Universal Design Education: Reflection and Critique

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INTRODUCTION

Although the origins of universal design lie in accessible or barrier free design, the philosophy of this relatively new design approach is concerned with more than removal of barriers. It seeks to eliminate discrimination by design and support full social participation for all members of society. There are two underlying assumptions in this idea. The first is that all people can benefit from improved function (used in broadest sense of the term). The second is that social participation requires respect and avoidance of stigma. Thus, unlike barrier free design, which is concerned solely with benefits for a specific group of people, universal design is concerned with the benefits for the entire population. And, unlike the purely functional goals of accessible design, universal design is concerned with how appearance affects social perceptions. Ultimately, universal design sets its sights beyond breaking physical barriers to include the redefinition of disablement as a universal condition, a condition of difference that we all share (Wijk,1997).

Many would argue that universal design education should include a focus on therapeutic intervention. But, there is another equally important tradition in education that has not been acknowledged sufficiently. This second tradition originated in the humanities and the social sciences rather than the professions of environmental design and rehabilitation. While the practitioners of barrier free design were developing their technical knowledge base, the proponents of disability rights in other disciplines were trying to understand how social and cultural conditions are related to disability and how they influence attitudes, values and practices in society. Their work, which has come to be called "Disability Studies," is a cultural critique that views disability as socially defined rather than solely a function of impairment. By extension, the experience of disability and the social response to it involves far more than a concern for function.

Universal design, in fact, emerged through a cultural critique. The need to design environments to be accessible to and usable by people with disabilities was viewed by second generation proponents as a symptom of a broad failure of society to incorporate disability into its consciousness. Their argument was that if disability is perceived as a "normal" part of life — something that could happen to any of us — then the material world would be designed to accommodate it without the need for a political movement or professional specialty. Accessibility and usability, they argued, should be a goal of design right from the start. Every designer should be able to design an environment that will benefit the broadest possible population, not just temporarily able-bodied people.

This view of universal design as a cultural critique is exciting for design education because of the strong critical base of most design disciplines. Through the various forms of design review, students are encouraged to develop skills of critical thinking. Universal design is too often presented as a therapeutic intervention or as an ideological campaign, two approaches do not engage critical p[ractice as it is understood in design academia. The popularity of the Principles of Universal Design (Connel, et al. 1997) as a pedagogic framework and "attitudinal change" as a focus of introductions to universal design are examples of this emphasis. The prescriptive nature of the Principles adopts the stance of therapy; the focus on attitude change is a form of ideological indoctrination.

To persuade those in design education to recognize the value of universal design, a reflective pedagogy should be developed that not only retains the original critical focus of universal design, but also involves self-criticism to uncover the significant intellectual foundation and limitations of the ideology. A reflective perspective will help universal design educators to understand how others perceive the work and will help develop more effective educational pedagogies and practices.

Three critiques are presented in this paper. The first will examine the de-institutionalization movement of the 1970s, one of the first attempts to use social policy to accomplish social integration of people with disabilities, using ideas of *symbolic interactionism*, a philosophical movement associated with George Herbert Mead and the Chicago School. The second will examine the genesis of universal design in the barrier free design movement through the lens of *formal rationalization*, a theory developed by the German sociologist, Max Weber. The third will investigate universal design itself using a critique that focuses on the *utopian* nature of the movement using the ideas of Sir Thomas More and Ruth Levitas. Each argument will identify pedagogical approaches to make the study of universal design an intellectually stimulating and rewarding part of design education.

SYMBOLIC INTERACTIONISM

We mold things in our images: they, in their turn, shape us by the resistance they offer when we try to impose our own personal form on them. David Harvey (1989)

The Symbolic Interactionist school in philosophy developed a perspective on self and society that led to the contemporary notion of social construction. George Herbert Mead (1934) argued that shared meanings evolve through social interaction. Society can be understood as a symbolic representation of that interaction. One's sense of self, or a group's shared sense of self, evolves from interaction with others and through an internal interaction in which we imaginatively take the role of the "other." Charles Cooley called this process "The Looking Glass Self" (1902).

