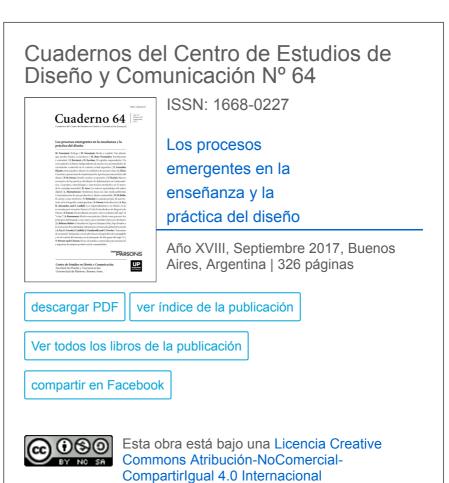# Developing new value in design: not "what" but "how"

Faerm, Steven [ver currículum del autor, docente de la Facultad de Diseño y Comunicación]

Abstract:

This study examines how designers in professional practice are evolving the concept of "value" in designed products and systems. Contemporary culture's obsession with design, coupled with a knowledge-based economy and an over-saturated marketplace, requires designers to create and contextualize their work in unique ways if they are to stand out and attract consumers. To succeed, designers must shift their focus from creating mere artifact to developing highly complex narratives and design processes utilizing sophisticated research methods that, in turn, create new forms of perceived value. In addition, they must collaborate with other disciplines, understand interconnectivity of global systems, and adopt a "designer-as-social scientist" approach. This professional shift from "what to design" to "how to design" is radically altering design education. This study aims to provide design educators and program directors with an awareness of how they can improve their students' preparation for entry into professional practice. It also aims to provide designers with an awareness for how they may develop and strengthen their professional practice.

Key words:

design process - design education - consumerism - fast-fashion - design research - design narrative.

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(*) Associate Professor of Fashion at Parsons School of Design (Program Director, BFA Fashion Design, 2007-2011). A Parsons alumnus (94') and Designer of the Year Nominee, he began teaching in 1998 while working for such designers as Marc Jacobs and Donna Karan. He has been recognized for his teaching by winning "The University Distinguished Teaching Award" and The BFA Fashion Design Program's "Teaching Excellence Award".

Introduction

Designers are directly concerned with life. Designs are for living. Designers are concerned with information – information which furthers life. Being a designer is finding out ways of furthering life. Not thermodynamics mechanics life, this is being a doctor, a servant purely. Emotion-communion life. How you check a design: does it make its user more alive? Bridgman, 1969

Designers and professional practice must adopt radically different concepts of "value" in designed products and systems. Rather than narrowly focusing on the "what" of design, practitioners must broaden their perspectives by exploring and promoting the "how" of design. In doing so, they will generate new forms of value through emotionally compelling and innovative product that will attract and sustain consumer loyalty in over-saturated markets. Emotionally compelling narratives and design processes are increasingly important in our contemporary design landscape. Maslow's Hierarchy of Needs (1943) posits the overabundancy that characterizes first-world societies enables consumers to have their basic needs met and seek out meaningful life experiences for esteem and self-actualization. The consumers' search for meaning generates the increasing importance emotionally compelling narratives have in oversaturated markets where consumers are inundated with offerings. Designers, in turn, struggle to stand out and capture their audiences' emotional cravings. Thus, designers must shift the focus from creating mere artifact (the "what" of design) to developing highly complex narratives and design processes (the "how" of design) that will create new forms of perceived –and emotional– value. If the designer's role and the professional practice are to evolve successfully, they will be required to collaborate with other disciplines to learn innovative design methods, understand interconnectivity of global systems, and adopt a "designer-as-social scientist" approach that better targets consumers' emotional needs. Designers must abandon their traditionally "siloed" practices by thinking and working across boundaries that are different from their own areas of expertise. They will not only have to cross those boundaries, but they will have to perform advanced design research in them so that new opportunities can be identified and connected (Pink, 2005). Mastering advanced design research will require practitioners to examine practices that have long-standing histories of research and development. This shift in design from "what" to "how" will require design education to develop an increasing quantity of doctoral programs in advanced design research that will train a new cohort of designers who can lead and direct meaningful research agendas. A new role of the "designer-associal scientist" will emerge. In this role, the practitioner will blur the boundaries between these two seemingly disparate aspects of design. By doing so, products will become more meaningful; designers will stand out in the over-saturated market; consumers will support sustainability by holding onto products longer due to the sentiment they feel toward their objects; industry will improve research methods and innovation due to interdisciplinary engagement; and design school graduates will succeed in the knowledge-based economy. This study aims to provide design educators and program directors with an awareness of how they can improve their students' preparation for entry into professional practice. It also aims to provide design practitioners and industry with an awareness for how they may develop and strengthen the professional practice.

