



Design Education for a Sustainable Future
by Rob Fleming

Introduction

form follows world view

The premise of this book is remarkably simple. It is based on a series of straightforward questions that seek to uncover the context, values and behaviors necessary for effective twenty-first century design education. Is society moving towards a new sustainable or integral world view, a new set of cultural values that are reshaping the very fabric of human existence? If so, how are such profound shifts in consciousness impacting the design and construction industries? And how can design educators better reflect the zeitgeist of the new century by moving from well-intentioned but lightweight “greening” to the deeper and more impactful ideals of sustainability and resilience?

The process of answering these questions begins with the requisite historical narrative which explores cultural evolution not as a slow and gradual rise to new levels of complexity but rather through a series of hyper-accelerated jumps in human consciousness. The jump from dispersed Hunter Gatherer cultures to centralized agrarian societies and then to industrialized nations correlates well to the convergence of new energy sources and the invention of new communication technologies.

Jeremy Rifkin argues in his book *The Empathic Civilization: The Race to Global Consciousness in a World in Crisis* that “The convergence of energy and communications revolutions not only reconfigures society and social roles and relationships but also human consciousness itself.”¹ The early twenty-first century, as characterized by unprecedented sharing of information via wireless networks and by the emergence of renewable energy technologies, demarcates a threshold from one world view to another, a jump from an industrialized conception of nature as immutable and infinite to a Gaia inspired view of nature as alive, intelligent and, most of all, fragile in the hands of man.

The principles of sustainability, which emphasize ecological regeneration and co-creative processes, comprise a new and powerful ideal that is reshaping technologically driven initiatives, especially those associated with the design and construction of the built environment. Societal conceptions of money and profit, consumerism, design and technology are radically shifting to address the superficial but useful demands of “greening,” and are leading to finding deeper and more impactful processes to meet the much higher bar of sustainability.

The unpacking of such lofty but important aspirations must include the painful but necessary establishment of the territory and domain of sustainability and sustainable design as a means of laying the groundwork for a more in-depth look at design education. For many designers, the word “sustainability” is taboo. Some refrain from using it at all due to a high level of confusion (thanks, in part, to “green washing”) surrounding both the word itself and its connotations. Others use the word naively, as a catch-all for all things good and progressive. In addition, the meaning of the word shifts when understood in the context of different parts of the world, different economies and differing cultural expectations of quality of life. Despite such complexities, the actual meaning of sustainability and its connotations comprise the epicenter of a vast paradigmatic jump from an industrialized design approach dominated by materialism, technological expression and what Thomas Friedman called *situational values*² to a design approach supported by virtual simplicity, environmental regeneration and an adoption of *sustainable values*. In short, the developed world is moving from a focus on raising the standard of living via technological progress, as defined by comfort and convenience, to a focus on a higher quality of life as defined by meaningful embodied experiences and through relationships with each other and with nature.

The amorphous nature of sustainability is both its great strength and its weakness. As such, it allows for multiple entry points: from biophilic and emergent design expressions to tectonically inspired energy efficient designs to socially responsible activism. While John Elkington’s Triple Bottom Line of People, Profit and Planet is now well established in the world of commerce and government, the simple yet compelling collection of words has yet to become part of the designer’s mental matrix. Opportunities such as economic viability and environmental regeneration are slowly and awkwardly finding their way into the

mainstream of design education thinking, while the inclusion of socially responsible design varies from school to school and from studio to studio. Susan Szenasy, editor in chief of Metropolis magazine, argues in the *Journal of Interior Design* that “after all, social equity is one leg of a three-legged sustainability stool; the other two legs are ecology and economy.”³ While the three-legged stool of sustainability is on one level a powerful icon of the new sense of integration, on another level it is deeply troubling for the designer. The absence of the experience of sustainability is problematic not just for designers but for society as a whole. Are we to be left with blocks and blocks of highly performing built projects that leave little, if any, nourishment for the soul? Lance Hosey argues in his new book, *The Shape of Green: Aesthetics, Ecology and Design*, “If it’s not beautiful, it’s not sustainable. Aesthetic attraction is not a superficial concern – it’s an environmental imperative.”⁴ Indeed, the idea that buildings, landscapes and interiors must be both highly performing and also beautiful helps to form the nucleus of the proposed “Quadruple Bottom Line,” a term developed in collaboration with Sustainable Design student Anne Sherman to add the experiential or aesthetic component to the existing triple bottom line tenets of environment, economics and equity. The addition of experience into the now well established collection of equity, enterprise and ecology prompts the discarding of the utilitarian three-legged stool of the triple bottom line in favor of the more comfortable and inviting four-legged chair of sustainability. In this way, the entry point for designers is wide open, offering an avenue of exploration that is more familiar and therefore more accessible to the typical designer and, by default, the typical design educator.

