualization of the body, shifting towards a more multidimensional understanding.

Another approach could be disability-led design examples which move away from the disability-as-deficit approach and instead view disability as a call for action that can inspire and trigger novel and radical approaches. We need disability models including a somaesthetic one that may, in fact, destabilize the aesthetic and political impact of representational practices to diminish ableist design paradigms and be undeniably respectful of the bodily aesthetics and agency of disabled people.

Functional Aesthetics or Why not Somaesthetics?

Whether we focus on ableism or disablism, an interesting concept relevant to our research is the 'production of disability' (Jen, 2018). In a Foucauldian way, society manufactures disability in a way that is controlled and subjugated to societal and physical disciplines. This conception influences our daily life including the ways we interact with our bodies, imagine the 'normative' body and interact with objects and products around us (Das, 2020). Somaesthetics can help designers understand that disability is a crucial element in society, allowing for a sense of 'being in the world', one deserving of relevant and intelligent products (Hamraei, 2016). Thus, both the aesthetics of the material world designed for disabled persons, as well as the approach towards disabled people in the urban landscape pass through a different design strategy. Naturally, designated products for the disabled further the stigma and title of 'disabled' (Das, 2024). On the other hand, while inclusive design seeks to fight stigma, yet in some cases it fails to offer appropriate or meaningful outcomes to people who need specialized solutions (see Shahar and Ventura, 2023).

Other, more person-centred approaches might offer another possibility. Inclusive design is generally based on the notion that designers should innovate for the extreme, yet design for the mainstream. In other words, if designers base their design on extreme conditions that will cater to physical, mental or emotional differences, the mainstream, standard, user will be happy to use these as well. The classic example would be the OXO peeler which was designed for people with arthritis yet was so well-designed that it became a desired standard for everyone. Thus, this product does not bear the title of disability or medical device (Coleman et al., 2016; Ventura and Bichard, 2017). This approach is based on empathy and the necessity to understand the other and accept differences, however, this is not enough. To create a significant change we have to base our design strategies on clearly defined values. These, in this case, offer a view that the fractured, injured or disabled body is not only 'just fine', but it shouldn't be hidden. Therefore, designing for differences aims to not only change the way people perceive their bodies and themselves but also challenge the very notion of the standardized body. While defining a standard in industrial design and architecture is a necessity, we must reframe this notion or offer an alternative. Indeed, both Henry Dreyfuss (2003 [1955]) in industrial design and Ernst Neufert (2023 [1935]) in architecture offered us a way to standardize living spaces and products, and we can use their approaches as a springboard to challenge and reframe the notion of the standardized body.

In reflecting upon the unique attributes of aesthetics concerning disability, we should go back to German philosopher Alexander Baumgarten's definition of aesthetics as the "science of sensible cognition" (van Rompaey, 2017). Baumgarten's definition established a connection between sensory experience and comprehension, a link that is crucial for contemporary healthcare design. Although Baumgarten (1954 [1750]: 36) described a four-stage aesthetic process in the context of poetry, we can apply this same framework to healthcare and disability design:

(1) the 'notion' of the poem and its associated terminology, (2) the nature of 'poetic cognition', (3) elements common to the construction of all poems, and (4) the examination of 'poetic language' with some remarks about 'poetics in general. What is interesting and innovative about Baumgarten's theory is that aesthetics are not perceived as solely making a sensorial impression, but that they conduct an intricate dialogue with logic and the resources of reason (Nannini, 2021). This sensory dimension of aesthetics, as highlighted by Baumgarten, is reflected in both our behavior and perception. This connection between sensation and experience makes the concept of somaesthetics particularly relevant to healthcare. As Nannini (2022: 108) argues "The science dealing with bodies, Baumgarten states, is called somatology: hence, there is an ontological somatology if it looks at the body in itself; a cosmological somatology if it looks at the body as a part of the world, with special regard to its genesis from the elements and following the laws of motion; and a physical somatology if the body is considered a part of this world." This is an interesting addition to design for disability since a value-oriented approach, as we shall see, can serve to link a disabled or injured body to the world around it in a specific way.

