

A Future Invested in Sustainability: Sustainable Architecture and Education in the Midwest through the Ethical Philosophy of Luce Irigaray

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Abstract: Theories of sustainable architecture that address sexual difference are rare in an architectural context, whether in the United States or Europe, and this paper proposes a critical perspective on architectural design using sustainable schools as an example and adopting the question of sexual difference. Informed by the words of young people, the philosophy of Luce Irigaray, and research carried out as part of a research project, “Iowa’s New Schools: A Future Invested in Sustainability,” this paper examines contemporary approaches to sustainable school architecture. It addresses questions of lifestyle and behavior and architects’ aims to produce energy-efficient and sustainable architecture and build sustainable lives. Key to the problem of sustainable schools and education for sustainable development is the language of sustainability. Language connects a concern for methods with the perspectives of children and young people. In this paper, I argue that a philosophical reconsideration of relationality is the primary objective in the development of a sustainable built environment. I argue that building cannot start with master planning or conceptual design, and it is not simply about constructing ourselves in our communities, adopting predefined and encouraged “sustainable behaviors.” Rather, sustainable building – sustainable architecture – must start with social questions of difference. For Irigaray, this means cultivation of the relationship with the other who is sexually different. This suggests radically new approaches to the question of sustainable architecture, to pedagogy, and to the building of new schools.

Keywords: Architecture, Schools, Design, Feminist Philosophy, Luce Irigaray

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Introduction

Iowa's schools are not characterized by the most radical, innovative, or avant-garde architectural designs, but they are designed with an awareness of the need for energy reduction, fresh air in classrooms (albeit provided by mechanical systems with some heat recovery), and maximizing natural daylight. Some are Leadership in Energy and Environmental Design (LEED) certified, some are not. Some schools have adopted wind turbines to utilize the power of the wind across the flat landscape that once was open prairie and, furthermore, the design of educational spaces is generally well considered. Iowan architecture is characterized by an understated aesthetic, held up to reflect the character of Iowa's people, but Iowan architects are also keen to provide and maintain a high-achieving school system with the best possible school buildings. The process of thinking about sustainable architectural design as a question of living, and living well in relation to the environment, with school design adding an additional issue of the teaching values associated with how to live has profound implications for educational objectives. However, if the question of sexuate difference, the theme of Luce Irigaray's philosophy, is to enter a dialogue on the design of schools in Iowa, such a transformation of the conversation would demand a different sort of language of education. This change proposed by the architecture would encounter issues of educational leadership even in the modest, liberal communities of Iowa. However, while the change is deep, the philosophy radical, and the approach challenging, the move is neither a violent nor a revolutionary move. If the solution to our ethical and environmental crisis requires moving to a more sexuate world (Irigaray's terminology for a reconsideration of sexual difference), with both sexes participating in this process of change, this is a move simply motivated by love (Wheeler, 2002). In one of her recent publications, *In the Beginning She Was*, Irigaray (2013) writes of a return to ourselves, to a natural and sexuate belonging, an interiority – which is often seen as a negative in comparison to a projection out into the world: the architect's heroic new sustainable architecture built on fertile Iowan prairie. Even so, it is this recognition of our experience of a still free energy to be cultivated that is the beginning of a new co-existence. Irigaray writes:

About ourselves, we know almost nothing. And even when we imagine ourselves as constructing the world, it is as much this world which constructs us. Our projects with regard to the world are mostly a projection, an evasion of ourselves, an escape from ourselves, without a possible turning back to ourselves, in ourselves (Irigaray, 2013, p. 140).

According to Irigaray, we need to develop what it means to be in a relationship with the environment ourselves and what it means to live well with others: identifying the ethics, finding a relationship, and building it in relation to other human beings who are different to us. The design of a school is thus a question of learning to live for the human being, learning not to appropriate resources but to share life; however, as Irigaray argues, this is a simultaneously ethical and political task that can only be accomplished together with others (Irigaray, 2013). What is more appropriate for engaging a school community with new school building? What is more appropriate for an educational approach, a set of values, and teaching about sustainability? If we can imagine, we are in the natural world sensing the vibrancy of growth, in the realm of some still wild energy that is to be cultivated in our felt experience, breathing, living in

correspondence – in a reality of embodied experience ready to be recognized and built upon with other human beings (including within the educational environment). It is in this way that the politics of sexuate difference are enacted, co-created, and built.

