Tip of the Icon: Examining Socially Symbolic Indexical Signage

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Abstract

A probative look beneath the surface of modernist claims of facilitating universal communication through the use of human iconography reveals how the supposedly neutral and objective qualities of signage have become socially symbolic in their gender references. Graphic design has the power to make what is and has become socially and culturally acceptable in particular societies appear to be so ingrained that it should not be questioned, much less altered. The study described in this piece describes a means to correct at least some portion of the social and cultural transgressions attributable to graphic design in many developed countries over much of the last century. This effort was guided by the following research question designed to address one of the most titanic design issues confronting contemporary society: how can universal public restroom signage be redesigned to help positively transform the signification of gender identity in and around them, especially in ways that effectively address the needs of the transgendered?

To examine this question, this essay examines the shortcomings of culturally specific signage; the ways in which social issues can be negatively affected by the aesthetics of graphic form; and the ramifications of perpetuating stereotypes through continuing the history of employing universal graphic forms.

The result of this visual inquiry contributes to ongoing study in the field of visual semiotics by classifying a new hybrid type of "sign:" the 'symbolic-index.' By translating a graphic and historical analysis of signage systems into critical readings and writings about and, eventually, into the making of signage systems through a series of classroom experiments, the integrated learnings that result enable a design outcome that is both pragmatically clear and culturally acceptable.

This study builds upon the theories originating from two distinct schools of thought derived from semiotics' "founding fathers" (specifically, Ferdinand de Saussure and Charles Sanders Peirce). As such, it serves as an introductory primer that describes the context in which semiotics was first introduced as a discipline of study that helps theoretically frame how meaning-making is facilitated through graphic design.

The application of this theoretical speculation reimagines a new role for socially-symbolic restroom figures by proposing an all-inclusive, gender-neutral solution that harnesses the indexical "bathroom" connotation of the original sign. In achieving this, it demonstrates how designers can become stewards of intercultural communication by modifying the universal with the culturally specific.

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Introduction

The graphic language of nonverbal signs plays a complicitous role in expediting our ever-accelerating, visually oriented culture. Through synthesis and reapplication, visual language becomes the constantly evolving shorthand for graphic designers who rely heavily on semiotic conventions to guarantee their messages can be decoded correctly. Since the meaning of visual language is open to wide interpretation, it is important to understand the valence of potential factors that influence connotation. The reduction of information into a single unmistakable sign needs to be both pragmatically clear and culturally acceptable. However, when graphic conventions are appropriated unquestioningly, unintentional connotation passes from one generation to the next, which causes signs to become outdated, obscured, and even offensive. As a corollary, social issues can be negatively affected simply by the uncritical aesthetics of graphic form. As culture becomes progressively more symbol-oriented, designers have a greater responsibility to evaluate the impact of their artifacts on society, and the study of semiotics^a can help separate and analyze their “signs” of communication at a very basic level.

Meaning-making through “signs” is not solely the province of design, and scholarship outside design recognizes the role of culture in making and negotiating meaning.^b The use of the word “sign” throughout this essay is thus differentiated to reflect its duality of meaning. When used with quotation

^a According to Philip Meggs and Alston W. Purvis, “The general philosophical theory of signs and symbols known as semiotics has three branches: semantics, the study of the meaning of signs and symbols; syntactics, the study of how signs and symbols are connected and ordered into a structural whole; and pragmatics, the study of the relation of signs and symbols to their users.”

From Meggs, P. B., & Purvis, A.W. *Meggs' History of Graphic Design*, Fourth Ed. Hoboken, NJ, USA: John Wiley & Sons, 2006, pgs.357-358.

^b Semiology has provided a continuing critical base for social theory, deconstruction and “the interpretive turn” in the humanities. Semiotics is used in technical communication and semiotic concepts are used in human factors to decompose and analyze interpretation.

From Storkerson, P. “Antinomies of Semiotics in Graphic Design.” *Visible Language*, 44.1 (2010): p. 7.

^c Swiss linguist Ferdinand de Saussure's primary contribution to the study of language was his definition of two components of a sign: the Signified (the person, thing, event, place or concept called forth by the stimulation of the signifier), and the Signifier (the sound, word, or image that recalls in our mind the signified, even in the absence of the real thing).

From Davis, M. Graphic Design Theory: Graphic Design in Context. New York, NY: Thames & Hudson Publishing (2012), p. 106.

French literary critic and semiologist Roland Barthes proposed his semiotic theory of connotation by describing the "Sign" as the sum of their relationship: not one or the other, but both at the same time working together in an inseparable bond "...the associative total of the first two terms."

From Barthes, R. Mythologies. New York, NY, USA: Hill & Wang (1995), p. 113.

marks, it refers to its semiotic definition—something which stands for something else, such as “flowers are a sign of affection,” or “The doctor sees signs of illness,”^c whereas when it appears without quotation marks, it denotes the signage designers create as part of our visual information environment.

The first part of this essay examines some of the more prevalent ways ill-considered design choices can contribute to a failure to produce adequate or appropriate meaning in nonverbal signs. It presents the principle elements of semiotic theory that will be discussed and makes a case for their foundational role as a basis for design theory. It also provides an overview of *what we know* about how people extract meaning from “signs,” and thus why designers need to be more thoughtful as they engage in the processes of designing and implementing them. Part two explores the contexts that have produced meaning from abstraction when “signs” are appropriated from one semiotic system to another. By providing an historical analysis of how we got to where we are, it speculates on where we might be headed next. The final part of this essay unpacks the meaning of the title. A closer look at what is going on beneath the surface of signage reveals how the supposedly neutral and objective qualities of Modernist icons depicting human figures have become socially symbolic in their gender references. By acknowledging the designer’s complicity in subverting signage to mark members of society with all kinds of ‘otherness,’ it offers a prescriptive alternative for rethinking one of the titanic design issues confronting society today. All three parts of this article build upon what has previously been accepted by semiotic scholars as influential in the meaning-making process: namely time, context, and history. Together, they constitute a call for action to current design educators and practitioners to look more critically at contemporary practices of nonverbal encoding so they might recognize when signs are out of step with the culture of a particular population group that interprets them.

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Skaggs, S. “Visual Design Semiotic Primer,” 27 July, 2011. Online. Available at: <http://stevenskaggs.net/VDSP%20Chapt%201.pdf> (Accessed 30 October, 2016).

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Skaggs, S. Zed 4: Semiotics: Pedagogy and Practice. Richmond, VA, USA: Virginia Commonwealth University Press (1997), p. 5.

Part 1: Beneath The Surface of Signage

Contemporary American graphic design educator Steven Skaggs calls graphic design “naked semiotics.”¹ He sees graphic design as pure semiotics in action, and believes semiotics is critically foundational and more important than any other approach as a basis for design theory: “Semiotics is the explicit heart of graphic design theory, just as it is the implicit (subconscious) engine in graphic design practice. The central role of semiotics is therefore clear, as, from this perspective, every graphic designer is a semiotician.”² Yet, in order to inform

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"The history of semiotics in design indicates that there is no one underlying problem, but a series of antinomies or contradictions." Storkerson, P. "Antinomies of Semiotics in Graphic Design." *Visible Language*, 44.1 (2010): p. 7.