A necessary addition to Baumgarten's theory, concerning the disabled body and design, would be the connection between somaesthetics and daily objects. As we suggest understanding the concept of disability, the disabled body's movements, or its soma, follow a different choreography to that of the standardized body. This is true regarding the dialogue disabled people have with healthcare products, but it is also relevant to daily objects that were designed for 'everyone' (Guspara, 2024). From a somatic point of view, these 'ordinary objects' deserve a bit of a focus. Saito (2017) argues that not only 'special' objects (in their creation or use) can be understood through the lens of aesthetics. Indeed, Saito (2022) stresses the connection between aesthetics and moral principles, specifically the notion of care, which is crucial when designing in a healthcare environment, but also when working with 'non-standardized people' (obviously, in our eyes, every designer needs a healthy dose of understanding diversity and empathy towards that understanding). Saito's contribution is mentioned specifically when discussing art theory, but her relevance to design and the body is also interesting. We claim that focusing on design (healthcare-related or otherwise) will benefit from understanding and reframing ‘ordinary’ objects (that are not special in an art-related manner), through our senses, to harness care and articulated values to make people accept their injured or disabled body.Thus, high-end design or bespoke design is truly needed not for the wealthy and powerful, but rather for those whose integration could truly make a difference.

Another more ethical-related approach to somaesthetics, disability and design lies in the pursuit of freedom, not as a philosophical concept, but in our most mundane and daily actions. The ability to enable disabled or injured people to have a choice of design, materials, textures and colors of objects that correlate and are in constant dialogue with their body and self-perception is or should be a crucial design imperative. The design industry’s long-standing indifference toward the lifestyle aspirations of disabled people has resulted in a focus on functionality over aesthetics. This has led to a proliferation of “ugly, clinical, bulky” products in “typical colors” that reinforce negative stereotypes and contribute to feelings of shame and seclusion. Offering such limited and stigmatizing options profoundly impacts their self-image (Das, 2020). When the tools and objects meant to aid them become symbols of disability, negative associations are internalized. The “clinical” aesthetic medicalizes disability, focusing on the “problem” to be fixed rather than the person living their life. The lack of choice in design, materials, textures, and colors denies individuality and personal style, further marginalizing disabled people and reinforcing the idea that they are somehow “different” or “less than” (Das, 2024). Essentially, they are being told, through design, that their aesthetic preferences don’t matter and they should be thankful the functions fit their goals. There must be an ethical – or better, care full - shift in focus, moving beyond mere functionality to consider the *whole person* and their desire for freedom of choice, self-expression and dignity. By offering disabled people a range of design options that resonate with their personal tastes and self-perception, designers can empower them to reclaim their agency and express their identity. Imagine someone with a mobility impairment being able to choose a stylish and functional wheelchair that reflects their personality, rather than being limited to a standard, medical-looking device. This seemingly small act of choice can have a significant impact on their self-esteem and sense of belonging. It sends the message that their needs and desires are valued and that they have the right to participate fully and authentically in the world. This focus on choice and self-expression isn’t a fleeting trend; it’s a “crucial design strategy.” It recognizes that design has the power to shape not only our physical environment but also our sense of self. By embracing an ethical, person-centered approach, designers can move away from perpetuating stigma and towards creating a more inclusive and empowering world for disabled people. Interestingly, the only designed product to make this shift in perspective are eyeglasses. Rather than buying these in a clinic, we go to a shopping mall and discuss fashion, styles and costs. Rather than being a medical disability, wearing eyeglasses imbues its wearer with an air of intelligence and sophistication.

When combining Baumgarten’s definition of aesthetics with practice-based semiotics, we can test his reasoning with 2 short examples. First, as a company of accessories dedicated to disabled people with various physical disabilities, UNYQ took a different approach to the way their products look. Based on the approach that people take for granted the leg pylon they are provided with but pay more attention to the appearance of its cover, just like when you just buy an iPhone yet take ages to find the right cover, their website looks like H&M or any other fast-fashion website. In this strategy, going back to Baumgarten’s approach, we understand the terminology of a ‘healthcare product’, recognize its meaning, understand its design language and change some of the elements. In other words, the designers at UNYQ wanted to transform a prosthetic leg's cover from a healthcare product to a fashion accessory. With this logic, naturally, their design changed to offer people a choice in their daily outfits. Thus, using semiotic reasoning, we are dealing with an 'un-healthcare' aesthetics, resulting in opposing colours, textures, patterns and shapes. However, the deeper meaning of this strategy was an understanding that a person with one leg has a different body, rather than a chronic medical situation or a broken or unworthy body.