From this perspective, the relationship of material culture to social life is characterized by *reciprocity*. Material culture is a physical order that both reflects and prescribes social order. Physical artifacts not only tell us much about the way a social system works, but they *make* it work in specific ways. For example, the popularity of cellular telephones throughout the world symbolically reflects a global culture that puts great value on instantaneous communication. At the same time, this culture (including the technology) enables the increasing interconnectedness of people throughout the world.

There are many examples of such reciprocity. A plan of any building, for example, gives us insight into which group of people in the inhabiting organization has the most power, and, it also channels social behavior in ways that can enforce or counteract the power of specific inhabitants. The allocation of land in a community demonstrates the value placed on different activities such as recreation or education. It also affects how residents will utilize the community for those purposes. The appearance of automobiles connotes the differences in the status or lifestyles of their owners but it also contributes to

social interaction patterns, e.g. who is attracted to whom, confirming those differences. The relationship of design to behavior is not, of course, completely deterministic but there is no denying that material culture plays an important role.

Given this reciprocal relationship, it is no surprise that social change is reflected by changes in our material world, and that changes in the material world contribute to the progress of social change itself. In cultures where traditions are strong and change is slow, we find many enduring patterns or material culture with a particularly clear and homogeneous formal language, both in vocabulary and syntax (see, for example, Hillier and Hanson, 1984). But, many other less consistent examples are also represented in the historical record. Where change is particularly rapid and complex, the established and new orders exist side by side. Thus, today we find people using cell phones in places where the predominant material culture is pre-industrial.

The essence of universal design is to enable, through changes in the design of material culture, more competence, independence and social integration, especially to previously disadvantaged groups. The material feminist movement is a primary precedent for this endeavor. Hayden (1981) described the emergence of the material feminist movement in the mid 1800s. Early feminists recognized the relationship between the domestic environment and the status of women. They argued that the nuclear household was supported by the unpaid domestic work of women. They further argued that the burden of such work, which, at the time, was far greater than today, segregated women and kept them from taking a leadership role in community life. Adopting an industrial model, they showed how homes could be designed to be more efficient and housework could be mechanized with labor saving devices in order to free women from this burden and give them the time to pursue other vocations. Further, they invented new social organizations and building types to house them that would provide a significant community role. One of their ideas was removing the activities of food preparation from the home. Community kitchens would be substituted where women would work for pay and provide the meals for a whole neighborhood.

Many ideas promoted by the material feminists eventually found their way into the mainstream, for example, take-out food, vacuum cleaners and housecleaning services. However, the liberation prophesized by the material feminist theorists did not come to pass in the way they expected. While most women are now in the workforce and are increasingly taking on leadership roles in the community, they have not yet achieved equality.

The policy to eliminate residential institutions for people with disabilities and replace them with small scale, community residences has surprising parallels to the material feminist movement. De-institutionalization sought to liberate people

with a disability from the status of a disadvantaged minority by altering the physical environment to reduce dependence and stigma and increase equal opportunity of access to community resources. As with the material feminist movement, the results were different than the expectations. Examining these outcomes can uncover some interesting implications for universal design education.

The transformation of the institution was guided by "normalization theory" (Wolfensberger, 1972). The perception of social difference, argued normalization theorists, was the root cause of the social problems related to disability. Disability was, in fact, a social construction of the 19th century. They argued that if people with disabilities are treated as *individuals* who have differences, rather than a *class of people* who are different, their specific needs could be addressed through a more humane approach. Thus, in the design of facilities for the new community-based organizations, "normal" environments were (and are) mandated. The definition of "normal" has both programmatic and aesthetic components because the appearance of one's living environment can be stigmatizing, setting up social distance between people with disabilities and the rest of the population.

The historical association of disability and social difference (defined as "deviance") with institutions created strong symbolic content in architectural forms. Perhaps the most obvious characteristic of institutions is their scale. Traditionally, they are much larger than other residential building types. The highly repetitive and regular appearance of institutions was generated by beliefs in the ability of order in architecture to imbue order in human minds and social behavior (Rothman, 1971). It persists as an institutional aesthetic. The institution has a characteristic spatial syntax that reflects its emphasis on social control. Visual exposure is high and privacy is low. Circulation patterns are generally more hierarchical and directed than in non-institutional settings.

Normalizing an environment, then, includes not only the development of a "non-institutional" aesthetic, but also, a spatial syntax that creates a non-institutional experience, e.g. culturally normative levels of privacy.