^d Semiotics originated as a discipline of study at the turn of the twentieth century. The thinking that guided its instantiation originated from two scholars who were working on opposite sides of the Atlantic at about the same time. Each of them independently arrived at similar theories to explain how meaning-making occurs in the mind of a viewer, or an "observer," as she engages in the mental processes necessary to interpret words or visual forms according to her ability to associate these with her extant knowledge of the world. The study of what came to be known as 'the life of signs' was first explored in a linguistic context by Ferdinand de Saussure (1857–1913) in France and Switzerland in the first decade of the 20th Century, and almost simultaneously in a more visual context by Charles Sanders Peirce (1839–1914) in the United States. The work of both scholars was used to formulate a general theory of meaning construction based on cognition.

^e One of Germany's preeminent semioticians, Martin Krampen (1928–2015) began studying graphic design and visual communication at the then newly-opened *Hochschule für Gestaltung* in 1953. The Bauhaus had been the first German design school to incorporate the moniker 'Hochschule für Gestaltung' into its title in 1919. After the Bauhaus was closed by the Nazis in 1932–3, this language stayed out of use among German art and design schools until it was used again to describe the new programs at Ulm beginning in 1953–4.

what has historically been an intuitive-based discipline with theory to help contextualize the conceptual underpinnings of their profession, designers must reconcile the often contradictory ³ theories originating from two distinct schools of thought derived from semiotics' "founding fathers:" specifically, Peirce's *semiotics* and Saussure's *semiology*. ^d The brief historical interlude that follows is not meant to be an exhaustive account of names and events, but rather serves as an introductory primer to establish a context for how semiotics was first introduced as a discipline of study to help theoretically frame how meaning-making occurs in graphic design.

Semiotic theory in graphic design education dates back to when it began to be incorporated into the curriculum at *The Ulm School of Design* (*Der Hochschule für Gestaltung*) in Germany in the 1950s. (The design curriculum at Ulm revived and then examined anew some of the Bauhaus teaching principles in the context of more globally interdependent post-war world). One of the primary differences between the teaching practices operated at the Ulm School of Design, or HFG, ^e and those that had been operated at the Bauhaus was that several of the scholarly programs at Ulm incorporated the study of semiotics in their curricula. This pedagogic innovation is now widely acknowledged as being crucial to the introduction of semiotic analysis as a key educational component of graphic design education. In his book *Graphic Design: A New History*, design historian Stephen Eskilson writes, "What truly separated the professors ^f and students at the Ulm School from their contemporaries was their concern for the theoretical dimension of graphic design." ⁴ At that time, American graphic designers—who were mostly self-taught ^g—were far less engaged in trying to formulate or understand the intellectual structures and philosophical issues that epistemologically and ontologically framed and supported their work. By contrast, from 1953 to 1955, former Bauhaus professors Josef Albers and Johannes Itten (with Walter Peterhans) helped design a theoretically well-formed and framed set of curricula to guide the new design programs of the HFG. At about this same time—beginning in 1950—Albers *also* began to introduce more theoretically based approaches to guide design students' learning experiences as he took over the leadership of the Department of Design at Yale University in the U.S. ⁵ Although it was introduced at Yale during the 1950s, semiotics would not be accepted in the U.S. as a credible academic theory to help guide design practice until it was introduced in the curriculum of the Rhode Island School of Design in the early 1970s. Thomas Ockerse (MFA Graphic Design, Yale 1965), became one of America's foremost semiotic design education

^f *In search of a theory to epistemologically contextualize a field of human practice characterized by a lack of conceptual discipline, designers, especially those educated in the Ulm School tradition, were willing to adopt semiotics as one of their primary foundational theories, provided that semioticians paid attention to the critical problems of design and avoided extending a more logocratic model of argumentation into situations where a more established explanatory framework seemed necessary or more easily applicable.*

Extracted from Maldonado, T. Upper-case 5: HfG Ulm. Tonbridge, Kent, UK: Whitefriars Publishing, 1961.

^g *Paul Rand, Bradbury Thompson, Alvin Lustig, Alexey Brodovitch, Herbert Matter—some of the most admired and influential American graphic designers of the 20th century—did not have formal educations in design and were essentially self-taught.*

Kelly, R. R. "The Early Years of Graphic Design at Yale University." Design Issues 17. 3 (2001): p.13.

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Eskilson, S. Graphic Design: A New History. New Haven, CT, USA: Yale University Press, 2007, p. 321.

5

Ibid., p. 1.

6

Friedman, K. "Theory construction in design research: criteria: approaches, and methods." Design Studies, 24.6 (2003), p. 507.

7

Ibid., p.507.

8

Davis, M. Graphic Design Theory: Graphic Design in Context. New York, NY: Thames & Hudson Publishing (2012), 104.

pioneers, who, along with Hans C.van Dijk, collaborated to design and implement a graphic design curriculum at RISD based on Peirce's typology of signs beginning in 1973.^h Despite the fact that semiotics has played a seminal role in shaping some of the more prominent aspects of graphic design education for roughly half of the past 60-plus years of graphic design history in the U.S., it still has relatively low visibility and application here. This is due in part to a broad tendency among American graphic design educators and practitioners to divorce the practice of design from the theoretical knowledge and understandings that inform and guide it. One of the goals of this research is to at least address and perhaps undo this bifurcation by explicitly integrating research informed by semiotic concepts and principles into the making of graphic objects through a pedagogical approach that links tacit knowledge with discursive knowledge. By doing this, it is hoped that both emerging (i.e. student) and established graphic designers can become more adept at, as Ken Friedman opines, "solving problems, creating something new, or transforming less than desirable situations into preferred [ones]..."⁶ Friedman goes on to bolster this point by offering, "To do this, designers must know how things work and why. Understanding how things work and why requires us to analyze and explain. This is the purpose of theory."⁷

As a way of calling attention to the issues that accompany the design of nonverbal signs as carriers of unintentional meaning, the overview that follows offers three observations that identify some of the shortcomings inherent in culturally problematic signage. The first two provide perspective on what happens when time moves on and signs do not: by anchoring meaning in outdated visual language, signs suffer from the obsolescence of styling. Additionally, by uncritically replicating signage conventions with historically outdated values, designers can unintentionally perpetuate negative stereotypes. The third observation demonstrates how the physical context of a sign influences its decoding by underscoring how dramatically the context of a sign's use can change its connotation.

Anchoring Meaning in Outdated Visual Language

Leading American design educator Meredith Davis has opined that the "...concern for meaning and how it is made and interpreted is as fundamental to graphic design practice as are the aesthetics of form."⁸ A common misconception among non-designers about signs is that their visual meaning remains the same over time. Similar to verbal language, meaning transmitted through signs is

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Lupton, E. *Design Issues*, MIT Press, 3.2 (Autumn, 1986), pgs. 50–51.