So, how can we design schools for young people, schools that illuminate the problem of sustainable development and educate children about the social and environmental questions, the limitations on our economic growth, and the impact of excessive consumption on our environment? How can we find ways of design that return us to “life,” as Irigaray’s philosophy reconsiders philosophies of dwelling? Such criticisms challenge us to review current knowledge about design as well as how to approach such questions, including questions about climate change now and in the context of Iowa from the viewpoint of sexuate difference.

From Europe’s perspective, even up until the change in the presidency in early 2017, the United States has been slow to address its carbon emissions. On June 25, 2013, President Obama, however, in a speech on climate change, announced a plan to increase the use of clean energy sources and prepare the US for the impacts of climate change. At Georgetown University, he stated:

... I am convinced this is the fight America can, and will, lead in the 21st century. [...] We’ll need scientists to design new fuels, and we’ll need farmers to grow new fuels. We’ll need engineers to devise new technologies, and we’ll need businesses to make and sell those technologies. We’ll need workers to operate assembly lines that hum with high-tech, zero-carbon components, but we’ll also need builders to hammer into place the foundations for a new clean energy era (White House, Office of the Press Secretary, 2013).

Obama’s focus was energy innovation and a technological solution to climate change. Launched on the same day, the president’s Climate Action Plan described the expansion of federal building initiatives, new goals for energy efficiency standards, and targets to build communities that are less dependent on limited energy resources and more able to adapt to the effects of climate change (US Department of Energy, 2013). However, on the first day of Donald Trump’s presidency, the White House announced that the Climate Action Plan would be eliminated, stating that it was both harmful and unnecessary (New Scientist, 2017). In the rebuttal to the plan entitled “An America First Energy Plan,” the White House stated:

The Trump Administration is committed to energy policies that lower costs for hardworking Americans and maximize the use of American resources, freeing us from dependence on foreign oil. [...] For too long, we’ve been held back by burdensome regulations on our energy industry. President Trump is committed to eliminating harmful and unnecessary policies such as the Climate Action Plan (White House, 2017).

So, what now for sustainability and architecture and for building good and sustainable schools? While the government may have an important role to play in supporting local efforts to build stronger, more resilient communities – less dependent on limited resources – we know that the government’s ability to lead this change through policy alone is problematic (Demos/Green Alliance, 2003). Without building user communities educated about what it means to build a resilient, sustainable community, innovative and energy-efficient buildings risk being poorly utilized, new energy technologies misunderstood, and consumption likely only to keep increasing (Shove, 2005). The efficiency of new buildings is outweighed by ever greater

expectations in terms of comfort and quality of life. Educating building communities suggests a dialogue about the meaning of terms such as resiliency, sustainability, and lifestyle, especially when used by government, and it is made only more difficult with the Republican political agenda to understand which regulations are ideologically iniquitous. Invariably, for architecture, it is those engaged with architectural engineering and construction technology who are conspicuous in this debate and least likely to see political motives as their own domain. Nevertheless, the questions of lifestyle, excess consumption, and its relationship to a sustainable built environment are gaining strength through the work of social scientists and increasing literature has examined the relationships among habits, social practices, and how technologies are adopted and used in everyday life. This is broadly described as the interface of human geography, sociology, and design technology. It is also well funded by government research initiatives in Europe. From the perspective of these social sciences, however, building technology is not sufficient to transform architecture or even reduce its impact on the environment as it does not challenge behaviors that have created this impact. Real-life building performance often undermines design expectations, but the full definition of behavior as the "...aggregated response of a person resulting as a consequence of complex interactions between internal and external factors. These factors might include emotional, moral, habitual, contextual, attitudinal, social, normative, and control factors" (Zak Gill et al. 2010, p. 494) and, as Janda (2010, pp. 17-18) stated, research has shown "...personal actions as accounting for approximately half of energy consumption across all sectors, while institutional (or 'non-personal') choices account for the other half. Seen this way, people and groups are responsible, one way or another, for all energy use. Buildings and technologies may enable or constrain the energy implications of these choices, but the choices themselves are fundamentally important"; in other words, buildings don't use energy, people do, as indicated in the title of the paper. Thus, the problem for architects is not with technical innovation or predicted performance, but with the human condition: irascible, unpredictable, uncontrollable, acting against all best intentions.

