

TransWC

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Bathrooms, Identities + Mass Customization



Discrimination against people whose public presence does not conform to the gender expectations of those around them has emerged as a major focus of civil rights reform.¹ The bathroom has been positioned as a central construct in the public discourse on transgender and gender-variant rights, both rhetorically and spatially. “The bathroom question,” for instance, is a phrase that transpeople use to refer to the anxiety and dilemmas associated with choosing one type of gender-specific restroom over another², while the term “bathroom bills” applies to proposed civil rights laws that define legal protections of access to employment, housing and public accommodations on the basis of gender identity.³ Spatially, social activism focused on the demand for gender-neutral bathrooms has been central to the articulation and visibility of transgender needs in the public realm, and the increasing number of such facilities serves as a tangible marker of the progress that has been made through such activist efforts. The architectural program of the bathroom serves as an important link between gender identity and public space, and the current discourse on gender-variance relative to public restrooms provides an occasion for innovative design thinking specific to the challenges at hand. While this particular social issue has received substantial attention at the policy level, it has not yet been extensively addressed as a matter of design.

The research presented here - organized in three main parts - follows an oblique trajectory in an effort to provide a foundation for design speculation. The starting aim is to provide historical context for the consideration of the bathroom as a space charged with issues of identity. By engaging with existing interdisciplinary scholarship on the identity politics of the bathroom, it is possible to understand the emergence of the contemporary gender-neutral bathroom as a recent development within a much longer chronology. Secondly, the discussion turns to theorist Sarah Ahmed’s work on queer phenomenology in order to outline a theoretical framework for approaching spatial relationships between gender-variant subjects and surrounding objects. Ahmed’s notion of the queer – as identity and experience – serves as a point of reference for considering the positioning of design vis-à-vis contemporary theory. And finally, in relation to the first two parts, the research examines how the design of plumbing fixtures within the interior of the public bathroom may respond to a range of users. The ambition is to find potential links between embodied identities as gradients rather than binary constructs and objects as mass-customized variants rather than standardized types. Together, the three points along this research trajectory map out a set of relationships between sexual identity and the constructed environment within which the agency of design may be mobilized toward new kinds of critical actions and affirmative experiences.

Toward the Gender-Variant Bathroom

Public bathrooms are one of the last spatial environments in our society openly segregated by gender. Reflecting what Jacques Lacan referred to as the “*urinary laws of segregation*,”⁴ public bathrooms shape “*the binary division between men and women*

as well as ‘proper’ relations between people of the same sex.”⁵ Since at least the nineteenth century, equal access to public toilets has been an important, if perhaps overlooked, issue in the discourse, activism and policies surrounding human rights relative not only to gender, but also class, race, age, physical ability, and sexuality. Questions of fairness in the distribution of such public facilities continue to manifest themselves globally in numerous ways depending on the specific intersections of various contextual factors.⁶ The contemporary public bathroom is positioned at the intersection of multiple, and at times conflicting, factors, including public safety, health and hygiene; ecological sustainability, infrastructure and transportation; tourism, travel and leisure; sexuality, religion, culture and taboo.⁷ Gender-segregated bathrooms have emerged as an important contemporary site of criticism, theory, and social practice, a culturally charged space within which complex issues of subjectivity and agency are negotiated. A number of useful theoretical publications have in the past decade addressed this important, but frequently overlooked area of public space, including Clara Greed’s *Inclusive Urban Design: Public Toilets* (2003), Olga Gershenson and Barbara Penner’s edited collection of essays *Ladies and Gents: Public Toilets and Gender* (2009),⁸ Sheila Cavanagh’s *Queering Bathrooms: Gender, Sexuality, and the Hygienic Imagination* (2010), and Harvey Molotch and Laura Noren’s *Toilet: Public Restrooms and the Politics of Sharing* (2010). Together, such recent texts provide the foundations of a new discourse on public bathrooms and identity.