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Abdullah, R. & Huber, R. *Pictograms, Icons & Signs*. London, UK: Thames & Hudson Publishing, 2006.

11

“Tie a Yellow Ribbon Round The Ole Oak Tree” by Dawn, featuring Tony Orlando, written by Irwin Levine and L. Russell Brown, recorded 1973. New York City, New York, USA: Bell Records, 45 rpm.

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Fry, D. & Fry, V. “Continuing the conversation regarding Myth and Culture: An alternative reading of Barthes.” *American Journal of Semiotics*, 6.2/3 (1989), pgs.183–197.

^h Charles Sanders Peirce developed a taxonomy of sign types, of which his second ‘triad’ comprised of icon, index and symbol has been the most relevant to design.

“Peirce’s classification of sign types is not mutually exclusive—we can have iconic symbols or indexical icons.”

Davis, M. *Graphic Design Theory: Graphic Design in Context*. New York, NY, USA: Thames & Hudson Publishing, 2012, p. 127.

ⁱ Style: A distinctive form or prevailing mode of expression, often associated with an era or a culture and having less to do with the subject matter of the communication than how it is represented.

Extracted from Davis, M. *Graphic Design Theory: Graphic Design in Context*. New York, NY: Thames & Hudson Publishing, 2012, p. 145.

Obsolete Technology

Old-Fashioned Styling

Outdated Social Norms

FIGURE 1: Obsolescence of Styling: Iconographic visual signage is made obsolescent as technology and styles change, and social norms become outdated.

Source: Dobson, T. 2016.

continuously redefined by contemporary society’s usage of them. Design curator and author Ellen Lupton acknowledges the temporal nature of visual language: “To interpret is to recognize that signs are not absolute, neutral, and fixed, but are, rather, in historical flux.”⁹ Since graphic styleⁱ also conveys meaning, the more neutral a sign appears, the more directly viewers can connect with its literal content. Pictorial signs are rarely devoid of style, and iconographic representations need updating over time in order to avoid falling into the trap of obsolescence facilitated by failing to update the styling of their essential forms (see fig. 1). Signs also need updating to avoid being misinterpreted as societal norms change. Rayan Abdullah and Roger Huber explain how, in the context of the third example depicted in Figure 1, “The old motif for the ‘footpath’ sign had to be changed—not for the sake of modernization—but because the man in the hat holding hands with the little girl suggests a possible abduction rather than a father taking his daughter for a walk.”¹⁰

In the *American Journal of Semiotics*, Donald and Virginia Fry have documented the extent to which the connotative meaning of the same “sign” can be shifted over time. They traced the drift in meaning of “Tie a yellow ribbon...” from a poetic symbol of an American Pop song from the 1970s that emphasized a theme of forgiveness,¹¹ into a persuasive ideological “sign” of American solidarity regarding social and political attitudes about the Gulf war.¹² As subsequent generations of American designers repeatedly expropriated the symbolism of the yellow ribbon for their own uses over time, its original meaning became hollowed-out, leaving behind a timeless form without

^j Lupton & Miller point out how the only place the female icon appears in the Department of Transportation (D.O.T.) system aside from lavatory doors is in the sign for ticket sales, where the designers deemed it appropriate to show a woman assisting a man (fig. 2, center).

Extracted from Lupton, E. & Miller, A. *Design Writing Research: Writing About Graphic Design*. New York, NY, USA: Kiosk Publishing, 1996, p. 42.

Figure 2, right, depicts how this sexist convention has been copied in Japan with a slight modification to the rendering of the woman's waistline, but ironically, with no attempt made to 'politically correct' the overt sexism inherent in this image.

^k Verbal language, literature, and legalese all emphasize his, rather than hers. Our everyday experience is saturated with androcentric language because, largely until the latter portion of the 20th Century, most developed societies in the world expected men to have a better formal education than women. Before universal literacy, far fewer women than men around the world were able to read and write, and thus written material tended to reflect a male point of view.

^l Part of the Special Olympics' mission is to lead the way around the world to change the term 'mental retardation' to 'intellectual disabilities.'

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Griffin, E. A *First Look at Communication Theory*. New York, NY, USA: McGraw-Hill, 9th Edition, 2015, p. 333.

14

Ibid., p. 329.

substance. Not only does this example illustrate how a seemingly neutral or inanimate "sign" can accomplish so much, but it also demonstrates the communicative power of non-pictorial signs as purely abstract symbols.

Perpetuating Unintentional Stereotypes

The widespread depiction of stereotypes continually perpetuated through media, movies, music and advertising has a powerful influence over society. The role of design is also complicit, and though often inadvertent, public signage should be particularly accountable because of its seemingly neutral and objective qualities. Pejorative connotations can be unwittingly reinforced if designers adopt outdated graphic signifiers without considering how the meaning they convey has been developed in a given society, or how those meanings and their attendant social norms may have shifted over time. Despite wide visibility of initiatives encouraging intentional diversity and inclusion, figure 2 illustrates a sexist signage convention that designers continue to perpetuate. In many instances around the world, when the international sign for 'Assistance' is displayed showing one person offering a service to another, the convention is to show *women* assisting *men*.^j

Gender inequality is ingrained into iconographic visual language as much as it is in everyday verbal language,^k and all too often the verbal language used to describe marginalized groups in society results in their becoming stereotyped.^l Whereas verbal language can more easily be 'politically corrected,' in North America and other G20 nations our visual sign systems have not kept pace with changing social views. Communication Theory educator Em Griffin points out how this is precisely the problem with the connotative nature of signs: "They go *without saying*. They don't explain, they don't defend and they certainly don't raise questions."¹³ Instead, the ideological baggage that signs "carry" wherever they go has the power to perpetuate the dominant values of society. French literary critic and semiologist Roland Barthes believed "...the significant semiotic systems of a culture lock in the status quo. The mythology that surrounds a society's crucial 'signs' displays the world as it is today—however chaotic and unjust—as natural, inevitable and eternal."¹⁴

Barthes' theory that addresses semiotics is rooted in connotation. It supports the idea that the outdated values and inherent social inequalities personified in a given society's everyday signage is indicative of a high level of social inequality within it. His model explains the process by which seemingly neutral "signs" function in society as ideological tools: they make what

Germany
1968

United States
1974

Japan
2013

FIGURE 2: Ambiguity of Meaning: The grammar of visual language becomes imprecise when the logic of a sign system is not consistently applied.

Source: Dobson, T. 2016.

is cultural seem natural.¹⁵ For example, signs function to legitimize the stigmatizing of women as subordinate and the physically challenged as passive. In 2014, the implementation of a new law in New York State requiring the term ‘*Handicapped*’ be removed from state signs or any other communication and be replaced by the word ‘*Accessible*,’ has helped instigate and perpetuate a positive rather than pejorative connotation towards the physically challenged. The original ‘International Symbol of Access’—unchanged since its design in 1968—now signifies ‘*static*’ and ‘*incapable*’ compared to a new sign, which designers have subsequently updated to reflect the more self-reliant mobility connotation of the term ‘*Handicapable*’ (see fig. 3). If designers consider the broader cultural, social, historical and political connotations concerning the things they design, then just as verbal language can adapt to counteract its past transgressions, Barthes’ ‘*connotative sidestepping*’ model can be leveraged to proactively innovate more graphic opportunities to do the same.