Another example of harnessing empathy and care, or specified values, in reframing a person's perception of their body can be understood through the project of designer Teddy Schuyers during her studies at Design Academy Eindhoven. Schuyers decided to focus on redesigning the ostomy bag in a way that will not deal directly with its medical or biological functions but with its dialogue with the wearer's body. This innovative approach views the patient as any other person with a different body, thus offering three configurations for daily routines - a fashionable, elegant option for office work; a sexier version for intimate encounters; and a sportier version for physical activities. All these basic, daily activities shift the wearer from a healthcare-related position into 'normal life' through clever use of aesthetics - materials, shapes and colours. Again, using design in an intelligent and sensitive way led to a shift in the product's perception.

Another wonderful example is Jae-Hyun An's design of a prosthetic leg that allows amputees to perform ballet[2] , showcasing the dialogue between disability and the social body, design and somaesthetics. From a standardized position, there is no logical or economic justification for this product. The size of the community of users that have a leg prosthetic and were former dancers is probably minute. The classic design or soma approach would be to teach them to make do with walking. However, from an empathic approach, design is exactly the right tool for this brief, since the designer's primary role in society is to help people function (well) in their daily lives. Therefore, if said daily routine includes professional dancing, then the designer needs to produce a suitable product. From a somatic perspective, the disabled body will learn new or newer movements through the use of this prosthetic leg. From a design anthropology perspective, the aesthetics of this product are interesting since this does not resonate with a 'medical product'. The lines are clean, the materials are reminiscent of professional sports and the overall feel is that of power, elegance and ability, not pity and shame.

These interesting examples of this strategy could be viewed through the choice of camouflaging or accentuating the fractured, injured, disabled or simply different body using designed products (Ventura and Gunn, 2017). Historically, the mainstream of industrial design, focusing on mass-produced products, worked towards supplying these to a standardized person. Typically, this standard person was perceived as healthy, of whole body and mind, and predisposed to purchase consumer goods. Only after the innovative approach of American designer Henry Dreyfuss (1955) did the question of non-standardized bodies become a topic for debate. Using his "Joe and Josephine" invented personas, of a white (heterosexual) and healthy couple, further created a correlation between the standardized body and industrial design. However, in a later version of his ergonomic methodology titled Humanscale, Dreyfuss adds different body types and disabilities.

While his efforts are highly important, the dichotomy between the standard and a-standard bodies led to designs that tried to camouflage the differences presented by the latter. For example, design for injured or disabled people was rooted in aesthetic strategies of concealment and camouflage. Thus, unobtrusive colors, materials and shapes were used to render said disability or injury practically invisible. While offering solutions for people with physical issues

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[2] https://www.dezeen.com/2018/11/02/prosthetic-leg-ballet-design-jae-hyun-an-marie-t/

is important, on a value-oriented level this approach is highly problematic. When using design to camouflage a person's difference, it is a good choice, but as this solution is generally based on specific aesthetics catering to specific needs, these will practically hold a sign saying 'this is a different person'. In other words, aiming for invisibility might result in the opposite outcome altogether (Ventura and Gunn, 2017).