Infrastructurally, bathrooms are a part of the larger system that organizes water supply and waste disposal, a network of distributing and gathering conduits, fittings and fixtures collectively referred to as plumbing. Perhaps more than any other species of infrastructure, plumbing has historically been treated as a marker of modernity.⁹ At the turn of the twentieth century, Viennese architect Adolf Loos enthusiastically wrote about the sophistication of American culture based on developments in plumbing technology. Loos celebrated the modern plumber as an artist, the “*billeting officer of culture*” and “*pioneer of cleanliness*.”¹⁰ Plumbing connects functions of the body with those of the landscape, but it also arguably distances what may be seen as natural from the realm of the cultural. A 1917 article from *House and Garden* magazine titled “*Bathrooms and Civilization*” states, “*The bathroom is an index of civilization. Time was when it sufficed for a man to be civilized in his mind. We now require the civilization of the body.*”¹¹ The transfer of what it means to be civilized from the domain of the mind to that of the body is a shift from the internal expression of identity to its external manifestation, resulting in the public aestheticization of bodies according to the updated norms of hygiene. Through the emergence of modern plumbing, the private maintenance of the body is facilitated by publically distributed infrastructure, and the public’s expected outward appearance seeks to reflect the effects of private hygienic rituals.

While the availability of plumbing helped shape new conventions of personal hygiene and altered cultural views of bodily privacy, it also paralleled the emergence of the gender-segregated public

bathroom. In the introductory chapter of *Ladies and Gents*, Olga Gerhsonson and Barbara Penner write, *“Private, sex-segregated lavatories were a modern and Western European invention, bound up with urbanization, the rise of sanitary reform, the privatization of bodily functions, and the gendered ideology of the separate spheres.”*¹² Through a sampling of three relevant historical anecdotes, Gerthenson and Penner highlight the contested nature of the public bathroom relative to identity politics, including gender - but also in relation to race, class, and sexuality. Through such narratives, one gains an understanding of the exclusionary tactics as well as various mechanisms of fear deployed in the service of resistance to civil rights reform.

In 1900, the local government of a London neighborhood proposed to build a public women’s lavatory. The project was terminated by public protests, citing the local residents’ fear of lowering property values as well as the projected danger of attracting unwanted visitors to their neighborhood. Fifty years later, at Baltimore’s Western Electric Company, white unionized workers went on strike to protest the proposed racial desegregation of the company’s bathrooms that resulted from a change in plumbing code. So powerful was the sentiment against bathroom desegregation that the thousands of workers involved in the strike were willing to risk their own livelihoods, as well as compromise broader economic interests, in order to prevent the the new policy from taking effect. At the turn of the twenty-first century, the public bathroom again becomes a contested space, this time in relation to transgender and gender-variant users. According to Gerthenson and Penner, transgender bathroom activism in the United States initially appeared primarily on college

campuses, with student groups such as Restroom Revolution at the University of Massachusetts at Amherst at the forefront of the movement. Although at the Amherst campus the outcomes were more favorable than in the examples from the previous century, the public debate that has surrounded this and related efforts has been similarly inflammatory and polarizing.¹³

Transgender and gender-variant identities challenge the socially accepted binary logic that organizes, distributes and subdivides the space of public bathrooms and bring into question the policies and design standards that shape them. Despite reactionary opposition, queer activism in the United States and around the globe has prompted an increase in the proliferation of gender-neutral bathrooms in both public and private sectors, including universities, corporations, and the service industry.¹⁴ As an emerging typology, the gender-neutral bathroom typically forgoes the multi-stall layout employed in conventional public bathrooms and is instead a fully lockable private room, not unlike a single-user water closet found in domestic environments. The design of such restrooms seeks to eliminate gender-specific associations through elements such as neutral signage and the frequent omission of plumbing fixtures like urinals whose use is limited to those with specific anatomies.¹⁵ Fully private, gender-neutral bathrooms are designed to reduce the potential for conflict, scrutiny, and confrontation en route to, from, as well as in the restroom and as such alleviates the discomfort, anxiety, and threat for those whose right to occupy the facilities may otherwise be questioned (Figure 1).