Context Changes Connotation Completely

More broadly informed and deeply probed historical perspective and more thoughtful critical reflection can help designers avoid the unintentional pitfalls inherent in designing and implementing culturally problematic signage. One of the most important factors influencing how a sign will be decoded is its physical context. Figure 4 illustrates how the same sign can mean *Don’t Touch* when juxtaposed against cacti, or *Don’t Go* where there’s visible danger of being

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Barthes, R. *Mythologies*. New York, NY, USA: Hill & Wang, 1995, p. 115.

FIGURE 3: Perpetuation of Stereotypes: The evolution of sexist, iconographic visual signage is a result of prevailing graphic design conventions being passed on from one generation of designers to the next. *Source: Dobson, T. 2016.*

^m As a rule, the red circle-slash universally means NO and always negates that which it cancels: for example, “No Smoking” if it is juxtaposed over a cigarette, “No Parking” if it is juxtaposed over the letter ‘P’. However, when the meaning of the circle-slash (Don’t), is combined with the iconographic palm of an outstretched hand (which we’ve learned to connotate symbolically as “STOP”), the resulting meaning becomes ambiguous. Without the context of any signifier to reaffirm meaning, the literal denotation could be misread as Don’t Stop! rather than Don’t Go!

ⁿ The hand gesture made by joining the thumb and forefinger into a circle signifies ‘OK’ in the UK and the USA but in France it signifies ‘worthless’ or ‘zero,’ and in Brazil, it is interpreted as an obscene gesture.

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Kirkpatrick, G. 1+1=3: The Sum of the Parts is Greater Than the Whole. Forthcoming research (2005?).

17

Eco, U. “Towards a Semiotic Inquiry Into the Television Message.” Working Papers in Cultural Studies, University of Birmingham, 3 (1972): pgs. 103–21.

18

Griffin, E. A First Look at Communication Theory. New York, NY, USA: McGraw-Hill, 9th Edition, 2015, p. 329.

19

Crow, D. Visible Signs: An Introduction to Semiotics in the Visual Arts. Switzerland: AVA Publishing, 2nd Edition, 2010, p. 7.

struck by falling ice. But when the same sign is removed completely from the context of any signifier (fig. 4), the resulting meaning changes completely.^m American design educator Garland Kirkpatrick points to the instability of a “sign’s” meaning as centermost to the formulation and operation of semiotic theory: “One may be more dominant than another, but this instability or reactivity creates a valence of potential meanings.”¹⁶ A connotative response is less fixed than a denotative response, and the associations signified may well depend upon the social, cultural, economic and political values and realities operating within the contexts of an individual’s perceptions, and his or her society’s.

Italian semiologist and novelist Umberto Eco coined the term ‘*Abrant Decoding*’ to describe how context changes the interpretation of “signs.”¹⁷ His concept is useful to designers because it explains what happens when a message that has been encoded according to one socio-cultural code is decoded by means of another. When “signs” are appropriated from one culture into another or one system into another, often there exists the potential to propagate misunderstanding.ⁿ Whereas the rules of verbal language adequately serve as parallels for the first two observations in this essay, this third example differs because unlike words, the language of the visual world does not always become more emphatic when more “signs” combine to strengthen the communicative power of a message.

Part 2: No One Sign Fits All

The second part of this visual inquiry seeks to understand the contexts that have produced meaning from abstraction by tracing the origin of the circle-slash sign. Very little has been written about its etymology, but its development within the European road sign system since the mid to late 1920s seems to have codified the first ever rules for its usage. Since road signs in Europe have developed abstract iconographies from a milieu of cultural precedents, they offer a rich opportunity for researching meaning-making within an emergent semiotic system. Em Griffin points out, “A ‘sign’ does not stand on its own: it’s part of a system,”¹⁸ and semiotician David Crow discourses on the ways in which “signs” are organized into systems reveals how underlying structures and patterns help to form meaning.¹⁹ By unpacking the logic of the European road sign system, the origin of the circle-slash and the transformation of its visual meaning can thus be mapped.

The need for a universal picture language became necessary in the early 20th century as people living in industrialized societies began to

Don't Touch!

Don't Go!

Don't Stop!

FIGURE 4: Context Changes Connotation Dramatically: The same sign can mean Don't Touch when juxtaposed against cacti, or Don't Go where there's visible danger of being struck by falling ice. But when the same sign is removed completely from the context of any signifier, the resulting meaning changes completely.

Source: Dobson, T. 2016.

° An international convention in Paris first addressed the problem of language-based signs in 1926, and a year later the convention of using pictographs on road signs was officially ratified in Vienna. Krampen, M. "Icons of the Road." *Semiotica: Journal of the International Association for Semiotic Studies*, 43.1-2 (January 1983), p. 74.

P Krampen traces the origin of road-warning signs back to 1909, well before the broad introduction of Saussure's semiology. Detailed documentation of this process provides an empirical timeline of its evolution. Unlike the normal case in the diachronic study of other sign systems, in the study of the implementation of various iterations of the road sign system, changes can be pinpointed to exact dates in this century.

Krampen, M. "Signs and Symbols in Graphic Communication." *Design Quarterly*, 62 (1965), pgs. 1-31.

q Triangular-shaped signs were introduced to symbolize a warning of approaching danger because they were deemed more recognizable than signs rendered in other shapes. Round-shaped signs symbolized driver restrictions (maximum speed/height/weight limits etc.), as well as prohibitions, and the Paris convention stipulated that the color red should predominate on these signs (Schipper 2009, p. 87).

encounter problems stemming from increasing globalization and the development and implementation of new transportation and communication technologies. In 1915, the early implementation of automobiles prompted the need to place the world's first stop signs on American streets, where traffic signs have continued to rely on words because English is the primary spoken language in the U.S. However, as automobile travel became widespread across Europe, a new method was needed to communicate to motorists that transcended language barriers. Initially, purely typographic or type-dominant road signs were created in each country, but only those who spoke the national language could understand them. ° In the mid 1960s, a leading German semiotician, Dr. Martin Krampen—an alumnus of The Ulm School of Design—coined the term “semi-otization” to describe the iterative process by which this system of road signs evolved from words to pictograms to symbols. P Along with the advent of symbolically shaped signs q came the introduction of the first abstract symbol: the circle-slash “NO” sign.

Krampen points to the ‘red crossing-out mark’ as a unique example of how “...behavioral agreement among members of different language groups can also be attained with non-pictorial visual forms.” The landmark significance of the design and implementation of the circle-slash as an abstract symbol illustrates how “...meanings can be directly expressed and transmitted by imitations of reality, or completely ‘abstract’ visual forms.” 20 In speculating about the pro-

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Krampen, M. "Icons of the Road." *Semiotica: Journal of the International Association for Semiotic Studies*, 43.1-2 (January 1983), p. 164.