As contemporary theory in architecture has moved toward environmental questions, it has adopted a critique of sustainability, and some theorists have cited the contemporary philosophy of Luce Irigaray. Books like *Relational Architectural Ecologies* (Rawes, 2013) argue for understandings of the notion of care within the context of sustainability. While Irigaray's work is only briefly considered, authors nevertheless succeed in channeling the discourse of sustainability in architecture away from energy efficiency and toward more creative, poetic, political, and ethical architecture. Also, while many women have endeavored to bring Irigaray's feminist philosophy into the profession, including important artistic work within the female imaginary, their work is not complete. Irigaray is a radical and seen as a philosopher who examines the absence of attention to sexual difference in contemporary philosophy. The publication of her *Speculum, Of the Other Woman* (1985) was influential to contemporary philosophy and feminist politics and launched her international career. Few contemporary feminist theorists can bypass her work and her work now is ever more environmentally concerned. Women architects and theorists have engaged with her thinking, including Jane Rendell (2011), Peg Rawes (2007), Mirjana Lozanovska (1995), and Karen Burns (2012), among many references in books, articles, and artworks. However, Irigaray continues to think, to work with others, to inspire students, and to write and is relevant to architects not only for criticism of gender equality but for a wider concern about the future of humanity. The immediate question is, of course, whether an environmental discourse in architecture can be sustained in the present policy context. However, at the same time, we cannot be complacent in thinking that we

understand the exact nature of the problem. We cannot be complacent or complicit in terms of the degree of criticism of the context in which we find ourselves, and these issues, these questions, represent the value of Irigaray's philosophy to this conversation. For Irigaray, a radical notion of difference, sexuate difference, begins the dialogue on sustainable architecture to open up to new understandings of our way in the world: to build a new world. Her approach to architecture reexamines our cultures and societies, our languages, our understanding of being-in-the-world, our worldviews, and our perspectives to argue that they cannot recognize the reality of two or more equal and different relationalities, corresponding, growing, blossoming: They cannot recognize our sexuate difference. This could be mistaken as proposing reductive thinking. However, on the contrary, it offers a radical rethinking of the notions of gender and sex, a challenge to a binary logic, and a call to cultivate new ways of being upon the earth together. In Irigaray's latest book, *To Be Born* (2017), also subtitled *Genesis of a New Human Being* (but suppressed in the final print), we are presented with a child, a little being, who wills himself or herself into the world, full of energy and full of desire, but whom the world does not recognize, not in this way. We are presented with a contemporary social and cultural environment for the child, for his or her growth, that is conceived and constructed artificially and that limits the little being. Our environments deprive it of its belonging, and what is more, our way of educating it does not allow it to take charge of itself or to become who it really is, living according to this energy of its natural and sexuate belonging with its desire to develop and transform itself in ever newly found knowledge and ways of inhabiting the world (Irigaray, 2017, p. 7). In this way, the educator, expert in educational philosophy, and architect looking to design future educational environments reflecting what the educator thinks seem to be inappropriate sources of knowledge: educational theory too distant from the life of the child.

The talk, "How can we live together in a lasting way?," originally given at the Architectural Association in London in November 2002 indicates that it is through such a recognition of more than one and at least two relationalities that Irigaray argues that architects can care about the relations between people: designing and building to make room for at least two perspectives. In this way, through this thinking about dwelling and its relationship to architecture, all relationalities (including that toward nature) are rethought and reformulated. This is a beginning to care about architecture from a place radically different from that occurring in current conversations about environmental design.