While the maximization of privacy is one effective strategy of ensuring appropriate access for those who are excluded by the conventional male/female bathroom typology, one could argue that the impervious boundaries of gender-neutral bathrooms also isolate and limit the potential for deeper integration of various populations, including transgender and other gender-variant users, into the public realm in ways that are productive, affirming and progressive. More recently, in fact, there has been a proliferation of efforts to configure the gender-neutral bathroom as a multi-stall space. The Queer Initiative, a student organization at the University of Colorado at Boulder petitioned for such a bathroom at one of the campus buildings in 2010,¹⁶ and it is likely that similar efforts will continue to unfold in other contexts as well. Should such a proposal come to fruition there or elsewhere, the necessity of rethinking not just the envelope of the bathroom, but also the fixtures within may prompt the consideration of new ways in which highly differentiated gendered bodies can be oriented in a common social space relative to the objects within and in relation to one another.

Queer Phenomenology

Approaching the public restroom and occupying its interior activates one’s sense of orientation – certainly spatial and perhaps even sexual. Confronted by graphic signage leading to the restroom, one is oriented by having to choose – or answering what has earlier been referred to as “the bathroom question” - the proper alignment between their sex and the space behind the closed doors. Once inside, plumbing fixtures continue to orient the moving body. The urinal orients me so that I face the wall, standing up, with my back - which acts as a privacy screen - turned against the rest of the space. The toilet reorients my body into a seated position, facing out, with the stall door closed shut. The sink reorients me again, directing my gaze toward the mirror beyond. Relationally, the multiple objects in space, laid out and space-

planned according to program and code, instruct the occupants as to how much distance to maintain between themselves, which way to look and not look, and how to balance the privacy of our bodies with the public nature of the experience. Orientation as such necessitates proper alignment between bodies, objects, and spaces, and the failure to fully align is not only disorienting, but also disrupts the social conventions that are at play.

The failure to align in order to properly orient oneself – the position that one may subjectively occupy as *“oblique”* and *“off-line”* in relation to objects in question – is one of the two definitions of queerness that theorist Sara Ahmed formulates in her work on queer phenomenology. To be queer, in other words, is to disrupt the logic of normative alignment with particular objects. Ahmed’s second definition, perhaps more conventionally, refers more explicitly to what she considers to be non-normative social and sexual practices. Within the context of this inquiry, transgender and gender-variant identities are, following these definitions as a framework, understood as queer. It may be productive to turn to Ahmed’s work here because her preoccupation with orientation as a construct that is both sexual and spatial provides a compelling model for conceptualizing gender-variant and transgender experiences relative to the objects that occupy the public bathroom – in other words, an alternative model for intellectually framing the interior design of public bathrooms in relation to specific human factors. Ahmed turns to phenomenology – the philosophical field that deals with the structures of conscious experiences – and poses the question of sexual orientation as a phenomenological issue, because as she states, *“it makes ‘orientation’ central in the very argument that consciousness is always directed ‘toward’ an object, [as well as] given its emphasis on the lived experience of inhabiting the body.”*¹⁷ As such, she explores theoretically what happens perceptually when one’s orientation toward an object is misaligned – or by her definition, queer. In particular, Ahmed focuses on the objecthood of tables, the metaphorical and material site of the production of philosophy, and in various ways questions the presumed neutrality of one’s direction toward or away from the object, demonstrating how one’s facing one thing as opposed to another is a marker of subjective orientation and not simply a matter of authentic, originary, or neutral meaning.

By articulating the subject/object relationship found in phenomenology, as well as through the invention of the in-line/out-of-line dichotomy of her own, Ahmed accomplishes two things. First, she shows how conventional *“straight lines”* between subjects and objects - that is, the proper orientation toward objects - seek to construct straight, hetero-normative subjects, referring to Adrienne Rich’s notion of *“compulsory heterosexuality.”*¹⁸ Second, she suggests that falling out-of-line is the very process through which queer subjectivities are formed, a potential site of affirmation, creativity, and agency. By falling out of line in relation to some objects and aligning instead with the others that are otherwise either invisible or in the background, there is the possibility that one can begin to remake the world as they know it and even, as Ahmed suggests, can shift their own foundations. She writes, *“Moments of disorientation are vital. They are bodily experiences that throw the world up. Or throw the body from its ground.”*¹⁹ In expanding her view of objects, from tables specifically to furniture more generally, Ahmed reflects,

“A queer furnishing might be about what is in the background, what is behind us, more available as ‘things’ to ‘do’ things with. Is