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Krampen, M. "Icons of the Road." *Semiotica: Journal of the International Association for Semiotic Studies*, 43.1-2 (January 1983), p. 164.

venance of the red crossing-out mark, Krampen's conclusions fell short of providing any great significance to explicate the reason for adopting a *single* red slash-mark as the graphic convention for the cancellation device. He concludes that it "...probably originated with the need to cancel black written signs."²¹ Another plausible explanation could be that the *single* slash-mark was already being used as a cancellation signifier in an extant European signage system.

Communicating A 'False Alarm'

One clue to the origin of the cancellation sign can be found within the history of long-distance visual signaling, which did not change for over 2,000 years. When the paranoid Emperor Tiberius ruled Rome from the island of Capri during the last decade of his life (26 AD to 37 AD), he built hilltop beacons as an early warning system to alert him of impending danger (see fig. 6). Similarly, in Elizabethan times, when the Spanish Armada was sighted off the South coast of England in 1588, a relay of beacons was lit across an approximately 60-mile succession of hilltops to transmit the warning all the way to London. These types of warning systems were plagued by a persistent problem: once the beacon was lit and the signal was sent, its operators had difficulty cancelling it in the case the impetus for triggering it was a false alarm? In the late 18th century, the French engineer Claude Chappe invented the precursor of what came to be known as semaphoric communication: a system of using manually facilitated signal flag-waving to communicate more complex messages across distances of

FIGURE 5: Along with the advent of symbolically shaped signs came the introduction of the first abstract symbol: the circle-slash "NO" sign, which solved the specific visual problem of prohibiting parking. The origin of the circle-slash sign within the European road sign system seems to have codified the first ever rules for its usage.

Source: Dobson, T. 2016.

^r Symbols are not as immediately efficient as icons from a designer's perspective because their relationship is governed by codes or cultural conventions that first need to be understood by the receiver. Since the relationship between symbols and what they stand for is arbitrary, their abstract meaning has to be learned, often by habitual exposure over time.

^s Gert and Derk Dumbar's 2007 "Safe Place" exhibition of new international pictograms for disaster areas featured this classic example of a prohibition sign that is supposed to prevent attempts at extinguishing electrical or chemical fires by dousing them with water.

Extracted from Dumbar, G. & Dumbar, D., "A Safe Place: International System of Disaster Diagrams." Originally presented at The Utrecht Manifest: Second Biennale for Social Design, November 3, 2007, in Utrecht, NL. SIGNS4DISASTER, 30 October, 2013. Online. Available at: <https://signs4disaster.wordpress.com/2013/10/30/a-safe-place-international-system-of-disaster-pictograms/> (Accessed November 9, 2016)

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Barnard, M. *Graphic Design As Communication*. London, UK & New York, USA: Routledge, 2013, p. 45.

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Atkin, A. "Peirce's three categories of Signs: icon, index, symbol," *Stanford Encyclopedia of Philosophy*, 15 November, 2010. Online. Available at: <http://plato.stanford.edu/entries/peirce-semiotics> (Accessed April 14, 2016).

a few hundred yards to about two miles. Chappe solved the problem of how to effectively communicate a cancel signal (see fig. 6). This meant implementing a pre-existing convention—of using a diagonal gesture to indicate the cancellation or annulment of a message—had already been established, that the road sign system could simply appropriate. The annul signal is both visually identical and symbolically synonymous with the meaning and direction of the circle-slash sign (see fig. 7).

Taken Out of Context

The evolution of the annul *signal* into the circle-slash sign helped galvanize the function of its non-arbitrary meaning as a universal *symbol*.^r However, "...to the extent that it is symbolic, it cannot be universal,"²² and through inconsistent applications and implementations, the rules for how its cancelling authority should work in conjunction with a variety of pictograms to convey meaning within specific signs lacks clarity, convention and sometimes even logic. The interpretation of the meaning of signs ultimately depends upon the context of use in which they appear, and perhaps more so than any other sign, viewing the circle-slash out of context produces a myriad of illogical connotations (see Fig. 8).

The overly complex iconography warning against the danger of placing child car seats in the front of an automobile where airbags could inflate is graphically illegible, but arguably made more so if seen out of the context of that automobile (see fig. 8: left). The absurdly ambiguous 'In case of fire, don't attempt to extinguish with water!' sign (fig. 8: middle), is completely irrational without the context of electrical equipment or chemical substances to which it typically refers.^s Perhaps the most vexing example from a designer's perspective arises when multiple signs with duplicative meanings are amalgamated in a redundant way that seemingly contradict the connotation of the combined whole (fig. 8: right). This ubiquitous Italian 'No access to unauthorized persons' sign incorporates hybrid categories that combine all three classifications of Peirce's most notable semiotic taxonomy.²³ The *iconic symbol* of the outstretched palm (*Stop!*), is combined with the *indexical icon* of a man shouting (his mouth wide open, as if warning of some nearby unseen danger), and overlaid with a *symbolic index*^t that directly '*points to*' that which it prohibits (see fig. 9). When all three signs with similar signification are sequentially combined, the resulting denotative meaning should cancel itself out. Yet instead, logic is overruled, and although seemingly counter-intuitive, the three meanings merge to strengthen

Roman Hilltop Beacons

Chappe's Mechanical Semaphore

FIGURE 6: Claude Chappe's mechanical communication stations solved the timeless conundrum of long-distance visual signaling: How to cancel a signal in case of a false alarm. Source: Liebig's trade cards (collection of the author). 2016.

FIGURE 7: Semaphore's existing convention of signaling a way to cancel a message preceded the system of European road signs with an already established convention that is both visually identical and symbolically synonymous with the meaning and direction of the circle-slash sign. Source: Dobson, T. 2016.

Overcomplexity

Ambiguity

Redundancy

Indexical Icon

Iconic Symbol

Symbolic Index

FIGURE 8: Taken Out of Context: Circle-slash confusion results from their being used in ways that are overcomplex, ambiguous and graphically redundant. The circle-slash has become a symbolic index to signify 'NO' in the specific location in which it appears, which is why taking it out of context often renders it nonsensical.

Source: Dobson, T. 2016.

FIGURE 9: Hybrid Signs: Introduction of the 'Symbolic Index.' The classification of this new type of "sign" is particularly useful in both describing and creating signs that simultaneously harness symbolic and indexical qualities as predominant connotations.

Source: Dobson, T. 2016.