For people with disabilities severe enough (usually mental impairments and often physical impairments as well) that they cannot live independently in the community, group homes have become the alternative to institutionalization. They are a form of cooperative homemaking with a paid staff, similar in concept to the boarding home which at one time was a prevalent form of housing for young industrial workers of both genders (Hayden, 1981). A major difference, however, is that group homes are not owned by a resident manager but rather by agencies or organizations that manage networks of dispersed facilities.

Although principles of normalization guide the design of group homes, in the U.S. at least, there are many factors that prevent the complete realization of the normalization ideal. Most group homes have 2-4 staff members present at all times, working in shifts. They are owned and administered by state and voluntary agencies, often the very same organizations that once operated institutions (some still do). The cost of operating group homes is covered by the state but, being funded by taxpayers, has its limits.

Because of the perception that larger homes are more cost efficient, most group homes (in the U.S.) house 6-12. The residents often have both physical and mental impairments. The normative form for a house so large in the U.S. is typically a 2-3 story structure, but the degree of disability of the residents often precludes a multistory design. Thus these homes tend to look very different than other homes in the immediate vicinity because they are much larger in land coverage and longer and lower in profile. In the single family context of most American communities, the group home requires parking for a large number of automobiles to accommodate two shifts of staff (most of whom drive to work) as well as visiting professional staff. Parking a row of 4-6 vehicles at the curb is not socially acceptable in the low density American landscape.

There are many other physical differences between group homes and the typical American single family home related to different fire safety requirements, the need to supervise medications, the need to provide an efficient workplace for the staff and, in severe climates, the need to provide a protected area for loading and unloading wheelchair vans.

The awkward and unusual appearance of many group homes could be avoided by devoting more resources to their construction, especially by reducing the number of occupants. However, there is a lack of public support for the construction of very expensive homes for those who don't appear to be income generating members of society. In truth, most, if not all residents of group homes are fully employed or fully engaged in educational programs, but the public perception is different because they do not work in "normal" occupations and are not studying in conventional educational facilities. The lack of resources devoted to making the group home fit more smoothly into the social fabric of communities is an instance of reciprocity. The social value of the residents is reflected in the physical structure of the buildings. A social policy that commits adequate resources is needed to improve the social integration of people with severe disabilities. In the U.S., the current status of group homes represents the "halfway pregnant" nature of much current social policy toward people with disabilities. In fact, one critic called it "disabled policy" (Berkowitz, 1987).

The contradiction between the ideals of de-institutionalization and the reality of facilities like group homes is fertile ground for universal design education. It provides the opportunity to

examine the relationship between movements for social justice, social policy and environmental design. Bringing a critical perspective to this investigation opens a dialogue about the place of disability and how social policy has fallen short of the ideal. Moreover, it is an excellent ground for examining the nature of "normality" itself. What is "normal"? How have notions of 'normal' changed throughout history and cultures? How do scale, shape, material and other physical factors signify normality or difference? Could the group home be a model for other housing options? Could it become a legitimate housing option for people without disabilities? Would that make this house form less stigmatizing? Furthermore, the group home can be studied as an historical evolution of the material feminist idea. In fact, the material feminists proposed cooperative housekeeping for the broader population as a way to reduce the burden of unpaid domestic work for women. Perhaps, as housing types evolve, e.g. senior housing or hospice housing, the group home will be less stigmatized.

A pedagogy based on the concept of cooperative housekeeping for people with severe disabilities as an entry point to a broader social critique provides an opportunity to teach a more significant lesson, one that is transferable to almost any other design project where public funds are used to house a disadvantaged population. In fact, there are clear parallels with housing for older people, the poor, students, people with AIDS and victims of domestic abuse. Can housing adopt a universal design that will accommodate people who need significant levels of support and/or supervision? The challenge in this question is to find housing forms that embody the ideals of democracy and social justice yet meet the specific needs of the group. This should include, in the context of an academic exercise, examining alternatives to the social policies, attitudes and economics of the existing order and how those alternatives might provide a basis for a different design response. By engaging these issues, universal design students examine alternative social realities and how they relate to physical forms.