*the queer table simply one we notice, rather than simply the table we do things ‘on’? Is a queer chair one that is not so comfortable, so we move around in it, trying to make the impression of our body reshape its form? The chair moves as I fidget. As soon as we notice the background, then objects come to life, which already makes things quite queer.”*²⁰

Ahmed’s project, of course, is a philosophical one, and her central aim is to “queer” phenomenology, that is to bring philosophy and queer theory together in new, productive, and affirmative ways. Even so, she provides a language that captures how, in a broader intellectual sense, non-normative bodies relate to material objects and occupy physical space, and as such provides the contours of a useful provisional framework for considering the design of the interior. She asks, *“If objects are extensions of bodies, just as bodies are the incorporations of objects, how can we locate the queer moment in one or the other?”*²¹ Where that moment is located, however elusive it may be, depends on the identity of both the object and the body and the particular relationship between the two. Some objects trigger the recognition that we are queer, while others seem to embody queerness within their own objecthood. How this may be mobilized as a strategy – or sensibility – in design is an important question. It is a reminder that objects, while participants in the construction of subjectivities, have impact, resonance, and meaning that are far from fixed. Just as productively, the question of “how we located the moment” may be posed not just as a matter of experience from the position of the user in space, but also as a viewpoint of the designer. Existing scholarship has identified, in different ways, various relationships between the lack of representation of particular identities in certain design fields and the absence of accommodations in the design work produced by those fields for users of those very same identities.²² Locating the queer moment within the continuum between the simultaneous construction of the subject and the object may be understood as a design task. Referencing Ahmed’s initial definitions of queerness, queer design may be charged with the construction of oblique and off-line relationships, not necessarily as a compensatory act, but rather as a creative practice that critically interrogates the construction of the familiar.

American (Non-)Standard

In terms of design, how one is oriented in relation to the public bathroom is determined by spatial configuration and graphic convention as well as the objects within. The toilet, the urinal and the sink act as points of interface between the body occupying the restroom’s interior and the plumbing infrastructure distributed throughout the landscape. Such plumbing fixtures may vary in style but are to a large degree standardized according to anthropometric data, legal code and other regulating factors. Generally mass-produced, standard bathroom fixtures dictate rituals of use, shape bodily postures, and establish accepted rules of public behavior, deviations from which may be seen as problematic, unacceptable, potentially transgressive – and rather queer.

Of those fixtures, urinals are perhaps most critical to this particular discussion of gendered uses of space, as they physically mark the asymmetry between men’s and women’s restrooms, but also bring, in various ways, the relationship between embodied identity and public space into crisis. If one of the central issues of actively including gender-variant users in the design of public bathrooms is the problem of moving beyond divisions of space based on the binary formulations of gender, interrogating the

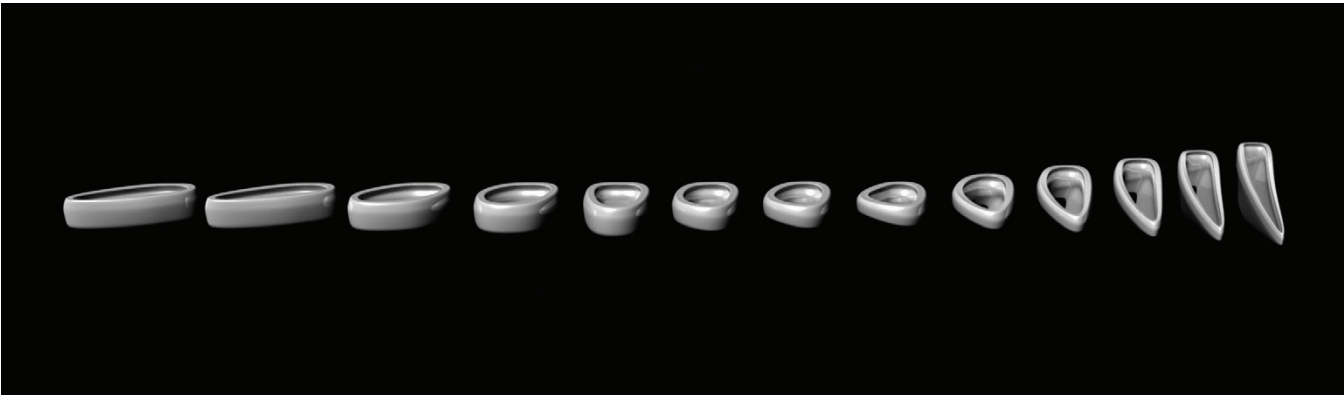
Figure 1_Gender-neutral Bathroom Signage