Obsession with design and design processes

The new values of emotion and process in design are partially attributed to the consumers' exponential interests in acquiring designed artifacts themselves. Author Virginia Postrel (2003) states, "we are increasingly engaged in making our world special through design" (p. 7-8). The demand for "high design," and the attention to it, is at unprecedentedly high levels. Society's compulsive demand for acquiring all things "designed" has led to previously unseen applications on pedestrian and utilitarian objects. These "high designed" objects include Karim Rashid's Garbo trashcan for Umbra that has sold over 7 million units and is featured in the permanent collection

of the Brooklyn Museum of Art (Volf, M., 2016; Postrel, 2003). The internationally acclaimed artist and designer has even designed a "Millennial Manhole Cover" for New York City's Consolidated Edison (ConEd) Company after beating out seven other artists in a competition juried by panelists representing such esteemed institutions as New York City's Museum of Modern Art, The Cooper Union, and The Metropolitan Museum of Art (Roane, K., 1999; ConEd, 1999). Similarly, internationally renowned and multi-awarded architect Michael Graves has designed over 2,000 "fashionable" household objects ranging from spatulas to a table and outdoor patio set for mass-retailer Target (Target, 2012). The dominant force of "high design" permeating every facet of our daily lives –from suburban home to urban penthouse– has entered virtually every socio-economic and cultural community. Postrel (2003) asserts:

Aesthetics is more pervasive than it used to be –not restricted to a social, economic, or artistic elite, limited to only a few settings or industries, or designed to communicate only power, influence or wealth. Sensory appeals are everywhere, they are increasingly personalized, and they are intensifying. (p. 5)

The growing middle-class obsession with design can be seen at national mass-retailers like Target, Hennes & Mauritz (H&M), and Kohl's where internationally renowned designers such as Karl Lagerfeld, Vera Wang, and Comme des Garcons offer "guest star" fashion collections that are aimed to satiate consumers' yearnings for "high design" (Pink, 2005). These collaborations between famous designer and mass-retailer are highly promoted and subsequently met with excessive demand. For example, when the Italian design house Missoni created a suite of products that included clothing, dishware, and even a bicycle for Target in 2011, consumer demand was unprecedented; products were made available online at 6:00 a.m. and by 7:47 a.m. the store's website crashed due to the unexpectedly high volume of online traffic for the Missoni collection (Clifford, 2011). As The New York Times reported:

In an unusual fumble for the large retailer, Target was unprepared for online shoppers' hunger for the items. The Target.com site was wiped out for most of the day; the company said that demand for items was higher than it was on a typical day after Thanksgiving, and that is usually the biggest shopping day of the year. (Clifford, 2011)

Other partnerships between internationally renowned designers and mass-retailers are met with equal demand. In 2014, H&M unveiled a partnership with the Parisian design house Balmain in 250 stores globally. Although Balmain dresses can retail well over $2,000 in luxury stores, H&M offered similar items that were priced between $150 and $600 (Knell, 2015). Internationally, H&M experienced extreme levels of consumer interest in the Balmain for H&M collection: at least five-hundred shoppers slept outside the London store the night before the opening, and in Seoul, South Korea, fans lined up outside retail shops for up to one-week before the collection was made available for purchase (Paton, E., 2015). This enthusiasm for "high" design has extended beyond the retail environment by entering such areas as the traditional museum lexicon. Entire museums are now dedicated to specific designers, such as the Dior Museum in Granville, France and The Balenciaga Museum in Getaria, Spain. Other institutions dedicated to the fine arts have recently hosted fashion exhibits, such as The Guggenheim Museum's retrospective of Giorgio Armani. These exhibits garner unprecedented public interest. When The Metropolitan Museum of Art held a retrospective of Alexander McQueen's work titled "Savage Beauty" in 2011, it drew 661,409 visitors in just three months; it was one of the top three shows in the museum's 146-year history (Freeman, H., 2011). Due to its popularity, the exhibit was extended by one week with additional hours, and even opened on Monday when the rest of the museum was closed (Freeman, H., 2011). Anna Wintour, editor of US Vogue and elective trustee of the Metropolitan Museum's board, underscored the widespread