^t *Index is a term coined by Charles Sanders Peirce to describe signs that are non-arbitrarily associated with what they represent. Indexical signs are signs that acquire their function through a causal connection with what they signify, containing an indirect connection with what it represents, and what it signifies. Examples of Indexical signs are: a road sign of a knife and fork that tells a driver there is a restaurant ahead; a road sign depicting a bed, indicating there is a hotel ahead; a sign showing a toothbrush outside of a building, indicating that there is a dentist there; a sign at the beach showing a shark fin surfacing out of a ripple of water, meaning that the beach is dangerous because the waters that it abuts may contain sharks.*

Extracted from Torres, E. "The three kinds of Signs in Linguistics," [Linked-In SlideShare](http://www.slideshare.net/durakusnation/the-three-kinds-of-signs-in-linguistics), 24 November, 2014. Online. Available at: <http://www.slideshare.net/durakusnation/the-three-kinds-of-signs-in-linguistics> (Accessed 17 September 2016).

^u *Inspired by typographer David Jury's most noteworthy rule about design: "Rules can be broken—but never ignored."*

^v *Traditionally, a coat of arms was a distinctive pattern of symbols and markings that allowed an individual knight to be recognized as distinct from similarly attired knights who appeared near him, especially in battlefield situations. These systems of symbols, or arms, were displayed on his banner, shield and horsecloth, as well as on his coat. Because no two men could display the same coat of arms simultaneously, even the eldest son (who would eventually inherit his father's arms) had to deploy a special mark to distinguish him from his father during his father's lifetime. These marks were called labels, and various other labeling devices were used throughout heraldry to denote wives, daughters and younger sons, as well as offspring from what came to be known as "the wrong side of the bed sheets." A band (or barre in French) running diagonally from top-right to bottom-left was the heraldic label used to signify an illegitimate child.*

the overall graphic communication. The rules can be broken and even overruled—but almost never ignored.^u

Despite the circle-slash confusion, the provenance and subsequent proliferation of this type of sign demonstrates how meaning can become symbolically reinforced over time, and even stabilized as a bi-product of reapplication from one sign system to another. The circle-slash has become a symbolic index to signify 'NO' in the specific location in which it appears. That is why taking it out of its context of use often renders it nonsensical.

The Mark of 'Otherness'

There's one final vestige of the circle-slash's circuitous past that warrants commentary on its residual meaning. An even older signage system that utilized a slash-mark running diagonally from upper-right to lower-left across a visual field exists within the symbolism of European heraldry (see fig. 10). A *barre-sinister* (from Latin verbiage meaning "left") was used as a visual mark to indicate the *end* of a lineage on the coat-of-arms^v of an illegitimate child who could not inherit his father's ancestral titles or holdings. The power that symbols carry to mark members of society with 'otherness' has been exploited throughout history with dire consequences. The scarlet letter symbolizing sexual immorality in 17th and 18th century colonial New England foreshadowed the yellow badge as a mark of shame that Jews were forced to wear in Nazi Germany. Iconographic signage suggesting women are subordinate and the handicapped are passive are the modern-day manifestations of this same socially symbolic labeling. If we wish to become preventative stewards of culturally and socially responsible signage in the future global melting pot of signs, then we should seek inclusiveness as one of its universal hallmarks.

Part 3: Rethinking Restroom Signage

The final part of this essay is an historical analysis of another almost globally ubiquitous, if not universally agreed upon and understood system of signs: the iconic male and female restroom figures. Recognizing the power of their indexical connotation provides a strong rationale for reimagining their new roles as visual signifiers as restroom signage changes its functions in at least some parts of the world in the near future.

Perhaps the most egregious examples of socially and culturally problematic signs are those that continue to perpetuate exclusionary, discriminatory and stereotypical biases in ways that are not entirely coincidental.

FIGURE 10: Medieval, European heraldry exemplifies the power symbols carry to mark members of a given society with ‘otherness.’ Unless we sensitize ourselves with increased iconographic empathy, our sign systems will continue to perpetuate exclusionary social and cultural ideas, and remain as stereotypical in our future information landscape as they were during European design’s often ignoble, heraldic past.

Source: Dobson, T. 2016.

Figure 11 depicts examples of non-gender germane public signage in which the discriminatory use of the female icon becomes socially symbolic in their gender references. Subtle variations of this sexist design convention often go unnoticed. The warning sign on the Spanish subway system uses a stylized icon of a little girl to illustrate careless behavior that could lead to self-injury. The careless parent allowing this to happen is also depicted as a woman. This begs questions as to why girls and women—rather than boys or men—are depicted throughout a nationally sanctioned signage system as being prone to engaging in careless behavior. Informational signage in Chinese airports follow a design convention used widely around the world: icons depicting men are used for the majority of pictogram-based visual communications illustrating authoritative social roles, whereas icons depicting women are exclusively reserved to illustrate social and cultural roles that reinforce traditional childrearing and homebound stereotypes. Hospital signage in the UK prescribes the usage of male icons to depict the highly regarded social and cultural role of doctor, and female icons for the less socially and culturally esteemed roles of nurse and clinical technician. In each of these examples, the seemingly neutral and objective qualities of male and female iconography belie a normalization of gender roles, social hierarchies and stereotypical labeling. As David Crow reminds us: “Where there is choice, there is meaning.”²⁴

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Crow, D. *Visible Signs: An Introduction to Semiotics in the Visual Arts*. Switzerland: AVA Publishing, 2nd Edition, 2010, p. 43.

The visually persuasive power of everyday signage—though seemingly innocuous—can have a formative influence on the social and cultural

Spanish
Subway Warning

Chinese
Airport Graphics

British
Hospital Signage

FIGURE 11: Ethics of Everyday Icons: The visually persuasive power of everyday signage can have a formative influence on society. The seemingly neutral and objective qualities of male and female iconography are actually socially symbolic in their gender references, and belie a normalization of gender roles, social hierarchies and stereotypical labeling. *Source: Dobson, T. 2016.*

conventions that operate within a given society. By intentionally adopting stereotypical graphic tropes, designers reinforce impressions that are potentially detrimental to the normalization of social experiences, especially in children. In a research study testing perceptions of occupations typed by sex,²⁵ six to seven-year-old children were presented with counter-stereotypical imagery of a female doctor and a male nurse. When later asked what they had seen, they recalled the exact opposite: a male doctor and a female nurse. The children had relabeled the roles to make them more consistent with the gender stereotypes they had been exposed to through their social and environmental conditioning. If media, marketing and movies, as well as gender-specific toys,²⁶ can negatively affect a child's development through strong social reinforcement of stereotypes, then so too can the subtle influence of gendered typography, sexist signage, and the one-sided nature of verbal language. Even the replacement of gender-specific job titles like *Chairman*, *Air Hostess* and *Fireman*, with *Chairperson*, *Flight Attendant* and *Firefighter* has helped change preconceptions in children about the gender-appropriateness of potential future careers. Whereas gender neutrality has become an effective equalizer in the war on words, the same insurgence has yet to occur in the world of graphic signs. And this is just "the tip of the icon." With constant repetition and frequent exposure, signs with outdated social values continue to mark members of society with all kinds of 'otherness.'

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Cordua, G. et al. "Doctor or Nurse: Children's Perception of Sex Typed Occupations." *Child Development*, 50.2 (June, 1979), pgs. 590-593.