Responding to increased problems with air pollution in megacities such as Shanghai and Paris, Irigaray even argues for air pollution to be considered a crime against humanity, and in her article "Without clean air, we have nothing" she states that the real questions of living are being forgotten in environmental politics. She writes:

...instead of asking what it means to be human, alleged experts in various domains discuss at great length how to establish coexistence among people. No doubt such an objective is both relevant and urgent, but in their debates, these experts in peace stray far from a solution, getting lost in technical detail without considering the universal sharing of life, from which we could start again (Irigaray, 2014).

The question raised in this article, and one that is particularly pertinent to both architectural theory and practice, is how people can resist taking part in exploitation of the earth's resources. "How can they [people] recover their taste for life and learn ways of cultivating it, in themselves, with others, and in the natural world?" (Irigaray & Marder, 2014). This requires a challenge to

scientific-thinking (to use the terminology of Martin Heidegger) in the frame (the *Gestell*) or perspective by which we understand ourselves or to the “...the kind of thinking that converts everything, including the very air we breathe, into economically measurable reserves and commodities” (Irigaray & Marder, 2014). In an earlier engagement with Martin Heidegger in *The Forgetting of Air*, this question was raised in a discussion of dwelling. For Irigaray, air evades any exploitative efforts from humanity to make it a commodity. Air is necessary for living and an element that, to live, we all must share: Can man live elsewhere than in air? She writes: “Neither in earth, nor in fire, nor in water, is any habitation possible for him” (Irigaray, 1999, p. 8). This dialogue on dwelling nevertheless challenges how contemporary environmental philosophy, and indeed architectural theory, understands what it means to live in relation to the natural world, what it means to be in a community, and what it means to live ethically. This is no simple philosophical perspective, and no simple theory of architecture.

The problem architects have is that of the contemporary human being, so attached to his or her habits of living. However, an ethic of sexuate difference and an ethic in the perspective of being-two require a different sort of understanding of the human condition, of community, and of sharing natural resources.

From the perspective of the working architect, a number of bodies offers guidelines for designing a sustainable building. The US Green Building Council’s LEED system is currently the most common approach. LEED is a certification system based on points. However, little evidence exists to demonstrate the actual performance of LEED buildings; that is, little evidence exists to determine how “green” they really are because few requirements are measured and evaluated after occupancy and few opportunities exist to learn from such assessment (Newsham et al., 2009; Jeong et al., 2016). Furthermore, no incentives compel architects, or clients, to measure building performance. In fact, there are disincentives of liability and professional reputation and client dissatisfaction if actual performance measures are required for certification. LEED certification necessitates architects adopting specified design approaches. LEED does not, however, require the post-occupancy evaluation of designs or the involvement of building users to verify comfort or satisfaction. It is an approach, in fact, with very little real evidence of the performance that the credential suggests (and it is relatively easy to obtain such certification for contemporary and typical buildings in terms of energy performance).

On the other hand, Passivhaus, a European-based framework for designing sustainable buildings, is based on the measurement of predicted energy performance and on achieving building performance targets. Passivhaus presents a much more rigorous standard to achieve. The difference in the use of these tools in the US is not, however, explained by practical issues related to more extreme climate conditions than those experienced in Europe, the additional level of workmanship needed, or, indeed, the additional cost. Even at the level of building performance – the realm of the building technologist – there is resistance to proper engagement with questions about sustainability and this is what the working architect, feeling some environmental concern, must overcome.