obsession with design by stating, "One of the [museum's] mailroom guys told me yesterday how much he enjoyed the show. It just shows you how fashion now reaches so many different people" (Freeman, H., 2011, n.p.). This global obsession with design has led mainstream television networks to launch designthemed programs. These programs enable vast quantities of viewers in virtually every corner of the world to observe the design process as a form of entertainment. Originally launched in the US in 2004, Project Runway has completed over fourteen seasons and earned several prestigious Emmy Awards and The Peabody Award. The program's first season drew two million viewers, then grew swiftly to surpass five million by the third and fourth seasons, and had two-and-a-half million viewers in 2015 (Givhan, 2014; Otterson, J., 2015). The universal appeal for "design process-as-entertainment" is evidenced by Project Runway's nearly 25 versions that have been aired in culturally diverse nations such as Brazil, Indonesia, The Netherlands, Norway, Vietnam, and Russia. Television shows that showcase design competitions are not exclusive to fashion design. The programs Top Design for interior design and Chopped for the culinary arts also provide an audience with forms of "design process-as-entertainment." Viewers learn about the designers' personal histories, creative processes, and professional pursuits. As a result, a "relationship" forms through which the viewer becomes emotionally attached to a specific contestant and their design work, similar to a sports team enthusiast supporting a specific team player. The designer –and the design processes they invent– create an emotional appeal in the viewer due to this relationship and sentimentality. The experience transcends the designed object itself, and the viewer forms deeper emotional associations with the product due to the context of the maker and the unique design processes showcased (Turkle, 2011).

The widespread international engagement with "high" design is also creating cultural homogeneity. The Adidas apparel that is desired and worn by American teenagers is also purchased by teenagers living in the remote towns of Brazil and Indonesia. As a result, a form of cultural cross-over and shared understanding of commodified design develops. Yet, this increasing homogeneity of design and product is simultaneously spawning a desire for individuality amongst consumers.In response, design houses are increasingly allowing their consumers to self-design, print (both 2D and 3D), and personalize everything from sneakers to iPhones that meet custom tastes and preferences. Postrel (2003) describes this world by stating:

Today, good design is about customization, about helping a lot of different people build their own personal identities, and expressing their personal aesthetic. The role of design is to make life more enjoyable. (…) We've produced a consumer culture that's based on the individual, and we're careful not to make one individual the same as another individual. (p. 9)

Consumers' ability to engage in the design process itself, and not simply watch it on television or at the retail level, further increases "design(ing) as entertainment" now offered by mass-fashion brands such as Nike and Converse. Consumer interest and participation are high; Converse estimates approximately ten to twelve percent of the total business at the New York store comes from customized products (Abnett, 2015). Other brands, such as Bamin, offer "Lego-like fashion bags made of interchangeable parts that customers can 'remix' by zipping them together to create unique combinations" (Abnett, 2015, n.p.). The opportunity to customize design is not limited to mass-brands; the online site Tinker Tailor has partnered with more than eighty brands, including the internationally acclaimed "high fashion" houses of Rodarte and Preen that allow consumers to create personalized apparel. These brands offer customization to create a deeper emotional connection between the consumer and the product s/he creates (Sherman, 2014). José Neves, investor in Knyttan, a custom knitwear

company, underscores the importance of businesses synthesizing design, individuality, and emotion together by stating:

I think the biggest problem in luxury fashion in particular right now is: how do you surprise customers? How do you make the product more individual? (…) You have the same fashion stores in Beijing, New York, Miami, London. Mass production is no longer as exciting as it used to be. So I think mass customisation solves the problem of retaining the individual, the feeling that something was personal, which is essential for luxury labels. (Abnett, 2015, n.p.)

Society's obsession with design and design process has altered not only how consumers engage with design – through such platforms as customization and self-design– but also the vast quantities of "high" design that are consumed for emotional fulfillment.

Excessive consumption for emotional fulfillment

Due to an ever-increasing demand for "designed" objects, rates of production and consumption are reaching unimagined heights. Globally, household final consumption expenditure –the market value of all goods and services purchased by households– has grown from $1.7 trillion US in 1970 to $43.1 trillion US in 2013 (Index Mundi, n.d.). The US is an exceptionally high consumer. The nation is ranked number one out of 183 nations for highest household final consumption expenditure in 2013, and it consumed $11.4 trillion US in 2013, representing a 22% compound annual growth rate since 1960, when the US consumed just $331.8 million US (Index Mundi, n.d.). According to Dave Tilford of the Sierra Club, "A child born in the United States will create thirteen times as much ecological damage over the course of his or her lifetime than a child born in Brazil", and the average American will consume 53 times more goods and services than someone from China (Scientific American, 2012). It is estimated that the US spends more money on trash bags than the combined gross domestic product of ninety other countries (LaBarre, 2003), and if all countries used resources at the rate the US does, we would need approximately five planets equivalent to the Earth to sustain us (Leonard, 2010). The factors that enable and promote excessive consumption are complex and intertwined. As Oberlin College Professor David Orr (1999) asserts:

The emergence of the consumer society was neither inevitable nor accidental. Rather, it resulted from the convergence of four forces: a body of ideas saying that the earth is ours for the taking; the rise of modern capitalism; technological cleverness; and the extraordinary bounty of North America, where the model of mass consumption first took root. More directly, our consumptive behavior is the result of seductive advertising, entrapment by easy credit, ignorance about the hazardous content of much of what we consume, the breakdown of community, a disregard for the future, political corruption and the atrophy of alternative means by which we might provision ourselves. (p. 141)

To better understand the societal and cultural obsession with design (and the role emotion plays), the design industries and consumerism must be examined. The hypervelocity of the fashion industry that aims to meet consumers' insatiable demand has led retailers to produce unprecedented amounts of textiles and apparel. For instance, the Spanish retailer Zara has approximately two hundred designers who develop forty thousand styles each year, of which twelve thousand are produced (McLaren, 2013; Siegel, 2011). H&M sells more than five-hundred million items every year from more sixty-one markets and 3,900 stores worldwide; there are

approximately four-hundred stores in the US alone (Leonard, 2010; H&M, n.d.). H&M's fashion items can be designed, produced, and distributed in just twenty days (Leonard, 2010). This rapid "sketch-to-floor" system, aided by technology, now allows some retailers to offer up to 26 fashion "seasons" each year, offering new designs on the sales floors every two weeks (Leonard, 2010).

This constant stream of affordable "high design" fast-fashion entices consumers to purchase more than ever before. Consumers now demand roughly four-times the number of garments than they did in 1980, and the same number bought will be discarded prematurely in the trash each year (Leonard, 2010). To meet production demands, nearly 14.33 million tons of textiles are produced each year while consumers throw away 12.08 million tons in the US (Environmental Protection Agency [EPA], 2014). This creates a near one-to-one ratio of garments acquired-to-garments discarded (EPA, 2014), and contributes to an ecological deficit in which it now takes the earth one year and six months to regenerate what is being consumed every year (Global Footprint Network, 2015). The reasons for such colossal rates of consumption in the US are historically and deeply rooted. In her book The Story of Stuff: How Our Obsession with Stuff is Trashing the Planet, Our Communities, and Our Health - and a Vision for Change, Annie Leonard (2010) believes the decades following World War II were a key factor in creating markedly different consumer cultures in the US and Europe. She states:

There were a number of historical and cultural factors that led to Europe and the United States charting such different paths. In Europe, governments were generally more socially focused (or people focused) than business focused. (…) European trade unions, political parties, and other civic groups –influenced by their wartime experience and a more socially oriented culture– were similarly focused on public benefits rather than pure business interests. Remember this was the postwar era: much of Europe had been decimated and needed to take care of its people (…). Meanwhile, in the United States, factories were producing at an all-time high, generating employment and boosting national morale such that few wanted to question this economic model. Slogans like "Better Dead than Red" and McCarthy-era persecution further discouraged voicing alternative viewpoints on the economy. (p. 156)

Leonard suggests the desire to possess objects has deeper implications on consumers' emotional states. The erosion of meaningful relationships with those around us prompts consumers to seek self-worth and happiness from objects. Leonard (2010) posits the ideas that:

…consumerism is the particular relationship to consumption in which we seek to meet our emotional and social needs through shopping, and we define and demonstrate our self-worth through the Stuff we own. (p 145)

Meanwhile, increased unhappiness results from our deteriorating social relationships. Relationships with family, peers, colleagues, neighbors, and community member have proven over and over to be the biggest determining factor in our happiness, once our basic needs are met. Yet because we're working more than ever before to afford and maintain all this Stuff, we're spending more time alone and less time with family, with friends, with neighbors. (p 145-149)

Another contributing factor to high consumption is the greatly reduced cost of "designed" objects in the current retail environment. In the contemporary retail market, the cost to dry clean a garment can be the same price as the garment itself. This prompts many consumers to wear a garment a few times and then discard it so they can purchase a newer, more fashionable version. In a recent study, thirty-three percent of women stated they

consider clothes "old" after fewer than three wears (Barnardo's, 2015). The poor quality of apparel typically found in fast-fashion accelerates the disposal cycle since cheap fashion is more likely to be thrown out rather than be repaired when stained or torn (Siegel, 2011). Thus, fashion moves between the state of usefulness and garbage with tremendous velocity. This shortened duration decreases the garment's lifespan and subsequently the sentimental value placed on it by the consumer. Clothing then becomes "stuff" and a "thing" with no meaning and no emotional resonance. Consumers enter an overabundant and oversaturated market in search of their next purchase to appease their emotional needs and subsequent obsession with design. This insatiable demand has created an oversaturated marketplace where designers and brands struggle and compete for consumers' attention.