FORMAL RATIONALIZATION

"Despite the advantages it offers, bureaucracy suffers from the irrationality of rationality." George Ritzer (2000)

Max Weber was a German sociologist who studied the evolution of bureaucracies in societies around the world (Weber, 1921). Based on his analysis, he argued that the culture of the Western world (today one could extend this to the increasingly Westernized global culture) was increasingly dominated by the values of efficiency, predictability, calculability and introduction of nonhuman technologies. He called this process *rationalization* and argued that bureaucracies were the best manifestation of this process. He observed that the bureaucracy has a tendency toward *formal rationalization* – the search for the optimum

means to a given end shaped by rules, regulations and larger social structures. Weber argued that the process of formal rationalization can lead to an "Iron Cage" of rationality – a situation where the rationalized detail of the regulatory process creates so many constraints that *irrationality* is the result. Nothing could be a better example of this process than the regulatory world of barrier-free or accessible design in the U.S.

Technical knowledge is necessary to create barrier free buildings. To design an effective ramp, for example, one must know the maximum slope that can be negotiated by a severely disabled individual, e.g. a person who uses a wheelchair. Those within the design professions who had the requisite technical knowledge in the early days of the barrier free design movement during the 1950s and early 1960s were the architects of rehabilitation facilities and equipment. Together with rehabilitation professionals and consumer advocates, they invented the specialty of barrier free design. The emphasis on regulatory activity as a way to implement barrier free design in the U.S. resulted from the general lack of technical knowledge and interest in the subject within the design professions. Although voluntary efforts were initiated during the early 1960s to encourage designers, particularly architects, to engage the issue, it became clear by the late 1960s that accessibility to the environment could not be achieved on a voluntary basis.

The first Federal legislation on barrier free design, the Architectural Barriers Act, was passed in 1968. In 1975, a government review exposed the lack of compliance with this law (GAO, 1975). Since then, a succession of laws and regulations gradually expanded the types of buildings covered and strengthened enforcement policies. In addition, the technical provisions of regulations also greatly expanded. The initial voluntary standard was less than 10 pages (ANSI A117.1, 1961). The same standard today has almost 70 pages (ICC/ANSI A117.1, 1998). There has been considerable resistance to these standards from the building industry and the design professions (Steinfeld, 1977). With the advent of complex regulations, legal processes and penalties, the need for knowledge grew but it was not necessary, as in the early days, to learn about the needs of people with disabilities directly: all that was necessary was to learn the regulations and the process.

Although advocates support the regulatory process to insure that access is provided, there is no question that the regulatory system has evolved into an "Iron Cage." Two examples illustrate the problem.

The Americans with Disabilities Act (ADA) has regulations that cover all buildings and public accommodations constructed with Federal funding. However, the agency that develops the rules that are used to specify the technical design criteria, the U.S. Access Board, is not mandated (i.e. therefore not allowed) to develop regulations for housing. The *ADA Guidelines* (1984) for public accommodations are being revised to reflect new

knowledge from research and practical experience, but housing standards will not be changed. There are some significant differences between the two sets of criteria but they are, to anyone but an expert, very difficult to find. Thus, architects are forced to use the obsolete design criteria or follow the more up to date and improved technical criteria and risk having their buildings cited as non-compliant by overzealous regulators who only accept compliance with a specific set of standards.

Although the U.S. Federal government develops the *ADA Guidelines*, each state in the country can develop building code requirements for accessibility for use in the state. Many states have adopted the ADA Guidelines but many others have developed their own standards. Thus, architects and developers working in more than one state have to know the differences. The requirements developed by various states that are not in tend to be disseminated to other states and eventually find their way into the national standards. The accessibility "industry" thrives on adopting new rules to address the needs of specific constituencies rather than completing research on the needs and carefully examining the value of those requirements using empirical methods. Over time, then, the complexity of the rules has increased with questionable results in terms of improving accessibility. A serious negative backlash from the building industry developed because of the arbitrary and confusing regulatory situation. In fact, the detailed rules actually prohibit innovation through universal design in many cases.