The US is commonly criticized for providing minimal support for global environmental treaties and for its poor performance in addressing environmental pollution (Clapp & Dauvergne, 2011; Chasek et al., 2016). Nevertheless, in the US, architects are required to address issues of sustainability in their training and for many public buildings in the United States LEED certification has become mandatory. However, homeowners in the US generally feel little

economic pressure to conserve resources due to lower fuel prices and household utility bills than in European countries. While LEED represents a common understanding among the public and government officials of what is considered a sustainable building, it is an approach also recognized as superficial within the architecture profession. So, what is meant by sustainable architecture remains a question for those who genuinely wish to engage with the environmental and social issues of our time. Many attempt to theorize a new direction (McLennan, 2004; Moe, 2007; Moe, 2008; More, 2011; Moe, 2013) and some, such as Jason McLennan, have developed more radical design methods and approaches like the Living Building Challenge. Describing the visionary intention of the approach, the author writes:

In the future, the houses we live in and the offices we work in will be designed to function like living organisms, specifically adapted to place and able to draw all of their requirements for energy and water from the surrounding sun, wind and rain. The architecture of the future will draw inspiration, not from the machines of the 20th century, but from the beautiful flowers that grow in the landscape that surrounds them (Berkebile & McLennan, 2004, p. 1).

Designing a Sustainable School

However, to raise the question of school design in this context, both LEED and Passivhaus have approaches specific to school building, and the Living Building Challenge has been adopted to design exemplary education spaces. However, few Passivhaus standard schools have been built in the US, perhaps because of the high quality demands in construction and the scarcity of certified Living Buildings. For the architect, developing a way to build good schools in the Midwest, schools that are delightful for children and exceptional as learning environments, requires at least some evaluation of the key concerns in design to ensure best practice. It demands a comparison of schools in the US with those internationally and, perhaps but not so evident, within this context is the need for a deep or critical conversation about our future, what we want our children to be and become, and the relationship between education and how we educate children about their relationship to the environment. There is no real conversation here about our future social and economic environment, children's involvement with these questions, or any deep and critical dialogue on what it means to live an ethical and sustainable lifestyle.

Architects can ask children and school communities to explore different, non-exploitative, non-appropriative relationships with the world in their design processes, but the question is how to do this. The Native American Lakota traditions (which have a presence in modern Iowa where our proposed exemplar school is being designed) tell stories that suggest a different sort of relationship with the natural world than that of the Western tradition. White Buffalo woman, a semi-divine woman and buffalo, teaches the original peoples of the earth the right way to pray, the right words, and the right gestures: the proper path while on earth (Erdoes, 1984). On the birth of a white buffalo calf, a very rare event, in New Orleans in 1994 (and in Wisconsin in fact there was a similar birth that year), the town declared White Buffalo Day. The Council of the City of New Orleans declared that "...the spiritual significance of the birth of the white buffalo amongst the Native American people speaks of peace, unity and healing amongst all people" (City Council of New Orleans, 1994). The day continues to be celebrated. Native American First Nation narratives describe the relationships of accountability to nature, requiring a conversation with animals, or animal and spiritual beings, about one's need for resources. Daniel Wildcat (2009) calls for engagement with indigenous philosophy to solve environmental problems. The

strength of indigenous ways of knowing, he argues, and the seriousness with which the natural world is considered a partner in knowing, makes it inconceivable within these traditions that we could treat nature as a resource for our exploitation. It is as if, he states, we were to consider the “resources” we use every day as our relatives (our relations, those who are closest to us, those we love). This is a very different method of understanding our way in the world and it is not common to Western traditions. However, these narratives bear some comparison to the challenge to scientific-thinking in the philosophy of Martin Heidegger or to understanding the world by “... dividing the world into quantities or potentialities” (Irigaray & Marder, 2014) as is the perspective in current approaches to sustainable architectural design. These First Nation narratives offering a different worldview have value in presenting alternative ways of understanding our role and responsibility with regard to the natural environment. Irigaray’s philosophy starts with the reality of the equality and difference between man and woman, one of the most difficult relationships to address and yet one of the most universal, whose drama profoundly influences our relationship to both the natural environment and those whose traditions (as the First Nation traditions) we consider other. While the natural world gives energy and teaches us about our natural belonging, Irigaray argues, it is only with another human being that we can cultivate our sexual difference and build a culture of equality and difference between ourselves and among the plants, animals, and non-living element worlds.