But the need for the aesthetic pathway speaks volumes to the inability of design professionals and educators to embrace sustainability in all of its phases and meanings. The fixation on aesthetics, formalism, tectonics and space making at the expense of directly addressing larger societal issues partially explains the slow movement towards more integrated and sustainable practices in both practice and the academies. Ultimately, LEED rated green buildings need not be ugly, while highly evocative and beguiling design expressions need not be devoid of an ethical foundation. Evolving the design professions to higher states of consciousness does not demand a paradigm shift so much as it does

the transcendence to a new more integrated world view, and the inclusion of all preceding world views. The approach of “both and” or “transcend and include” recognizes the continuing value of all previous world views and plays an essential role in the establishment of new design consciousness not as a choice between the past and present, but rather as an additional motivation to pursue sustainability. The emerging integral world view is best described in Ken Wilber’s Integral Theory, while Mark DeKay’s Integral Sustainable Design serves as a powerful framework to organize, unite and catalyze the various forces that shape the sustainable built environment.

The implications of the new world view for design educators are staggering. Current educational models can be characterized as exclusive, competitive, formalistic and isolated and do not reflect the emerging sensibilities of the spirit of the age. As far back as 1968, Whitney M. Young, Jr., head of the Urban League, challenged the AIA on issues relating to social responsibility and diversity within the profession.⁵ In 1991, Kathryn Anthony, in her book *Design Juries on Trial*, offered the first whispers of a need for changing the way projects are reviewed.⁶ In 1996, Boyer and Mitgang in their publication *Building Community* recommended that architects and architectural educators assume a leadership role preserving the environment and the planet’s resources.⁷ In 2001, the *AIAS Studio Culture* document cited “hazing” as one of the attributes of design education.⁸ An exhaustive 2006 AIA sponsored report, *Ecological Literacy in Architecture Education* by Lance Hosey and Kira Gould, suggests that design educators are only just beginning to nudge at the opportunities presented by sustainability.⁹ But the emergence of a new design consciousness asks: if form follows world view, and if integration is the new consciousness, then how will that impact design education?

The process begins with understanding some core values – inclusion and cooperation – and by pursuing a set of integral core behaviors: beginning with inclusion, the question of “who designs” has new meaning in the age of collaboration, cooperation and integration. Those students marginalized due to the color of their skin, their gender or any other difference comprise generations of lost design talent for the industry and perpetuates the perception and reality of design as an exclusive club. Those without design training – clients, neighbors,

engineering consultants and builders – have limited entry points in the typical design process and even less so in academic projects, despite the fact that their contributions clearly shape the overall design product. The drive towards inclusion raises many questions, including: How will the largely Caucasian dominated design academies overcome years of privilege to build more diverse and inclusive learning communities? How will the design professions let go of their tight control over discipline territory to open opportunities for meaningful collaboration?

If inclusivity sets the cast of characters for effective collaborations, the rules of engagement that govern design education must evolve to feature the intention to create highly cooperative learning environments. The shift from teaching design as a solitary creative pursuit bereft of contingencies to teaching designers to become facilitators of diverse groups, integrators of ethical content, and generators of highly evocative and beautiful places is reflected by Jeremy Till in his 2009 book *Architecture Depends*: “This in turn suggests a move from architect as expert problem solver to that of architect as citizen sense maker; a move from a reliance on the impulsive imagination of the lone genius to that of the collaborative ethical imagination; from clinging to notions of total control to a relaxed acceptance of letting go.”¹⁰

The integrated design process as applied to design education can allow for the horizontal and equitable participation of all students regardless of discipline, skill level or personality. Such leveling of the playing field is supported by Rifkin, who writes: “The traditional assumption that “knowledge is power” and is used for personal gain is being subsumed by the notion that knowledge is an expression of the shared responsibilities for the collective well-being of humanity and the planet as a whole.”¹¹

Ultimately, the question must be asked: how will studio professors overcome the years of heredity that drive the physically punishing and emotionally draining competitive design studio for one that is uplifting, optimistic and life enriching? Inclusivity and cooperation demand new behaviors from academics such as the realignment of studio curricula to account for the rise of flatter, more contingent, more interdisciplinary work. Pre-emptive engineering, for example, as enabled by early collaborative design charrettes, allows technically proficient domain experts to participate

early in the process of design, leading to higher and more legitimate forms of integration. Value engineering through the entire process connects students to the cost contingencies of design and forces a dose of reality that is so rare in most design studios. Lastly, clients and community members can provide meaningful service to the studio project, but better at the beginning when key decisions are made and design directions are established. Jeremy Till argues in *Architecture Depends*, “The most important, and most creative, part of the process [design] is the formulation of the brief. The creative brief is about negotiating a new set of social relations.”¹² Indeed, the design brief expresses the consciousness of the project, develops the necessary diverse stakeholders, determines the rules for the co-creative design process, sets the schedule of interactions and clearly illuminates the integrative goals of the project.