Thus, what started out as a social movement to create equal opportunity access to resources in society has been transformed into a bureaucratic exercise in enforcement. In the litigious U.S., this has produced a veritable industry of accessibility "experts" whose main technical skills are remembering the details of the regulations and knowing how the government interprets them. While creating employment opportunities for a few, the regulatory environment has created an adversarial relationship between advocates on one side and architects and building owners and developers on the other. Moreover, it has resulted in a situation where the design professions, both in academia and in practice, do not look upon barrier free design as an opportunity for creative design. The discourse of barrier free design is basically viewed as a part of building code compliance or technical problem solving. This is evident by the general lack of aesthetic content in the literature on the subject. Most examples of barrier free design perpetuate the cold clinical look of its institutional precedents.

In general, the tendency to legislate reform can be understood, from the public's perspective, as a lack of trust in professionals. In contemporary post-industrial societies, the belief in the goodwill of an elite professional class governed by its own standards of ethics and interests is no longer operative. The history of barrier free design suggests that the public's mistrust may be well-founded. Few designers personally identify with the interests of people who have disabilities. The regulatory

route may be the most effective political strategy that a minority group can use to insure the provision of basic human rights. Through the policy-making process, advocates can appeal to humanistic values espoused by society as a whole. The top-down imposition of political pressure is also much more efficient and effective than trying to educate and monitor every professional or building in every community in the country.

From the profession's perspective, regulations represent an intrusion on the architect's responsibility and a demonstration that they are losing control over the power to make design decisions. Since the regulations constrain the way buildings look, they also represent an attack, by outside interests, on the aesthetic domain of architects. The shift of power and territorial infringement has put the profession on the defensive to the point where professional associations are just as likely to resist improving access to buildings as they are to promote it.

Regulations in themselves, however, do not ensure social change. Regulatory activity is a political process in which negotiation and compromise take place. The accessibility achieved through regulations is only as extensive as the rules incorporated in them. Typically, these rules are minimum requirements. Thus, the codification of barrier free design insures accessibility to a degree, but tends to reduce creative thinking that might result in more accessible places, products and systems. Perhaps the most limiting impact of regulations is that they perpetuate the myth that accessibility is a technical problem rather than an opportunity for engaging imagination. It is noteworthy that when the design for Frank Loyd Wright's Guggenheim Museum was completed, there were no regulations mandating access to public buildings. Unfettered by rules, he created an imaginative solution to the problem of making buildings accessible – he sloped the building instead of building a ramp.

The critical examination of accessibility regulations is a good point of departure for introducing universal design in an educational context. Both faculty peers and students generally share the profession's anathema toward imposition of rules from outside its world and the loss of control over the territory of design. An educational activity that starts with a critique of the regulatory approach, exposing both the necessity of regulations and their detrimental effect, can then move on to pose the challenge of alternatives.

In opposition to the idea of designing to meet regulations that protect a class of people, the driving idea behind universal design is that the physical world should serve the needs of *all people* including those who have a disability. This concept effectively transforms representation of a building user. Rather than designing a building for a stereotypical average person or special interest group, universal design promotes a culturally pluralistic representation of building users. Rather than focusing on the blind adherence to rules, universal design fosters

education about the issues behind the rules and ways to engage the design process in situations where rules are not applicable.

Universal design practice first emerged in the field of product design, where there are very few regulations related to usability by people with disabilities. This, like the Guggenheim example, supports the view that regulatory activity can actually retard the integration of disability as part of "normal" design practice. Designers of "universal" products and buildings focus on *usefulness* as a source of imaginative exploration. Moreover, they recognize that people with disabilities are not the only ones to benefit from more useful artifacts. Historically, many revolutionary products originated as assistive technology, including the typewriter, the telephone, email and voice recognition. Their utility appealed to everyone and these products have truly changed our way of life. Usefulness has a great deal of appeal if it benefits a wide range of people.

Universal design, however, goes quite a bit further than simply transferring technology from the realm of rehabilitation to the general consumer market. Successful universal designs appeal to a broader constituency because of their sound ergonomic principles and attractive appearance. It is not enough to provide a feature people want; universal design has to make that feature easy to use and attractive to the consumer. As everyone knows from personal experience, even revolutionary technologies like the VCR, can be daunting when it comes to usability.