Among the young in school communities, when asking children about their experience of their new schools, storytelling is commonplace. Asking children to solve the problem of designing a sustainable school raises all sorts of imaginative solutions, told as illustrated stories, about their teaching and learning space. As one example, girls of about 14 years of age attending a workshop carried out by the author were asked to design their own environmentally friendly and sustainable school; perhaps significantly, in a high-performing school for the area, the desire was not for teaching spaces but for “pondering” spaces. Schools present a typology for architects where questions about the relationship between education and architecture and about what sustainability suggests for ways of teaching follow naturally. New forms of classroom teaching practice tend to be embodied in new school designs but all of these design-based initiatives also depend on the assent of school communities and on compatible school cultures. In one of the new schools built in the UK within the government-funded Building Schools for the Future program, in a research program carried out by the author (Wheeler & Malekzadeh, 2015), and within an atypical program of post-occupancy evaluation, the disconnection that children felt with their new energy-efficiency environment – designed by architects in consultation with children and teachers – was very clear: “On our first day,” one student said, “... they sat us down and told us what we couldn’t do in the school – from the start it made us feel it wasn’t ours” (school pupil aged 13). Child participation was, at the time of this school being built, a requirement of government funding in the UK, but while consultation processes were promoted as part of the transformation of schools, later evaluations with user communities demonstrated cultures incompatible with designers’ intentions. Regarding teachers’ relationship to the energy saving and environmental credentials of the school buildings, children were also critical of the lax attitudes of teachers and adults toward the problem of climate change: “They stand there in science and say you need to save energy and then I say, well, turn your lights off. ... They are always telling us to save energy but why not them?” (school pupil, aged 12) (Wheeler & Malekzadeh, 2015, p. 441).

Children are keen to describe the contradictions between what adults say and what they tell children to do. They can be dedicated to pointing out the mismatch between the intention and effectiveness of spatial innovations. Poorly functioning building features – windows, heating, ventilation, circulation, and dining spaces – form the basis of stories retold by children from different classes. The most significant issue in this study, however, was the prohibition placed on spaces designed especially for children’s play and socialization: innovative design, but preventing proper use. If a deep and lasting perspective, together with a sense of agency on the problem of sustainable development, is the aim of sustainable schools and education for sustainability, the rhetoric of educationalists and policy makers associated with the building of new sustainable schools is not being achieved. The difficulty environmentalists, urban designers, and architects have in creating communities that can adapt to climate change is in this social dimension. People may be able to acknowledge climate change, they may be able to critically engage with what sustainability might actually mean, but they do not want to change the way they live. Moreover, they do not want to change how they teach their children to address the problems associated with climate change. In this respect, the delight of being able to recover a taste for life and learn ways of cultivating it (Irigary, 2014) becomes a very powerful concept.

Asking children to engage with the questions of designing an environmentally friendly school and allowing them to explore what is meant by sustainability elicit preconceptions about both environmentalism and school architecture. Nevertheless, children’s creative activities can also draw out issues surrounding education, learning, and daily activities in school. Children want to understand what their education is, why it is, and what it is for, and in this way to engage with the problems of pedagogy and relationality. This questioning is more pressing for them, it seems, than it is, perhaps ironically, for their teachers. In the girls school in the north of England mentioned earlier, the group of girls designed their school experience as a series of “pondering” spaces programmed around their then-current school day. “Pondering” was their description of the activity that would take place in these spaces. The morning would begin with the whole school pondering, with adequate space provided in the building plan they created for the whole school. This was followed by pondering in small groups, individual pondering, and teacher-led pondering. Led by a researcher, the girls delighted in their creative imagination in time away from their classes to engage in this creative activity and, indeed, to “ponder” their own relationship to the natural environment and their school community.