Finally, the conscious pursuit of higher levels of integration forms the behavior that propels the emergence of new design education practices. The gap between the intention of integration, however, and its actual operation in educational settings is as wide as it is deep and fraught with numerous structural and psychological challenges. The academically reinforced disciplinary silos serve to prevent collaboration. The makeup of disciplines necessary to pursue higher levels of collaboration not only exist in separate schools and colleges within universities, but also possess deeply territorial impulses that work against such efforts. The psychological chasms and structural barriers in place are so deep that the possibility of a more integrated and sustainable curriculum crumbles at the feet of hundreds of years of academic tradition. But the meme of sustainability persists, first gnawing at the heels of an otherwise inattentive academic community, then beginning to force the construction of bridges between the silos, and finally to the pitching of large pedagogic tents.

The use of the word tent in favor of silo is not an arbitrary metaphor because it underscores the porosity and horizontality of sustainability. Nevertheless, the move towards the operational, while daunting, must begin. On one level, design education, especially the studio, is one of the most powerfully effective vehicles for learning across the entire spectrum of higher education. On another level, such otherwise excellent approaches often lack the inclusiveness, cooperation and alignment necessary to drive the ethical content of projects and to reach

higher levels of integration. Design students already possess an extremely high visual literacy; ecological literacy, however, is essential if an overall movement towards integration is to occur. The use of online teaching and “flipped classrooms” present a method to free up lecture courses to become additional centers of innovation. They can serve as portals for technology courses to enable mini integrative design studios or offer avenues of participation from students who are marginalized due to distance or financial or family constraints. The use of integrated sustainable design charrettes early and often in studio, especially in the collaborative development of the design brief, and especially prior to the generation of formal responses, can be an excellent tool in the expression of ethical and functional foundations of sustainable projects. The addition of vetting (collaborative feedback loops as part of the charrettes) can provide structured and useful direction for design students from a variety of stakeholder views. The immense potential of design/build projects possesses by default, the inclusivity, cooperation and alignment necessary for design integration. Lastly, the design educator, with the benefit of specialized training, can evolve from designers who teach, to educators who teach design.

The rise of integrated project delivery, integrated design processes, inclusive design teams and participatory design processes all reflect the changing tides in the processes and products that comprise the formation of the built environment, and by default, demand an answer to a simple question: can design educators heed the call for change and begin the process of jumping into the compelling but difficult age of integration? The simple answer is yes, but. Yes, design educators are already excellent synthesizers and integrators and some have already begun to innovate through such programs as Illinois Institute of Technology’s MS in Integrated Project Delivery, The Columbia (University) Building Intelligence Project and Philadelphia University’s MS in Sustainable Design. But, such early efforts must be matched by a clear intention to pursue higher levels of integration, and the persistence must be present to place such intentions into operation.

Design faculty need not carry such a burden alone. Program administrators must also advocate for change, accreditors must continue to evolve their requirements, licensing agencies must continue to clarify their definitions of practice, the professional associations need

to push towards higher levels of sustainability, senior practitioners can shake away the pressures of financial survival to adopt new design processes and young practitioners can participate in thousands of tiny revolutions through the writing of green specs and the completion of drawings that express higher levels of integration.

Ultimately, the jump to a new world view is beginning to impact our collective consciousness, spurring a societal transition to more sophisticated economic models, to deeper levels of social responsibility, to higher levels of ecological regeneration and to a clear positioning of aesthetics as an integral part of sustainability. Design educators stand poised to meaningfully participate in the transition from the intuitive impulses of green design to the more holistic Integral Sustainable Design. Design educators hold the promise of a sustainable future in the hands of the students they teach.

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Notes

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- 3 Szenasy S. (2012) "Reflections on Sustainable Design," *Journal of Interior Design*, 37 (1): px
- 4 Hosey, L., (2012) *The Shape of Green: Aesthetics, Ecology and Design*, Island Press, Washington, p7
- 5 American Institute of Architects, *AIA Diversity / Then+Now+NEXT*, <https://sites.google.com/site/aiadiversityhistory/>, Accessed 8/6/2012 9:15AM
- 6 Anthony, K. (1991) *Design Juries on Trial, The Renaissance of the Design Studio*, Van Nostrand Reinhold, New York

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11 Rifkin, Jeremy (1) p15

12 Till, J. (10) p 169

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