A Different Path, or Value-Oriented Aesthetics

As we know just from looking around us, designers, when working within a marketing ethos, tend to harness their abilities to enhance revenue and focus on the 'average consumer'. In other cases, local or national government agencies present camouflage bad design under well-intended guise (Hartblay, 2017). However, when focusing on social design principles, coupled with the humanistic approach ingrained in anthropology, the shift from the market to people is crucial. Furthermore, adding critical disability theory introduces another much-needed political aspect to this intricate field. The common denominator is specified values, based on social justice. While we cannot delve into all the intricacies of social justice, we wish to highlight several key points here. Parvin (2023) echoes what we've seen throughout this paper, that simply wanting something does not make it real. Design, as an ingrained and intricate patina of late capitalism tend to transform any ideology to style, the combination of social design (an evolution of or addition to design anthropology, in our eyes) and the critical eye of disability studies will enhance the empathy needed, as well as the imagined outcomes of designers. Katsniz (2020: S24) describes this gap brilliantly, saying that "Disabled people rarely commission design. Designers design what they want to design for a purpose they want to meet. Disabled people are the colonized consumers." Indeed, Parvin goes on to propose that: "making design processes more inclusive through democratic strategies, such as participatory and codesign methods; and recognizing design as a mode of practical ethical inquiry—one that prescribes radical changes to design education and practice." (Guersenzvaig, Ventura and Espelt, 2024: 41).

Indeed, the same notion of social justice relevant to design, also can serve as a link between disability studies and anthropology, as Katsniz (2020: S16) describes it: "The disability justice movement pulls the intersectional performance of disability out of the intimate sphere so that it can play a role in policy, an analytic where anthropology should shine. Disability by definition is remarkable. Disabled people live with the reality that the public wants to define that remarkableness and the knowledge that if they do not manage their human relationships carefully, their remarkableness will be used to control them." Change will come not merely by adding one knowledge world on top of the other, but by making designers relearn their practice (Criado, 2020). As such, our suggested path is not an amalgam of previously developed disciplines, but a new way of understanding and creating designed solutions for the disabled community.

Social designers, or designers with a strong value-oriented mindset, need to not only supply disabled people with modes of survival but also empower them to prosper, flourish, and experience the fullness of human life, just like in the ballerina prosthetic leg. Following John Dewey's famous 'lived experience' approach, somaesthetics can help designers reflect the crucial need for aesthetic pleasure and enjoyment in their designed products (Surbaugh, 2010). This approach resonates with Shusterman's (2012) differentiation between representational and pragmatic somaesthetics. While the former involves philosophical understanding and body image in society, the latter is even more important when dealing with the potential of the meeting ground between design and disability. Indeed, this cannot be stressed enough, since the possibility of sensorial pleasure is built on trust, agency, choice and dialogue with one's surroundings – traits that are sorely missing from design for people living with a disability, who are too often relegated to focusing on mere survival or getting by with what's currently available. This lack of attention to aesthetic needs perpetuates a sense of marginalization and reinforces the idea that disabled lives are somehow less worthy of beauty and joy. As we have seen, there have been many attempts to define and focus our understanding of disability. Fergusson and Nusbaum (2012) define the five core concepts of disability science, as social, foundational, interdisciplinary, participatory, and value-based. As we imagine a somaesthetic socio-cultural design for disability (S^2CDD) approach, these points are bolstered and expanded further. First, S^2CDD is not only deeply social, but its cultural facets are as important (Das, Ventura and Dubey, 2025), recognizing the diverse cultural contexts within which disability is experienced. Second, the differences between disabled and non-disabled people are not enough, we need to delve deeper into the very notions of 'normal' and 'standard' not only in theory but in design practice challenging the very foundations of what we consider "typical." Third, S^2CDD must be inter-disciplinary, since, as we have shown, even combining somaesthetics, disability studies and anthropology - is not enough. We must draw upon fields like psychology, social science, cultural studies, engineering, materials science, and even art and fashion to create truly holistic solutions. Fourth, co-design and participatory design are crucial for various reasons - on a practical note, we need to understand the disabled person's experience to better design products. Moreover, from a social justice perspective, this is what should be done as standard - designing *with*, not designing *for*. Lastly and most importantly is the question of values. Value-oriented design is the core of social design driving its transformative potential. In our case, we need to define the core values to stand as a beacon for all designers working in this space: social justice, and equality – not as a catchphrase, but as a deeply felt human condition– social change, a critical and ideological stance that challenges ableism in all its forms, and a commitment to celebrating the diversity and richness of human experience. These values must not be mere aspirations but rather guiding principles that inform every stage of the design process, from the initial concept to the final product.

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