urinal as a product designed explicitly for public use by men becomes critical. Based on existing precedents and further speculation, it is possible to imagine how the motivation to rethink the typology of the urinal – or as a queer subject, the necessity to reorient myself in relation to its design - may lead to new ways of conceptualizing product design’s response to diverse populations of users in the bathroom and beyond.

The typology of public urinals emerged for the first time in the mid-nineteenth century. George Jennings, the sanitary engineer, plumber, and inventor of the public flush toilet, launched the first prototypical design for urinals at the 1851 Great Exhibition in London. Installed for public use at the exhibition, the product’s mainstream reception was initially controversial, as it appeared to render public the private act of urination. In reality, as Helen Molesworth has argued, urination by men had already been public – the difference achieved with the arrival of the urinal was in fact that “*peeing is privatized as its publicness is sanctioned.*”²³ In addition to renegotiating the relationship between the public and the private, the urinal’s functional specificity isolated urination from other types of bodily discharges, explicitly required the standing pose during its use, and narrowed its population of use to adult men. (It is important to remember that at the time of urinals’ invention, public restrooms were primarily for men only.) Although today the urinal still remains a type of fixture that only appears in men’s bathrooms, attempts at tailoring it for women’s use have been ongoing since its invention. The first female urinals were developed at least as early as the late nineteenth century, but they were impractical for women to use for multiple reasons, including, ironically enough, the modernization of clothing. The

most relevant and comprehensive academic study of designs for female toilets to date is by Barbara Penner, who historically maps their evolution by examining a series of commercial products, speculative prototypes and creative projects.²⁴ This includes the mass-produced *Sanistand*, originally from 1950, as well as the more contemporary versions of female urinals like *Lady P* and *Lady Loo*. Less a bathroom fixture and more a prosthetic device that allows women and transmen to urinate standing up is *P-Mate*, a disposable cone-shaped paper product that has been used by populations as diverse as outdoor music festival attendees and farm fruit pickers. In the realms of art and experimental design, sculptural installations such as *FEMME Pissaire* (1997) by Yolande Daniels and the *Peescapes* series (2001) by Alex Schweder (Figure 2) examine the urinal as a source of critical engagement, pleasure, and affirmation as it reorients the ordinarily seated subject into a standing position. Not unlike Alexander Kira in his seminal 1967 study of the bathroom, Penner concludes that the challenge of practically adopting such designs goes beyond the physiological realities of specific bodies,²⁵ noting, “*Each project, in a different way, demonstrates that the true problem with rethinking the female toilet that it is not simply a functional response to a physical need but a cultural product shaped by discourses about gender, the body, privacy, and hygiene.*”²⁶ In other words, products such as female urinals are not widely implemented not necessarily because they are not practical, but because the larger cultural discourses within which they are situated have not yet been sufficiently transformed. For design this is a challenge that is difficult but full of potential, because what is designed has the capacity to simultaneously impact the environment physically and discursively. The projects and products collected by Penner primarily seek to balance



(previous page) Figure 2_Alex Schweder, Peescapes, 2001, (above) Figure 3_JSSStudio, TransWC series, 2012

out the asymmetry between men’s and women’s bathrooms by providing for women an equivalent to the men’s urinal.

These and similar strategies provide an important context that informs how the consideration of gender variance may affect the future design of bathroom fixtures – and certainly a number of the female urinals discussed already address some of the conditions that pertain to some populations of transgender users. However, gender variance poses a different set of challenges because it resists binary ordering, reciprocal or not, both in terms of embodied identities and object typologies. The discourse on transgender uses of public bathrooms foregrounds the fact that identities are not discrete types, but are rather conceptualized – and lived – as highly differentiated variants. In the near future, a gender-neutral bathroom may not only evolve into a multi-stall space, but the toilet’s neutrality as an object may be similarly called into question. In the current model of the gender-neutral bathroom, the urinal is removed and the toilet becomes the universal receptacle. This unfortunately is an old, industrial, mass-produced way of dealing with a new set of social conditions, which in fact emerged out of conditions of multiplicity, variation, and difference. The new public bathroom will reflect the contemporary paradigm where specificity and diversity are simultaneously integrated into the built environment.