The oversaturated market and knowledge-based economy

Consumers' excessive demands for "high design" objects have resulted in an oversaturated marketplace. This saturation creates an over-abundance of products in which consumers are inundated and overwhelmed with choices. To stand out in today's overabundant marketplace, designers must differentiate their goods in ways that surpass mere aesthetic appeal through emotional appeal. Pink (2005) describes the evolved marketplace that is, in turn, broadening the designer's role. He states:

Abundance has satisfied, and even over-satisfied, the material needs of millions –boosting the significance of beauty and emotion and accelerating individuals' search for meaning. As more of our basic needs are met, we increasingly expect sophisticated experiences that are emotionally satisfying and meaningful. These experiences will not be simple products. They will be complex combinations of products, services, spaces, and information. They will be the ways we get educated, the ways we are entertained, the ways we stay healthy, the ways we share and communicate. Design thinking is a tool for imagining these experiences as well as giving them a desirable form. (p. 46)

Pink echoes Maslow's Hierarchy of Needs (Maslow, 1943). In an overabundant world, society's basic needs are met and this allows consumers to climb higher up the hierarchical pyramid toward its apex. Instead of needing basic necessities such as food and shelter, today's first-world consumers actively seek out meaningful life experiences that will fulfill their higher level needs for esteem and self-actualization. This elevated pursuit changes how people engage with design both physically and emotionally. Consumers' engagement with product is no longer driven by need but by the desire for emotional fulfillment gained through the designer's uniquely compelling narrative and design process. The oversaturated market challenges designers to stand out and capture consumers' attention. The designers' challenges are especially salient when considering the 330 presentations held during a recent fashion week in New York City (Johnson, 2016). Designers must become not merely creators of aesthetically pleasing artifacts, but also become strategic social scientists who can craft emotionally compelling objects via narratives and design processes that best target their customers' psychographic profiles. It is only by adopting this new role that their products –and the emotional value perceived by the consumer– will sustain the designer's practice. To succeed in the growing knowledge-based economy and meet consumers' shifting demands, companies demand workers who possess newer skill sets. As The New Commission on the Skills of the American Workforce (2007) states:

Beyond [strong skills in English, mathematics, technology, and science], candidates will have to be comfortable with ideas of abstractions, good at both analysis and synthesis, creative and innovative, self-disciplined and well

organized, able to learn very quickly and to work well as a member of a team and have flexibility to adapt quickly to frequent changes in the labor market as the shifts in the economy become even faster and more dramatic. (pp. xviii-xix)

The skill sets and knowledge now required of designers are in concert with the knowledgebased economy. As Friedman (2003) asserts, "Life and work in the global knowledge economy demands more of education that has ever been required in human history" (Friedman, 2003, n.p.). This is largely due to how accelerated knowledge is expanding. For example, in just 3 years, from 1999 to 2002, it was estimated that the amount of new information generated nearly equaled the amount generated in the entire history of the world previous to 1999 (Varian & Lyman, 2003). Due to the excessive speeds at which information is generated, the high levels of consumer consumption, the oversaturated market, and our increasing knowledge-based economy, there is a critical need to innovate design and present design systems, particularly when existing systems are ecologically damaging. Interdisciplinary design may be one answer, since the ability to make significant advances in thought and innovation is often due to a designer's wide variety of backgrounds (Pink, 2005; Negroponte, 2003). This breadth of experience increases the diversity and quantity of skills with which to approach a problem. This diversity of skills will be increasingly needed because, as Joel Towers, Executive Dean of Parsons School of Design asserts, "we are training students for [situations in which] we don't quite know what the needed skills will be" (Wolff & Rhee, 2009, p. 11). This in turn will change the designer's role: "… from a notion of leadership into a more collaborative, horizontal, and authorless process, where he or she has to learn how to leverage various parties' points of views and orchestrate them strategically to find viable solutions." (Wolff & Rhee, 2009, p. 11) Examples of successful interdisciplinary engagement in practice includes Speedo's LZR Racer bodysuit made possible through advanced computer software provide by the US National Air and Space Administration (NASA) and designed in collaboration with Comme des Garcons. Within a week of its launch, three world records were broken by swimmers wearing the LZR Elite suit. Another example is the technology of the iPhone that existed for years before Steve Jobs conceived of synthesizing together all these disparate functionalities into one device that has set the standard for consumer electronics design. In response to these commercial successes developed through interdisciplinary practice, universities are increasingly aiming to produce graduates trained in interdisciplinary design. Tim Marshall, Provost of The New School University asserts:

There is a growing emphasis across the university, as well as in the commercial world, on interdisciplinary, multidisciplinary, and trans-disciplinary modes of learning and practicing. Indeed, a number of universities are, or are considering, restructuring to have this approach become the defining logic of the whole institution (Marshall, 2009, n.p.).