Universal design has several characteristics that make it a more powerful idea than barrier free design. First, it expands the constituency of design from disabled people to elderly people, children, women and others who have been under-represented in the design consciousness. Second, the focus of universal design is on invention rather than regulation. Third, universal design overcomes the perpetuation of social difference. The idea is to infuse design with an inclusive approach. Barrier free design, on the other hand, is associated with the bureaucratic culture, which leads to the Iron Cage. Its underlying concern for people is disguised and hidden by regulation, which is associated with social control. In particular, design by regulation assumes there is only one "best" way to do something. And, its constituency is limited to people with disabilities and the accessibility industry. Universal design offers a new philosophical position for the practicing professional. It offers an opportunity to "eliminate the fascism in our heads" (Harvey, 1989, p. 45) by incorporating the perspectives of groups that have been marginalized by the design professions.

Universal design is not, of course, immune to a negative connotation from the perspective of formal rationalization. The very name itself connotes a single universal "solution" to any design problem – the "one best way." The idea of a sensibility that responds to all, can too easily be perceived as a doctrine that denies the legitimacy of many particular perspectives. Universal design, if narrowly conceived, could submerge the

identity of a group within the "universal." Normalization theory shares this same tendency, a "search for invisibility." It demands normative appearances, rejecting the avant-garde because of its connotation of difference. This is, in some ways, contradictory to the idea of embracing difference. Even people with disabilities are proud of their differences, the distinctions that make them unique. They just don't want to be stigmatized because of them. Designers, particularly those who teach in academia, are suspicious of an ideology that appears to reject difference and exploratory formal explorations. That is why we believe that the term "inclusive design" or the European term "Design for All" are more accurate terms for what universal design is all about, particularly because we have had to invest much time overcoming the false perceptions described above.

UTOPIANISM

"Every daring attempt to make a great change in existing conditions, every lofty vision of new possibilities for the human race, has been labeled utopian." Emma Goldman (c. 1912, first published in Shulman,1972)

Ultimately, the universal design idea is a utopian notion. This label 'utopian' has both positive and negative connotations. On the one hand, it embraces idealism, the optimistic belief that 'yes, it can be accomplished – we can do it'. On the other hand, it suggests impracticality, the impossibility of reaching a goal – the naiveté of believing that 'it could happen' and perhaps even the inability to separate fantasy and reality.

Many university faculty are wary of utopian claims. They argue that the term 'universal' is a specious and dangerous concept. There has, after all, been an enormous amount of suffering and waste in the world due to the adoption of universal solutions and demise of pluralism. In fact, 'universal design' is, according to the experts "design for all people," but, to the outsider, the concept of 'design for all' seems an impossibility.

Utopian ideas have a tendency toward absolutism. The term "universal" itself, meaning "including or covering all or a whole collectively or distributively without limit or exception," (Hoad, 1992) conveys an abolutist agenda. There are very few (if any) instances of absolutes in our worlds. The proclamatory nature of absolutes can close the possibility of critical examination."

Every utopian notion creates skepticism in intellectual circles because of the inherently exclusive nature of most ideologies and groups espousing those ideologies. In the early days of its evolution, those within the universal design discipline presented it (whether intentional or not) with a kind of redemptive or salvation approach. Either one had 'seen the light of universal design' or one was still 'in the dark of form-driven design'. Those who had 'seen the light' were 'saved' and it was their obligation to enlighten the rest of the world – to spread the

word. Those who had not 'seen the light' weren't quite as 'good' as those who had.

Coupled with this is the natural tendency for proponents of a utopian concept to dismiss other types of design explorations that, because of different goals and agenda, do not embrace the principles of the movement. To the outsider, much of the work produced by other designers is, *ipso facto*, defined by the proponents of universal design as illegitimate (or not discussion-worthy) because it doesn't adhere to the stated *Principles of Universal Design* (Connel, et al., 1997). The Principles at times, act as barriers or dividers between 'right' design and 'wrong' design. When presented or perceived as a dichotomous choice, there are many other legitimate design enterprises that are de-legitimized: the work of those experimenting with form-driven environments that primarily are intended to challenge our preconceptions of spatial organizations and conditions, the work of phenomenologists who explore environments and products with the intention of heightening our physical experiences, and even the work of proponents of sustainable design, a field that even shares the utopian perspective and whose practitioners are natural allies.