While the conversation about sustainability continues to suggest solutions for our future, even putting aside that sustainability is an ill-defined term that is lazily used, our approaches cannot continue to be characterized by our current understanding of what it takes to build a way of living that shares the earth’s resources and fosters non-exploitative relations with other living beings. The checkbox approach of common methods – as used by LEED – to sustainable design is a highly superficial way to understand what it means to live sustainably. The constant redefinition and a perpetual critical engagement with human living lead to the question of dwelling and relate directly to our philosophical traditions. These discourses cannot be absent from teaching in schools. Children will encounter philosophy as easily as adults do.

Hence, a shift in thinking needs to take place to reconceive sustainable architecture as informed by radical philosophy, arts-based research practices, user narratives, and educational practices engaged with ethical relations. The connection between the avant-garde and the predominantly science-based discourses of sustainable architecture must be developed (Awan, Schneider, &

Till, 2011; Bronet, 2013, 2010). Branzi in interview argues for overturning the control of sustainable architecture by environmental technologists and for adopting the avant-garde in architecture. He states: “Environmentalism was born from the avant-garde cultural movement in America and is now in the hands of environmental technologists. I think it’s a problem that environmentalists believe the happiness of man depends on the square meters of grass available to them, and that our habitat should be based solely around energy consumption” (Peruccion & Formia 2013, p.16). So, let us put the question back in the hands of the avant-garde in philosophy to challenge philosophy, to educate on happiness, and to allow ourselves to engage with other worldviews. A radical perspective on the design of schools in Iowa would then suggest a number of actions: philosophical engagement with educators about the notion of sexuate difference, the innovation of architects in developing their design practices to include the best of environmental thinking, and the involvement of school communities in the question of living well.

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References

- Awan, N., Schneider, T., & Till, G. (2011). *Agency: Other ways of doing architecture*. London: Routledge.
- Berkebile, B., & McLennan, J. (2004). The living building: Biomimicry in architecture, integrating technology with nature. *BioInspire Magazine*, 18.
- Bronet, F. (2013). Space-in-the-making, in *Geographies of dance, body movement, and corporeal negotiations*. New York, NY: Lexington Books.
- Bronet, F. (2010). Teaching the design: Feminist practice, in *Feminist technology*. Champagne, Illinois: University of Illinois Press.
- Burns, K. (2012). Gender in the contemporary architectural theory anthology. *Journal of Architectural Education*, 65, 125–134.
- Chasek, P. S., Downie, D. L., & Brown, J. W. (2016). *Global environmental politics*. Boulder, Colorado: Westview Press.
- City Council of New Orleans (2014). 1994 Proclamation, September 18, 1994. Retrieved from <http://www.whitebuffalochildren.org/img/1994.pdf>
- Clapp, J., & Dauvergne, P. (2011). *Paths to a green world: The political economy of the global environment*. Cambridge, MA: MIT Press.
- Erdoes, R., & Ortis A. (1984). *American Indian myths and legends*. New York, NY: Pantheon Books.
- Gill, Z., Tierney, M., Pegg, I., & Allan, N. (2010). Low-energy dwellings: The contribution of behaviours to actual performance. *Building Research and Information* 38, 5, 491-508
- Green Alliance/Demos. (2003). *Carrots, sticks and sermons: Influencing public behavior for environmental goals*. London: DEFRA.
- Hitchings, R. (2012). People can talk about their practices. *Area* 44(1), 61-67.
- Irigaray, L., & Marder, M. (2016). *Through vegetal being*. New York, NY: Columbia University Press.
- Irigaray, L. (2014). How can we live together in a lasting way? in Luce Irigaray (Ed.), *Key Writings* (pp. 123–133), New York, NY: Bloomsbury.
- Irigaray, L. (2013). *In the Beginning. She Was*. New York, NY: Bloomsbury.
- Irigaray, L., & Marder, M. (2014, March 17). Without clean air, we have nothing' *The Guardian*, London.
- Irigaray, L. (1999). *The forgetting of air*. Austin, Texas: University of Texas.
- Irigaray, L. (2017). *To be born*. London, New York: Palgrave.