New emphases in design education

The core problem is that our education and training systems were built for another era, an era in which most workers needed only rudimentary education. It is not possible to get where we have to go by patching that system. We can get where we must go only by changing the system itself. Darling-Hammond, 2010, p. 1

To train interdisciplinary designers who can innovate in the growing knowledge-based economy, leading international design schools are shifting their emphases from a "craftoriented discipline whose emphasis is on individual creativity and commerce, into one that is (…) committed to conceptualization, configuration, and implementation of meaningful social environments, products, services, systems, and brands" (Muratovski, 2010).

The ideal graduate must shift from a vocational master who dictates personal taste to a conceptualist (…) who utilizes well researched methodologies when approaching the design process (Palomo-Lovinski & Faerm, 2009). This shifting emphasis from the vocational to the conceptual is particularly meaningful when considering the percentage of American clothing made in the country has dropped from 95% in 1965 to 5% in 2009 due to outsourcing to Asia (Pinkerson & Levin, 2009). The new emphasis in design education must move from the "what" of design to the "how" of design. This shift will educate future designers how better to target and fulfill consumers' emotional needs in more successful ways. This will be an absolute necessity if graduates are to innovate and succeed in the knowledge-based economy, and will promote interdisciplinary engagement in both professional and academic sectors.

Along with the increasing numbers of interdisciplinary design programs being offered are the rising numbers of college students electing double majors in order to acquire the multidisciplinary mindset sought by employers (Negroponte, 2003). These double majors offer significant other benefits to students, including increased employability in an unpredictable job market. Darling-Hammond (2010) underscores this unpredictability by stating:

The top 10 in-demand jobs projected for 2010 did not exist in 2004. Thus, the new mission of schools is to prepare students to work at jobs that do not yet exist, creating ideas and solutions for products and problems that have not yet been identified, using technologies that have not yet been invented. (p. 2)

Engaging in interdisciplinary and cross-disciplinary studies through double majors provides students with broader, transferable skills. These broader, transferable skills enable them to cross professional fields and increase their employment opportunities. With such changing emphases at the forefront of design education, academia must ask itself, "What is the role of Education tomorrow?" and, "What is the role of the Educator tomorrow?" These are critical questions given the increasingly accessible educational contexts available to students. Students can access free Massive Open Online Courses (MOOCs) through such online platforms as Harvard University's "EdX"; earn degrees while living at home and saving vast sums of money on housing; and designers can work in almost any location. For example, there are approximately 152 fashion weeks around the world in such places as Fiji, Sri Lanka, Copenhagen, Liberia, and the Bahamas (Wilson, 2008). Students are also engaging in "hybridized classrooms"; many cities that have recently sponsored fashion weeks, such as Karachi, Pakistan, have few (or even a complete absence of) degree-granting design schools, yet these are areas with large apparel manufacturing infrastructures. Local factories can provide technical acumen such as sewing and pattern making for students who wish to become fashion designers yet are unable to travel to enroll in leading design schools abroad due to personal finances, national restrictions, or other limitations. To gain the necessary conceptual thinking that is unavailable locally –yet will prepare them for the knowledge-based economy– students can enroll in high-quality online design programs such as those offered at Savanah College of Art and Design (SCAD). SCAD has offered online degrees for over twelve years, is ranked twenty-four out of 217 US online education programs, and has received multiple awards for its online programs including the Instructional Technology Council's award for Outstanding Distance Education Program, and the rank of Excellence in Institution-Wide Online Teaching and Learning from the Online Learning Consortium (U.S. News and World Report, 2016; "Experience the award-winning", 2015). The renowned Academy of Art University (AAU) in San Francisco established online learning in 2002 and currently offers over eighty online degrees including undergraduate and graduate degrees in fashion design ("Online education", 2016). The growing online learning environment in which students can acquire technical skills locally, yet acquire conceptual thinking online via leading design theorists