This way of thinking has over the past decade already been codified and applied in other areas of inclusive design, and technologies are increasingly in place to handle such an approach in both design and manufacturing. An early example of a compatible approach is Office dA’s design for a library interior at the Rhode Island School of Design, constructed in 2006. The project integrates a series of self-similar study cubicles into the space by providing a range of ergonomic options for different bodies while maintaining the overall formal consistency across the series. Following parametric logic, the cubicle “family” is, as described by the Office dA’s principal architect Monica Ponce de Leon, differentiated locally through variations in overall sizes, relative proportions, and specific dimensions, “*subtly accommodating many different body types in very subtle ways.*”²⁷ The user confronts a spectrum of choices and acknowledges their relationship to the object in front of them – aligned or out-of-line - before proceeding. In this way, not only is the range of personal choices broader, but also the specificity of the objects in space calls for a degree of self-awareness and recognition that all users are at once different and equal. Applying this logic to bathroom fixtures – and designing them as receptacles that encourage users to take up a range of postures depending on their anatomies

– may seem novel, if not radical, but in due time the notion of variation and specificity in all facets of public life may change the cultural perceptions that are required for the wider adoption of such design principals.

JSSStudio’s ongoing project *TransWC*²⁸ uses digital modeling as a means of designing a family of bathroom fixtures that exist as a gradient between the typology of the toilet and the urinal, made possible by their topologically identical character.²⁹ The result is a series of hybrid objects that can be fabricated digitally, allowing each object to be different from the one before and the one after (Figure 3). In digital design, this ability to produce highly variable one-off products within the process that resembles the serialization of mass production is referred to as mass customization. The digital form of *TransWC* is an animated model that is virtually “paused” at the time of fabrication. The toilet is designed to be digitally 3D-printed at full-scale from porcelain, then glazed and fired, rather than produced through traditional methods of slip casting. Each one is a unique instance in the model’s transformation from the urinal to the toilet, requiring as such a different bodily posture relative to the receptacle. As a design experiment, the project blurs the distinction between urinating standing up and sitting down, allowing for a wider range of inhabitations of the public restroom, subtly suggesting that all users are in fact gender-variant in their own way. By starting with the standard typology of the urinal and the toilet as the generator for the animated gradient, the project seeks to queer what may be seen as standard or neutral, and in this way, to echo Sara Ahmed, “*to disturb the order of things.*”³⁰

Although mass customization is reaching mainstream status today, its potential for addressing the diversity of populations in the public realm remains underexplored. Conceptually, masscustomization is fundamentally about ways in which products can systematically address and accommodate identity with high degrees of flexibility. In industrial design, products are mass-customized as a means of tailoring them to specific users, rapidly incorporating user feedback regarding everything from ergonomics to taste preferences into the final product.³¹ At the scale of buildings, the identity may be that of a place or an entire community, whereas the customization of consumer products typically addresses the individual identities of end users. The interior, as a synthesis of architectural space and product design, deals with both. One of the central promises of mass customization in spatial design is its potential to fine-tune the constructed environment in response to its broader spatial contexts on the one hand while addressing the finer scale of its

occupants with a greater degree of specificity on the other. Both Office dA’s library project and ISSSStudio’s fixture design point in the direction of customization in the realm of public interest. Emerging social discourses and critical theories that help unpack them, together with new technologies and innovative design thinking, have the capacity to transform the public realm in new, imaginative and just ways. For designers, the ability to synthesize multiple discourses, techniques of production and other realities that shape the constructed environment is critical, as is the ability to imagine beyond the threshold of what is currently possible. In the realm of products, interiors and architectures, the world is remade not only through the design of artifacts or discourse alone, but rather through a complex set of relationships between the physical and the rhetorical.