²⁶

Robb, A. "How gender-specific toys can negatively impact a child's development," *Women In The World*, 12 August, 2015. Online. Available at: <http://nytlive.nytimes.com/womenintheworld/2015/08/12/how-gender-specific-toys-can-negatively-impact-a-childs-development/> (Accessed 1 November 2016).

^W Ellen Lupton and Abbott Miller described the visually cognitive efficiency of Otl Aicher's visual vocabulary for the 1972 Munich Olympics as "...the semiotic climax of international pictures: a geometric body alphabet... deployed on a consistent grid."

Extracted from Lupton, E. and Miller, A., *Design Writing Research: Writing About Graphic Design*. New York City, New York, USA: Kiosk Publishing, 1996, p. 43.

^X Otl Aicher (1922–1991) and Inge Scholl (1917–1998) pioneered the semiotic analysis of graphic design at a time when few graphic designers working outside the HFG were using these types of theoretical approaches to inform their design processes. Eskilson, S. *Graphic Design: A New History*. New Haven, CT, USA: Yale University Press, 2007, p. 321.

^Y In particular, it was Aicher's convention of using a detached floating head that has since become the most distinctive characteristic of neutral, modern, public signage. Before this point, road signs depicting a human form followed Neurath's style of utilizing simplified silhouettes (see fig. 13). The abstracted floating head made pictogram figures look anonymous, and thus became the quintessential hallmark of universality.

Course-Correcting the Future

Affecting change in verbal and written language is understandably easier than reforming the existing landscape of visual signage. One of the most pressing design challenges of our time is the need to reimagine transgendered restroom signage here in the U.S. As voices emerge from various LGBTQ subcultural groups across America, the opportunity presents a challenge to designers to mitigate these issues through innovative and informed—rather than prejudicial and pigeonholed—use of visual language. To do this effectively, we first need to understand how the subtle design difference between the male and female graphic icons were conventionalized to begin with.

Graphic designers continuously seek new ways for how, when and why to use pictures in preference to words. Modernist attempts to design a purely universal picture language began with Austrian-born economist and philosopher Otto Neurath in the 1920s, and culminated with the geometric body alphabet ^W designed for the 1972 Munich Olympics by German graphic designer Otl Aicher ^X (see fig. 12). By eliminating all references to gender, his intent was to create a universal form of visual language to represent all of *humankind*. ^Y However, close observation of these figures that depicted Olympians reveals that even though the sports represented are played by both genders, the viewer sees ONLY male, rather than female, athletes.

We contend that one of the primary reasons for this can be traced to the introduction and subsequent ubiquity of male and female icons for international restroom signage that had been in use for over a decade in many industrialized nations before Aicher and his team began their work on these figures in the late 1960s. In an attempt to create a gender differentiation between simplified, iconographic figures in the late 1950s, many designers in western Europe and North America adopted the graphic convention of using a woman's skirt to differentiate between the conveyance of "female" from "male," and thus forever changed the way many people interpret human icons in visual signage. Whereas the male gender was assigned the graphically neutral iconic form, female restroom icons were *gender-marked* with a skirt to make them look 'different.' As a result, viewers are now so pre-conditioned to delineating between male and female whenever they see human iconic forms that they automatically assume the neutral figure is almost *always* male. The unintended corollary to this now universally accepted norm is that assigning the neutral iconic figure to solely represent *man* precludes its even greater iconographic potential for representing the whole of *mankind*.

FIGURE 12: Aicher's anonymous figures representing the athletes who competed in the 1972 Olympic Games in Munich were supposed to be inclusive of everyone. Even though his geometric body alphabet represents sports played by both genders, why is it that viewers ONLY see male competitors, rather than women athletes? [www.http://aicher-pictograms.com](http://aicher-pictograms.com) (accessed May 25, 2016).

Challenging Discriminatory Conventions

Roland Barthes' approach to semiotics questioned the tacit agreement of the things we take for granted in our visual culture. He coined the term 'myths' to draw attention to the misconceptions between the properties and meanings we attach to images of the things around us. David Crow defines conventions as agreed upon systems of understanding that allow us to interpret what is happening: "All that is necessary for any language to exist is an agreement amongst a group of people that one thing will stand for another."²⁷ Semiotician Sean Hall, points out how "The rules that we use are important to reflect upon directly because we often fail to see just how much our behavior and our actions depend upon them.... In failing to notice these rules, we also fail to see the opportunities for questioning them and thereby for creating new codes and forms of meaning."²⁸ Meredith Davis summarizes that "If the relationship between form and what it means is arbitrary (merely a matter of cultural agreement), then it is open to renegotiation as a means of social reform."²⁹ Given the amount of mainstream cultural and political dialogue around restrooms and signage in the United States right now, the authors tested this theory in a series of social design projects. The first 'Gender Agenda' project framed the problem with the following design question: *If public bathrooms no longer need to discriminate by gender identity, how can graphic restroom signage be transformed into a more preferable solution, by design?*^z For this exercise, the female figure was reassigned with the graphically neutral iconic form, and undergraduate graphic

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Crow, D. Visible Signs: An Introduction to Semiotics in the Visual Arts. Switzerland: AVA Publishing, 2nd Edition, 2010, p. 18.

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Hall, S. This Means This: This Means That: A User's Guide to Semiotics. London, UK: Laurence King Publishing, 2nd Edition, 2012, p. 142.

29

Davis, M. Graphic Design Theory: Graphic Design in Context. New York, NY: Thames & Hudson Publishing, 2012, p. 131.

^z Inspired by the Nobel Prize-winning economist, Herbert Simon who defined the process of design thusly: "Everyone designs who devise courses of action aimed at changing existing situations into preferred ones." Herbert Simon, Sciences of the Artificial. Cambridge, Massachusetts, USA: MIT Press, 1969, p. 130.

Gerd Arnz
Isostat, 1930

Otto Neurath
ISOTYPE, 1936

Otl Aicher
Olympics, 1972

Cook & Shanosky
D.O.T./AIGA, 1974

Unknown
Unisex, 2012

FIGURE 13: The Evolution of Indexical Restroom Figures: The convention of exaggerating the woman's skirt to gender-mark the female restroom figure forever changed the way we interpret human icons in visual signage.

Source: Dobson, T. 2016.

FIGURE 14: 'Gender Agenda 1': Challenging Discriminatory Conventions. This Loyola Marymount University undergraduate social design project was intended to challenge students to graphically differentiate between genders without using the stylized reference of a skirt. It became an experiment in how gender role-reversal could be effectively depicted in restroom signage. Source: Dobson, T. 2016.

FIGURE 15: O'Gender Agenda 2': Gender Neutral. This Loyola Marymount University & Azusa Pacific University undergraduate social design project challenged students to engage in sketch explorations as a means to reimagine transgendered restroom signage. Source: Dobson, T. & Dobson, S.C. & Kirkpatrick, G. 2016.

design students were challenged to design other ways to graphically differentiate between genders without using the stylized reference of a skirt (see fig.14).