Faculty who teach from these other perspectives often argue that the design of the material world should create physical challenges, a position diametrically opposed to the universal design principle of reducing effort and making the environment intuitive and simple to use. And, in fact, people do enjoy and value many activities that require added effort and cause inconvenience. Examples include the child who enjoys the strain of reaching to turn on the bathroom faucet while imagining that someday she'll be big enough to turn it on by herself, the athlete who wants to push physical abilities to the extreme, or the environmentalist who values the additional effort required to empty a composting toilet because it reduces environmental pollution.

Also excluded are those whose work is intended to create disturbing and unsettling conditions for the sake of challenging social, cultural, political, and/or economic preconceptions and provoking critical reflection. Examples include Revington's Luminous Veil Bridge Project in Toronto, which calls attention to the problem of suicide, parts of Jahn's Chicago Stock Exchange in which (according to some critics) the panic of potential market crash is incorporated into the interior space of the building. These works seem quite inappropriate for the field of universal design – perhaps even antithetical to it. They don't fit the definition or the mold that has been established, and, therefore, they are not considered in the discourse. The problem? Although the *intentions* of universal design are inclusive, its structure is inherently *exclusive*: therefore, its practices contain contradictions.

These barriers could prevent the discipline from adopting a set of critical perspectives and, ultimately, a critical practice – a

practice that continually challenges and questions itself in order to grow, a practice that considers other kinds of design and other ways in which the physical world could shape our bodies, minds, and spirits – a practice that considers various forms of design education such as those structured to support difference or to reveal the social construction of beliefs.

As noted above, utopian ideas have a positive side as well. The three primary characteristics of a utopian idea are idealism, change, and critique. All of these are positive attributes. Although an absolute idealism can be naïve and inconsequential, an idealism tempered with pragmatism is what distinguishes the mundane from the significant in design. Moreover, the courage to take risks and search for new approaches, perspectives and solutions are attributes valued highly by most design educators. Finally, an(d) most importantly, utopian ideas emerge from a critique of the status quo. When embraced thoughtlessly with sloganeering and militancy, outsiders question the sincerity of this critique. But, when adopted with considerable reflection and articulated well, educators should respect it as a valid point of departure for good design. Thus, universal design, as a utopian construct, has the inherent qualities of a powerful design philosophy, one that should be respected by other faculty. Two utopian ideas, are particularly useful as a theoretical framework for understanding and communicating universal design in a positive sense as opposed to the negative. The first of these is Sir Thomas More's deliberate combination of the Greek words *eutopia* (good place) and *outopia* (no place) to generate the term *utopia* (More, 1975, originally published 1516). The second is Ruth Levitas' contemporary description:

> [u]topia is the expression of the desire for a better way of being. This includes both the objective, institutional approach to utopia, and the subjective, experiential concern of disalienation. . . . It allows for the form, function, and content to change over time. And it reminds us that, whenever we think of particular utopias, we learn a lot about the experience of living under any set of conditions by reflecting upon the desires which those conditions generate and yet leave unfulfilled. For that is the space which utopia occupies. (Levitas, 1990)

More's definition is place-dependent and Levitas's is state-dependent. More's creates a space: Levitas's fills it. The double condition of More's two aspects of utopia – good place, no place – sets up the possibility of introducing Levitas's view as a mediating device: the desired state is where 'good place' and 'no place' intersect.

These ideas of utopia can help us understand the spaces, places, objects, images and events that are the results of universal design practice. The physical products and places of universal design, and their attendant psychological states, often articulate the dichotomy inherent in desire - the utopian ideal

of 'design for all' and the reality of getting closer, but never reaching the goal.

Places and products that have the characteristics of universal design are located cognitively somewhere between what is and what is desired. Thus, the desired place becomes a 'substitute' place. This place of 'design for all' is asymptotic, namely, an approach between two conditions that continues to move forever closer, but that never achieves full merging or closure. This asymptotic condition of universal design does not completely fulfill the promise of 'design for all' but forever attempts to close the gap through *an increasingly informed practice of designing for a continually broadening and deepening population*.