Conclusion

The institutionalization of gender-neutral bathrooms is, to sum up by echoing Sheila Cavanaugh, *“an urgent and important political project to ensure access for all who depart from conventional sex/gender body politics.”*³² The alternatives to the standardized repertoire of plumbing fixtures are some of the specific ways in which design can intervene within this important project and as such meet the demands of evolving cultural conditions with innovation and creativity. By linking political urgency with design experimentation, designers have the capacity to step up to the challenge posed by Cavanaugh as she remarks, *“It is equally important to think creatively about how we may build gendered architectures that prompt people to think about gender, sexed embodiment, desire, and our relations to others in new and ethical ways.”*³³ The tripartite organization of this essay reflects an attempt to forge a new set of connections between emerging social conditions, critical theory, and design that may in turn serve as a possible foundation for future action. The leveraging of creativity through techniques specific to design disciplines – and for architectural, product and interior design this includes an active engagement with emerging technologies that shape the physical environment – may be seen as a matter of social responsibility and ethical action. Although at times uncomfortable – perhaps seemingly inappropriate, and even maddening – the juxtapositions between civil rights arguments and digital fabrication experiments, as well as between pragmatic design criteria and intricate philosophical frameworks, are important and necessary steps toward constructing critical connections in places where there may not be any just yet. Seeking, identifying and mobilizing previously absent or only latent relationships may be one of the more productive ways to define the role of the contemporary designer, and such a model of practice requires that their reach at times exceeds the limits of personal comfort zones and previously rehearsed expertise.

The provocation offered up by the title of this journal’s inaugural issue, *Autonomous Identities*, projects a sense of optimism about the future of spatial design and interior architecture, but also poses a set of identity problems of its own. On the one hand, there is a shared sense that the “interior” is on the brink of something new, and that the power of what this may be is situated in its interstitial nature, which the editors cogently refer to as *“the potential to claim new territory by operating at the intersection of previously discrete knowledge bases.”*³⁴ On the other, there is a sense of urgency with which the newly coined terms like “spatial design” are readily embraced as disciplines in their own right. Spatial design suggests an open, generalized field, while its counterpart in the journal’s title, interior architecture, stands for

an area of specialization within a broader discipline. The intention is, it seems, to simultaneously blur boundaries around some things and build them around others, inscribing into the journal issue’s mission a sense of flux. I am reminded here of Sara Ahmed’s queer disorientation and its description that is worth repeating, *“Moments of disorientation are vital. They are bodily experiences that throw the world up. Or throw the body from its ground.”*³⁵ Such moments render the ground as soft and the bodies buoyant. Leveraging those moments as we examine the notion of autonomy may be one way to work toward a highly differentiated, infinitely variant and inclusive constructed environment.

Figure 1_Image courtesy of the author, Figure 2_by Alex Schweder
Figure 3_by ISSSStudio