internationally at leading design schools, promotes the necessary emphasis on design thinking in design higher education. For the institution to succeed and remain financially sustainable, design programs must adopt curricula that prepares students for the shifting professional practice and knowledge-based economy while providing greater geographic accessibility for their students. The need to make higher education more geographically accessible (and financially accessible) is especially important in the US where college tuition and fees have risen 1,120 percent between 1978 and 2012, four times faster than the increase in the consumer price index (Jamrisko & Kolet, 2012). Tuition increases are causing student loans to reach unprecedented heights; they have increased eighty-four percent between 2008 and 2014, and the class of 2015 –the most indebted in history– graduated with an average of $35,000 in loans per student, contributing to the $1.2 trillion national student loan debt (Rayfield, 2015; Sparshott, 2015). Engaging in a hybridized classroom setting (living at home while learning locally and online) enables students to gain access to leading design theorists, prepare for the knowledge-based economy, and save exorbitant sums of money. In turn, institutions will enroll the very best pool of students who may otherwise have been unable to enroll due personal finances. All of this contributes to prioritizing general thinking (the "how") about art and design rather than making (the "what") in a single specific medium and/or approach. Preparation for the knowledge-based economy that prioritizes thinking over making will, in turn, impact the designer and design professions. There will be a new generation of graduates who possess broader interdisciplinary knowledge with which they can "understand the socio-cultural, political and commercial implications that design can have in the society, and not only the immediate aesthetic, functional and/or structural applications of design" (Muratovski, 2010, p. 385). To build and support this new and evolving knowledge, research in design practice must be prioritized.

Advanced research in design practice

To move from the "what" to the "how" of design in a way that will meet consumers' emotional needs, address excessive rates of consumption, and advance design education, design practices must develop advanced research methods and investitures commonly employed by other industries. For example, the global technology company Siemens spends approximately 500,000 Euros per hour on research and development of both existing technologies that impact their products and new concepts and ideas emerging in the areas of technology, consumer preferences, and man-machine interface design, just to name a few (Loschek, 2009). In the Organization for Economic Cooperation and Development (OECD) and its 30, mainly Western industrialized countries, the total spent on research and development is well over 1 billion US dollars per day (Loschek, 2009). Research agendas in the design fields are rare; for example, research in fashion design is typically made only in the areas of textiles and clothing physiology. However, the importance of developing strategy through research before investing extensively in areas of product development, production, distribution, marketing, advertising, and retail is critical in the increasingly volatile and accelerated consumer market. Increasing production costs –even in those countries once considered affordable– must be justified by research that promises to increases the probability of success and better meets consumers' needs. As Tim Brown (2008), CEO of the renowned design company IDEO states:

Now, however, rather than asking designers to make an already developed idea more attractive to consumers, companies are asking them to create ideas that better meet consumers' needs and desires. The former role is tactical, and results in limited value creating; the latter is strategic, and leads to dramatic new forms of value. (p. 2)

Designers must shift their approach from creating design proposal and product formed by personal preferences and speculations into those that are deeply researched to determine what the needs and emotional wants of their target demographic are: what kind of designs should be produced, for whom, and why? (Laurel, 2003). Design higher education will respond to the advanced levels of research needed in the design industries by creating a wider array of doctoral programs. These programs "will open up depth and breadth to the field, document and disseminate research findings, build a research base of design, knowledge, provide an opportunity to define problems, and evaluate design solutions through research" (Justice, 2000, p. 384-385). The aim to build a larger and more established cohort of international design researchers is necessary since "design research requires a keen understanding of people, cultures, and belief systems that may be unknown and incomprehensible to many 'ordinary' designers" (Laurel, B. (2003). This new generation of designers will promote a more holistic and interdisciplinary approach in the ways designers create artifacts and systems while leading research that determines what consumers truly want and emotionally desire. The future will destabilize the walls of traditionally "siloed" design practices in order to create porous relationships for learning new design methodologies. As Zimmerman (2003) states:

While design research comes in many forms, ranging from quantitative market research to personal interviews, experimental design analysis and qualitative research, it also represents a willingness to look beyond the immediate concern of crafting a project, as well as an openness to integrating new insights into the design process itself. (Zimmerman, 2003)

This integration will foster interdisciplinary thinking and ultimately benefit the professional sector. Doctoral-level design research can also play a role in developing policy which can be used to promote the role of design in making public services more effective and businesses more competitive (Yee, 2007).

A new paradigm: design practitioner as social scientist

Research-centered design education will create a new paradigm in which the designer's locus is less marginalized. Advanced research will enable designers to create products and systems more strategically –rather than tactically– thus leading to dramatic new forms of (emotional) value (Brown, 2008). These new strategies will benefit companies before they invest time and finances in product development, production, distribution, marketing, and advertising. Design based on well researched consumer preferences –rather than traditional forms of speculation– will lead to increased sales and decreased waste for improved sustainability. This new, hybridized role of "designer-as-social scientist" will require designers not only to understand better their professional practice and master technical skills, they will also have to "comprehend both the problem and the context of the problem and how to design or create solutions that are efficiently and aesthetically desirable for the community" (Van Zandt, 2011, n.p.). The challenge for design education is to teach students the skills they need to "excel in the marketplace while giving them the knowledge they need to remake that very marketplace…" (Towers, 2005, p. 111). The emergence of the "designer-as-social scientist" will have broader impact in our environment where design is increasingly valued and demanded by consumers. Lydia Matthews, Professor of Visual Culture at Parsons School of Design describes this new designer's role and landscape by stating:

[Designers] recognize that they need to have an understanding of world systems, whether they're economic, social, ethnographic, or cultural. At the same time, social scientists (…) are beginning to understand that the

systems they work with are in fact designed and that there's a fundamental need to communicate visually and materially across cultures and in a globalized condition. (Agid, 2008, p. 13)

Design is in many respects a service to customers and end-users. When practitioners become informed by the emotional needs of their audience in our overabundant world, they will respond with more enduring design. Thus, the distinctions between creators and analyzers—or, designers and researchers—will fade as everyone engaged in the process of defining, planning, and configuring artifacts and systems will be considered "designers."

Conclusion

The perception of "value" in design and design practice is shifting from the tangible to the intangible; while form may follow function, the product's ability to deliver emotional value to the user must become an increasing focus for designers if they are to attract and sustain consumer loyalty. The emotional resonance (or, "value") that consumers demand is attributable to several factors. These include the mass obsession with "high" design and accompanying design process that has entered daily life; the overabundant marketplace in which designers struggle to stand out and capture consumers' attention; and excessive rates of consumption fueled by affordable "high" design and consumers' need for emotional fulfillment (i.e. Maslow's Hierarchy of Needs).

The factors that are creating heightened demand for emotional value in design will evolve the practitioner's role in the increasing knowledge-based economy; a new paradigm – the "Designer-As-Social-Scientist"– will emerge. No longer confined to the creation of aesthetically pleasing objects, this new role will require designers to craft emotionally compelling objects via narratives and design processes that strategically target their consumers' psychographics. Knowing how and where the consumers' future emotional needs are headed will be necessary within the designers' research skills. To develop and hone these skills in emerging practitioners will require design education to both adjust existing curriculum and create advanced doctoral studies that emphasized such advanced sociological research. It is by doing so that the design practitioner and global practice will remain successful and sustainable.

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Resumen:

Este estudio examina cómo en la práctica profesional los diseñadores están haciendo evolucionar el concepto de "valor" en el diseño de productos y sistemas. La obsesión por el diseño, propio de la cultura contemporánea, junto con una economía basada en el conocimiento y un mercado sobre saturado, exige a los diseñadores crear y contextualizar su trabajo de una forma única si desean destacarse y atraer a los consumidores. Para tener éxito, los diseñadores deben pasar de la creación de artefactos al desarrollo de narrativas de mayor complejidad y procesos de diseño que utilicen métodos de investigación sofisticados que, a su vez, generen nuevas formas de valor percibido. Además, deben colaborar con otras disciplinas, entender la interconectividad de los sistemas globales, y adoptar un enfoque de "diseñador como científico social". Este giro profesional del "qué diseñar" al "cómo diseñar" está alterando radicalmente la enseñanza del diseño. Este estudio tiene como objetivo concientizar a los educadores y directores de programas de diseño sobre cómo pueden mejorar la preparación de sus estudiantes para el ingreso a la práctica profesional. También tiene como objetivo crear conciencia en los diseñadores sobre cómo pueden desarrollar y fortalecer su práctica profesional.

Palabras clave:

proceso de diseño - enseñanza del diseño - consumismo - fast-fashion - investigación en diseño - discurso de diseño.

Resumo:

Este estudo examina como na prática profissional os designers estão fazendo evoluir o conceito de valor no design de produtos e sistemas. A obsessão pelo design, próprio da cultura contemporânea, junto a uma economia baseada no conhecimento e um mercado sobrelotado, exige aos designers criar e contextualizar seu trabalho de uma forma única se desejam destacar-se e atrair aos consumidores. Para lograr o êxito, os designers devem passar da criação de artefatos ao desenvolvimento de narrativas de maior complexidade e processos de design que utilizem métodos de pesquisa sofisticados que, por sua vez, gerem novas formas de valor percebido. Além, devem colaborar com outras disciplinas, entender a interconectividade dos sistemas globais, e adotar um enfoque de designer como científico social. Esta rotação profissional do que desenhar a como desenhar está mudando radicalmente o ensino do design. Este estudo tem como objetivo conscientizar aos educadores e diretores de programas de design sobre como podem melhorar a preparação dos seus estudantes para o ingresso à vida profissional. Também tem como objetivo criar consciência nos designers sobre como podem desenvolver e fortalecer sua prática profissional.

Palavras chave:

processo de design - ensino do design - consumismo - fast fashion - pesquisa em design - discurso de design.