The resulting exploration revealed how designers can proactively help bring attention to the often-invisible influence of the graphic artifacts they create. It also inspired these emerging designers to challenge the accepted rules and reconsider the conventions they have, in many cases, unwittingly inherited and often used unquestioningly. The second 'Gender Agenda' project required students at two different universities to reimagine transgendered restroom signage by framing the problem as a more focused design question: *How will public restroom signage change its 'function' in the future?* (see fig.15).

Teams were encouraged to expand their thinking beyond merely examining the accepted convention of marking to visually communicate gender, and initially visualized solutions that focused on *function* rather than *gender* through variations of pictograms destined for use just outside restrooms. However, this exemplified how difficult it becomes to *unlearn* the meanings inherent in signs already imbued with long-ago learned associations after societal norms change, or begin to change. Furthermore, it pinpointed the heretofore unmet need to communicate 'All-Inclusive' and 'Gender-Friendly' as equally important messages. Perhaps most significantly, the existing male and female iconic figures are already visually identifiable and indexically synonymous with restrooms. This compelled the designers of this learning experience to reframe the design question by asking: *How can we expand upon the existing 'indexical' connotation of restroom figures?*

FIGURE 16: Gender-friendly, Socially Symbolic, Indexical Restroom Signage Figures. By replacing the anticipated gender-marked restroom icons with a gender-neutral figure, our pre-conditioned tendency to automatically delineate between male and female is instead rewarded with the discovery that both figures are the same. Subverting the expectation for gender-marking becomes a socially symbolic act in gender neutrality. Source: Dobson, T. 2016.

In order to avoid a binary solution that singles out or excludes anyone, the project designers explored new ways to graphically reset neutrality expectations. By replacing the anticipated gender-marked restroom icons with a gender-neutral figure, the aforementioned pre-conditioned tendency among viewers to automatically delineate between male and female is instead rewarded with the discovery that *both figures are the same*. In other words, subverting the expectation for gender-marking now becomes a socially symbolic act in its gender neutrality (see fig.16).

Gender-Neutral Restroom Figures

To fully comprehend the simple efficiency of this solution, the project designers referenced the pioneering work of communication theorists Philip Emmert and William Donaghy as centermost to the articulation of the concept. Meredith Davis explains that according to the Emmert/Donaghy model of communication, “...our interpretation of a single message is influenced by all our previous experiences.” Furthermore, “...meaning is constructed in the mind of the interpreter and is not controlled solely by the originator of the message,” and “The best we can hope for, as designers, is to put in place the appropriate elements and conditions that help an audience arrive at a similar interpretation to the one we intend.”³⁰ Accordingly, both color and shape become crucial

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Davis, M. *Graphic Design Theory: Graphic Design in Context*. New York, NY, USA: Thames & Hudson Publishing, 2012, pgs. 17–20.

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White, A. *The Elements of Graphic Design*. New York, NY, USA: Skyhorse Publishing, 2011, p. 59.

design elements in manipulating the viewer's decoding of the intended meaning. Even though Marshall McLuhan's '*hierarchy of communication*' puts color at the bottom of human perception, functioning in the viewer's subconscious,³¹ it becomes the foremost characteristic of this signage system to compete for the viewer's attention. Since the colors pink and blue together are connotatively 'loaded' with preexisting gender associations, they automatically trigger the anticipation of a gender difference between the iconic figures within the shapes.^A The Emmert/Donaghy principle—that argues for a deeper understanding of cognitive processes as fundamental to design practice—is thus effectively harnessed to influence the viewer's mental processing of stimuli to lead them to the desired conclusion. This subtle reformulation of existing restroom signage components provides a solution that focuses on the most important design deliverable: to transform a basic, human-centered experience—everyone has to use the restroom every day—into a more preferable one for *all users*.

Conclusion

The results of this visual inquiry into the issues created by culturally problematic signs culminated in the exploration of non-verbal solutions for the now-pressing issue to redesign transgendered restroom signage.^B Articulating the complexities surrounding the circle-slash prompted the need to define a new model for describing signs, which resulted in an updated hybrid typology based on Peirce's original triad of icon, index and symbol. The subversion of the seemingly objective qualities of neutral iconic forms in ways that become socially-symbolic acknowledged the complicit function of graphic design to make what is and has become socially and culturally accepted appear natural. Thus, by translating graphic and historical analysis into a critical reading, writing and making of sign systems today, this research reframes an aspect of design thinking towards a reimagined role for the future of socially-symbolic, indexical restroom figures (see fig. 17).

The primary contribution to ongoing study in the field of visual semiotics yields the classification of a new "sign" type: the 'symbolic-index.' This particular "sign" type is useful in both describing and creating signs that simultaneously harness symbolic and indexical qualities as predominant connotations. The result of this work makes a compelling case for new models in design education to unpack the historical and historiographic ideas that helped form and frame it, in order to provide a pedagogical path forward to guide its reform. However, this is just the tip of the icon. Signs and signage systems will

^A *The first to illustrate a pedigree with males represented as squares and females as circles seems to have been Pliny Earle, physician to the Bloomingdale Asylum for the Insane in New York in 1845.*
Extracted from Schott, G.
"Sex, Drugs, And Rock And Roll.
Sex symbols ancient and modern:
their origins and iconography on the
pedigree," *BMJ*, 22 December, 2005.
Online. Available at: <http://www.bmj.com/content/331/7531/1509>
(Accessed 27 October 2016).

^B *California's Governor, Jerry Brown, signed a bill in September 2016 establishing the nation's most inclusive restroom-access law. It requires businesses and government buildings to post non-gender-specific signs on single-occupancy restrooms by March 1, 2017.*
Extracted from Associated Press,
"California governor Brown approves
gender-neutral restroom bill," *PBS
Newshour*, 29 September, 2016.
Online. Available at: <http://www.pbs.org/newshour/rundown/california-governor-brown-approves-gender-neutral-restroom-bill/>
(Accessed 31 October 2016).

FIGURE 17: Socially Symbolic Indexical Signage: ‘Faux’ television news graphic depicting the ‘reimagined’ all-gender-friendly bathroom signage solution. *Source: Dobson, T. 2016.*

FIGURE 18: ‘Faux’ television news graphic depicting the ‘alternative’ exclusionary signage solution, which reduces the information using default visual language into a sign that’s pragmatically clear but culturally unacceptable. *Source: Dobson, T. 2016.*

always be subject to variable social and cultural interpretations depending on their contexts of use. Unless we sensitize and educate ourselves to design signage with a higher and more broadly informed degree of iconographic empathy, designers are likely to repeat the socially and culturally insensitive “mistakes” of the past. Without greater discernment about how we perceive and use signifiers of supposedly neutral universal form, our signage systems will continue to perpetuate exclusionary social and cultural ideas. Further, the power our symbols carry to mark members of society with ‘otherness’ will remain as stereotypical of our future information landscape as it was of European design’s often ignoble, heraldic past. The resulting alternative, as figure 18 predicts, depicts an effective reduction of information into a single unmistakable sign that’s pragmatically clear but culturally unacceptable.

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