Notes

- 1_Tobias Barrington Wolff, “Civil Rights Reform and the Body,” Harvard Law and Policy Review 6, no.1 (2012): 201.
- 2_Catherine Connell, “The Politics of the Stall: Transgender and Genderqueer Workers Negotiating ‘the Bathroom Question,’” In Embodied Resistance: Breaking Rules in Public Spaces, ed. Christina Bobel and Samantha Kwan (Nashville: Vanderbilt Press, 2011), 175-185.
- 3_Wolff, 201.
- 4_Jacques Lacan, “The Agency of the Letter in the Unconscious, or Reason since Freud,” In Ecrits: A Selection, trans. Alan Sheridan (New York: W. W. Norton, 1977), 151.
- 5_Olga Gershenson and Barbara Penner, introduction to Ladies and Gents: Public Toilets and Gender (Philadelphia: Temple University Press, 2009), 9.
- 6_Gershenson and Penner, introduction to Ladies and Gents, 4.
- 7_Clara Greed, Inclusive Urban Design: Public Toilets (Oxford: Architectural Press, 2003), 8.
- 8_Perhaps more than any other source, Gershenson and Penner’s edited volume is the foundation without which my own design-research would not be possible. My hope is that my work is a small contribution to the enormous body of discourse that they have gathered, synthesized and disseminated.
- 9_or the discourse on plumbing in relation to modernity and architecture, see Plumbing: sounding modern architecture, ed. Nadir Lahiji et al. (New York: Princeton Architectural Press, 1997).
- 10_Adolf Loos, “Plumbers,” in Plumbing: sounding modern architecture, ed. Nadir Lahiji et al. (New York: Princeton Architectural Press, 1997), 18.
- 11_“Bathrooms and Civilization,” House and Garden, Vol. XXX no. 2 (February 1917): 90, cited in Helen Molesworth, “Cleaning House with Duchamp,” in Plumbing: sounding modern architecture, ed. Nadir Lahiji et al. (New York: Princeton Architectural Press, 1997) and Ellen Lupton and J. Abbot Miller, The Bathroom, The Kitchen and The Aesthetics of Waste: A Process of Elimination (New York: Princeton Architectural Press, 1992).
- 12_Gershenson and Penner, Ladies and Gents, 5.
- 13_Gershenson and Penner, Ladies and Gents, 7.
- 14_For example, at my home institution - the University of Texas at Austin - there is a provision not only to provide at least one gender-neutral restroom per five floors of each newly constructed campus building, but also to retrofit existing buildings to meet the same standard. See Victoria Pagan, “Gender-neutral restrooms to be phased in to broader use on campus,” Daily Texan, published on July 24, 2011. <http://www.dailytexanonline.com/news/2011/07/24/gender-neutral-restrooms-to-be-phased-in-to-broader-use-on-campus>
- 15_It is also relevant to note that such facilities are of use not only for trans and other gender-variant users, but also to parents with children and people with disabilities.
- 16_“Are you free to pee?,” CU Independent, published on January 26, 2010. <http://www.cuindependent.com/2010/01/26/are-you-free-to-pee/12442/>
- 17_Sara Ahmed, Queer Phenomenology: Orientations, Objects, Others (Durham: Duke University Press, 2006), 2.
- 18_Ahmed, Queer Phenomenology, 84.
- 19_Ahmed, Queer Phenomenology, 157.
- 20_Ahmed, Queer Phenomenology, 168.
- 21_Ahmed, Queer Phenomenology, 162.
- 22_Clara Greed, for example, discusses the discrepancy between percentages of women professionals in the fields of architecture and urban design and the percentages of female users in spaces designed by those professions. See Clara Greed, Inclusive Urban Design: Public Toilets, 6.
- 23_Helen Molesworth, “Cleaning House with Duchamp,” in Plumbing: sounding modern architecture, ed. Nadir Lahiji et al. (New York: Princeton Architectural Press, 1997), 81.
- 24_Barbara Penner, “(Re)Designing the ‘Unmentionable,’” in Ladies and Gents: Public Toilets and Gender (Philadelphia: Temple University Press, 2009), 140.
- 25_For Kira’s examination of female urination, see Alexander Kira, The Bathroom (New York: Bantam Books, 1967), 140.
- 26_Penner, “(Re)Designing the ‘Unmentionable,’” 142.
- 27_National Public Radio, “How the Disabilities Act Has Influenced Architecture,” July 26, 2010.
- 28_ISSSStudio is the emerging design practice co-founded by the author of this article. The design and the writing inevitably inform one another, a relationship that is the foundation for the kind of critical design practice that the author advocates. The design project is ongoing as is the author’s research on the cultural politics of the public bathroom.
- 29_Although typologically different, all the fixtures within the series are topologically identical, that is the topology that underlies each piece in the animated series is a torus.
- 30_Ahmed, Queer Phenomenology, 161.
- 31_For a useful discussion about user input in the production of digitally manufactured custom goods, see R.I. Campbell, “Customer Input and Customization” in Rapid Manufacturing: An Industrial Revolution for the Digital Age, ed. Neil Hopkinson, et al. (West Sussex: John Wiley & Sons, 2006), 19-38.
- 32_Sheila Cavanaugh, Queering Bathrooms: Gender, Sexuality, and the Hygienic Imagination (Toronto: University of Toronto Press, 2010), 5.
- 33_Cavanaugh, Queering Bathrooms, 5.
- 34_Quoted from the online call for submissions for this issue. <http://www.ijournal.org/call-for-entries/>
- 35_Ahmed, Queer Phenomenology, 157.