The reflection required to pursue 'an increasingly informed' state of consciousness is one form of critical practice. It is this reflective activity that has not been adequately communicated as a part of universal design practice. More emphasis on this aspect of universal design will help to achieve validation of the concept within both the academic disciplines and professions of design. While emphasizing the positive connotations of utopian thinking, it is also important to avoid reinforcing the negative. Universal design educators can avoid espousing an idealism that is obviously impractical. They can avoid an absolutist stance that implies to one's peers that their own work has little value. And, they can embrace a real inclusiveness by adopting a tolerance of other perspectives, even those that appear contrary to the espoused *Principles*. Universal design educators can also demonstrate the true sincerity of their devotion to inclusiveness by expanding the sphere of their interests and activities beyond disability to aging, gender issues, cultural differences, sustainability and other issues that might emerge as cultures change. This will not only inform the development of universal design as a philosophical approach to design but also build bridges to other faculty who share equally utopian perspectives.

CONCLUSION

Universal design education could be enriched significantly by exploring and communicating the intellectual traditions that underlay the concept, like the idea of *reciprocity* between social life and material culture and the concept of *social justice*. Using the group home as an example, we have demonstrated how the concept of normalization has parallels in the theories of the early feminist movement. This idea has significant implications for curriculum and criticism, especially in the design studio. We proposed that group homes could be studied as a form of cooperative housekeeping. As a corollary example, the concept of *independence* can be examined as a basis for the design of an autonomous living unit, thereby making connections to the sustainable design movement. No doubt there are many other such connections and thus many other threads of intellectual discourse that could inform our work.

A *cultural critique* can become part of all design projects. Too often, design studio instructors give an assignment in the form of a problem to solve without leaving room or encouraging a redefinition of the problem itself. Yet, the most creative design usually starts with such reflection. In reality, any assignment is a program to question and critique, examining the relationship between material culture and social life, studying the differing social definitions of places or objects and comparing the perspectives of the client, the designer and the user as "other." The literature of disability studies can be an excellent source of ideas for such a critique. Some suggestions include: 1. the impact of disability in public encounters and what is implied for the design of public places, 2. perfection and deformity in aesthetic values and what they imply for fashions of taste and style, 3. disability as a career and the implication for design for the lifespan., 4. disability as "otherness" and its relationship with "marginal space."

The idea that universal design is an alternative to the rule based approach of barrier free design is another powerful educational strategy. Since there is much resistance to the rule based approach among creative designers, it can be used as a foil to generate interest among students in its alternative. Since students need to know the rules they will have to follow when they enter practice, an assignment through which they have to study them and uncover their limitations and irrationalities may be an effective introduction to universal design. From there, the underlying principles behind the rules can be uncovered and students can be challenged to find solutions beyond rule based design.

Although pedagogy certainly should be the focus of universal design education, politics are as critical to the success of educational ventures as the merit of pedagogy. Academia is a place where intense competition among ideas is a normal state of affairs. As advocates of universal design, we have to be prepared to persuade our colleagues and students of their intellectual value. The concept of universal design has many connotations that appeal to the values and perspectives of progressive academic culture. These include a concern for human values, activism, cultural pluralism and social justice. Yet, at the same time, universal design can have connotations that can engender suspicion and resistance by other faculty as well as students. These include the perception that universal design, as a utopian concept, has an absolute idealist agenda, an exclusionary structure and unrealistic goals.

These negative connotations, however, can be overcome with a focus on the intellectual traditions to which universal design is linked and by insuring an open, critical perspective in pedagogy. We especially need to emphasize the idealism inherent in the concept and, to avoid the perception of naiveté, we need to emphasize that universal design is a search for ways to "close the gap" between the utopian ideal and the current status quo. The ideal of universal design may be more palatable

when presented as a touchstone against which we try out various ideas about our ways of living in the world. In this way, the strengths and dilemmas of universal design are used to help us see what we are without prescribing what we should be. We can use its processes, products, and environments to actively participate in the unending debate about human nature and the best possible evolution of society.

Reflective thinking should be the norm of universal design education, emphasizing the critical stance that brought it into being in the first place. We need to practice an inclusive intellectual discourse by acknowledging connections to other perspectives in education and design, in particular, those that share a utopian character, emphasize the value of diversity and encourage a person-centered design practice. And, we need to be tolerant of other, more divergent educational perspectives, recognizing that there is a place for many viewpoints in design education.

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