- Janda, K. B. (2011). Buildings don't use energy: People do. *Architectural Science Review*, 54(1), 15-22.
- Jeong, J., Hong, T., Ji, C., Kim, J., Lee, M., & Jeong, K. (2016). Development of an evaluation process for green and non-green buildings focused on energy performance of G-SEED and LEED. *Building and Environment*, 105, 172-184.
- Lozanovska, M. (1995). Excess: The possibility of disruption on the side of woman/women. *Intertices*, 4.
- McLennan, J. F. (2006). The Living Building Challenge v1.0: In pursuit of true sustainability in the built environment. Cascadia Region Green Building Council.
- McLennan, J. F. (2004). *The philosophy of sustainable design: The future of architecture*. Seattle Washington: Ecotone Publishing.
- Moe, K. (2011). Things we don't know we don't know: We all rely on shortcuts: Rules of thumb, accepted convention, common knowledge. What if they're wrong? *Science* 14 (3). Retrieved from <https://www.architects.org/architectureboston/articles/things-we-dont-know-we-dont-know>
- Moe, K. (2007). Compelling yet unreliable theories of sustainability. *Journal of Architectural Education*, 60(4), 24-30.
- Moe, K. (2013). *Convergence: An architectural agenda for energy*. New York, NY: Routledge.
- Moe, K. (2008). *Integrated design in contemporary architecture*. New York, NY: Princeton Architectural Press.
- New Scientist. (2017). Trump ditched Obama's climate change and water policies on the first day. Retrieved from <https://www.newscientist.com/article/2118982-trump-ditched-obamas-climate-and-water-policies-on-first-day/>
- Newsham, G. R., Mancini, S., & Birt, B. J. (2009). Do LEED-certified buildings save energy? Yes, but.... *Energy and Buildings*, 41, 8, 897-905.
- Obama, B. (2013, June 25). *Remarks by the president on climate change*. Georgetown University. The Whitehouse: Office of the Press Secretary.
- Peruccion, P. P., & Formia E. (2013). The designer as revolutionary (interview with Andrea Branzi) in Special Report: Design. *The Art Newspaper*. (2) 243, 16
- Rawes, P. (2007). *Irigaray for architects*. London, New York: Routledge.
- Rawes, P. (2013). *Relational architectural ecologies: Architecture, nature and subjectivity*. London, New York: Routledge.
- Rendell, J. (2011). Critical spatial practices: Setting out a feminist approach to some modes and what matters in architecture. In *Feminist practices: Interdisciplinary approaches to women in architecture* (pp. 17-55). London, New York: Routledge.

- Seyfang G. (2010). Grassroots innovations in sustainable housing: Building a low-carbon future. *Energy Policy* 38, 7624-7633.
- Shove E. (2005). Changing human behaviour and lifestyle: A challenge for sustainable consumption. In I. Ropke and L. Reisch (Eds). *Consumption. Perspective from ecological economics* (pp. 111-32). Cheltenham, England: Elgar.
- US Department of Energy. (2013). *Better buildings challenge energy: An overview*. Retrieved from <http://energy.gov/better-buildings>
- Wheeler, A., & Malekzadeh, M. (2015). Exploring the use of new school buildings through post-occupancy evaluation and participatory action research. *Architectural Engineering and Design Management* 11(6), 440-456.
- Wheeler, A. (2004). About being-two in an architectural perspective: Interview with Luce Irigaray. *Journal of Romance Studies*, 4(2), 91-107.
- Wheeler, A. (2002). Love in architecture. Dialogues: International, Intercultural, Intergenerational Dialogues about the Works of and with Luce Irigaray in a Special Edition of *Paragraph*, Luce Irigaray (Ed.).
- Wheeler, A. (2014, Oct. 28-30). The sustainable school: Effective and energy efficient ventilation in the classroom, and the question of educational performance and wellbeing. World Sustainable Building Conference, Barcelona, Spain.
- White House. An American first energy plan. Retrieved from <https://www.whitehouse.gov/america-first-energy>
- Wildcat, D. R. (2009). *Red alert!/: Saving the planet with indigenous knowledge*. Golden, Colorado: Fulcrum Publishing.

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