INTEGRAL SUSTAINABLE DESIGN

Book Review

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Reviewed: DeKay, M. (2011). *Integral Sustainable Design: Transformative Perspectives*. Oxford, United Kingdom: Taylor & Francis Group Ltd.

Readers of *Integral Sustainable Design* are invited through a series of gates into an atrium of design studios each purposefully framed by integrally reflective questions. We wonder about the meaning of the structures we glimpse, and we re-evaluate our sense of the sloping levels of natural formations. We ponder the complexities of collective space, and we query the landscapes inside our minds as well as around the studios. Mark DeKay's book works on the body, mind, heart, and soul as it serves three audiences—each captured in one word of its title. First, it guides scholars of Integral Theory through the principles of design. Second, the book helps students of sustainability appreciate the fundamentals of wholism, living systems, systems thinking, and ecology. Third, designers and students of design and architecture (the book's primary audience) are introduced to the emerging field of Integral Design.

As one who is called in service to each element of the title through integral research and writing, teaching the principles of sustainable community development and designing projects, proposals, and curricula for the well-being of cities, I have been waiting for DeKay's book with considerable anticipation. In fact, as author of *Integral City: Evolutionary Intelligences for the Human Hive* (2008), I wish that this book had been published before my own was written.

The Preface introduces the basics of Integral Theory. DeKay reveals his intention as a teacher of design and architecture with an integral view. His perspective reveals his prejudice that architecture entails and calls forth progressively more complex and more inclusive ways of practice. While the Preface might lead some readers to conclude that DeKay is elitist, the confession in the conclusion of Part 1 reveals his humility and vulnerability most ingenuously:

> For me, the value of looking at design through an Integral lens has been that it has allowed me to glimpse areas of expertise that others have developed more than I have and to finally be able to honor them and include their valuable perspectives in my own work. As a result, it has also opened my eyes to the fact that the perspective that I have been steeped in for the past 25 years is also only partially true! Telling the whole story involves listening to and from others' perspectives: cultural, individual, ecological as well as technical. Then each viewpoint takes its valuable and appropriate place in a wider perspective where nothing is missing—rich human experiences, significant cultural meaning, high technological performance and true ecological sense merge into something much richer, truer and ultimately more aesthetically pleasing. Welcome to the future of design! (p. 129)

I appreciated that each of the book's four parts is consistently structured with an introduction and conclusion, so that I was provided a simple roadmap that allowed for exploration on multiple levels. Moreover, DeKay provides considerable substance for granular/high resolution reflection because of an abundance of

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well-annotated photographs, figures, and tables. In fact, it is such a beautiful book I couldn't bear to mark it and it is now profusely marked with sticky notes to annotate its insights.

The reader is given several "bonus features" at the end of the book, including a compilation of all the excellent design questions that he asks in each chapter. This can act as a valuable prompting tool (like pointing out instructions). DeKay has also provided a bibliography for each of the key constructs engaged in the book as well as a special index of subjects, projects, and designers in addition to a complete list of image credits.

The book's four parts focus first on the perspectives of Integral Design using the four quadrants. The second part covers Levels of Complexity, exploring the developmental path of the design view. The third examines Ecological Design Thinking with an insightful look at how to shift thinking from linear to non-linear perceptions. The fourth part explores the Relationship of Design to Nature from five developmental levels.

Part 1: The Four Perspectives of Integral Sustainable Design

Part 1 opens with a rich exploration of design principles using the four quadrants. DeKay introduces the design principle of form from four perspectives: the Upper-Right (UR) form of performance, the Lower-Right (LR) form of flow, the Lower-Left (LL) form of meaning, and the Upper-Left (UL) form of experiences. I especially liked this sequence of exploring the quadrants because it mirrors a "four deep" process taught in Spiral Dynamics; namely that performance is determined by the flow of systems, which is determined by the cultural sharing of meaning, which in turn derives from the individual interpretation of experiences.

This exploration of form is one of DeKay's subtle ways of drawing in the reader who may not be integrally informed. While the Preface and Chapter 1 introduce the novice to the basics of integral thinking and frameworks, it is the multiple ways that DeKay offers to support the discovery process that make his book very usable. A small critique relating to this is the occasional inconsistent sequencing of the quadrants when he is presenting several arguments. For example, while he begins with the sequence of UR, LR, LL, UL, as noted above, on page 38, where he presents the key principles of Integral Sustainable Design, he offers the sequence of UL, UR, LR, LL. In my teaching, I have found this mixed sequencing can often be challenging for a student new to the quadrants.

While DeKay crafts strong overviews of each quadrant in Chapters 2, 3, 4 and 5, it is in his care and selection of logic, principles, values, and aesthetics in each of these chapters where he shines. These bulleted summaries are especially helpful both to the integral novice and the design learner alike (see p. 49 for the logic of the UR; p. 63 for the principles and questions for LR systems thinkers; p. 82 for the questions of LL meaning and pp. 88-90 for values; and p. 122 for UL aesthetics).

Engaging with the three overarching purposes of the book's title, Part 1 includes a logical exploration of titles and/or leaders in the field such as "Whole Building Design," "Green Architecture," and Leadership in Energy and Environmental Design (LEED), and how they contribute to but are not yet sufficient to be considered as examples of Integral Sustainable Design. Beyond these evolving design approaches, DeKay explains the need for a full Integral Sustainable Design to embrace self, culture, and Nature (affirming the fractals of life explored by Sean Esbjörn-Hargens and Michael Zimmerman in their 2009 book, *Integral Ecology*).

In looking at systems in Chapter 3, DeKay relies on Fritjof Capra's principles of living systems to represent all the qualities that DeKay would include in Integral Sustainable Design (except, ironically, he notes that Capra missed "Wholeness"). DeKay returns to this theme when he explores experiences (in Chapter 5) and draws on the qualities of aliveness that Christopher Alexander famously introduced with his Pattern Language (Alexander, 1977) and the "Nature of Order" books (Alexander, 2002, 2004a, 2004b, 2004c). Interestingly, DeKay does not introduce Alexander's 15 qualities of aliveness here but presents and favors the qualities from his earlier book, *Sun, Wind & Light* (DeKay & Brown, 2001), as design strategies.[1]

As DeKay admits, the left-hand quadrants of Culture and Experiences are the least developed in the

practice of integral design. Perhaps for this reason, Chapter 4's focus on Culture is the weakest chapter in Part 1. It explores values in challenging but interesting ways in terms of Ground (existence values), Intrinsic (increasingly complex values of wholes trumping less complex values of parts), and Extrinsic (parts to wholes). But, while he makes a case for values in the city that embrace physio, bio, and cultural spheres, he has difficulty in making a convincing case for metaphors of meaning. (However, in Part 4, DeKay redeems himself by focusing entirely on the LL.)

While the Culture chapter might be lacking, the Experiences chapter is exceedingly well done. One of the reasons may be that the author draws very reflectively on his own interiors. This takes the chapter beyond theory into applied experiences and makes it much more accessible to the practitioner seeking to gain traction. DeKay differentiates between feelings and emotions, making the case for the primacy of feelings as the source of aliveness. His example of the pitch of roofs is a cross-cultural illustration of how everyone is able to express their sense of aliveness (from pitched to flat to butterfly roofs) in patterns and design. This chapter is quite complex, exploring aesthetics within UL interpretations of phenomenology, process, ecology, and all levels of evolution.

The ultimate reward for the reader of Part 1 comes when DeKay expounds his original theories of developmental aesthetics. I had the experience of DeKay's essential brilliance as he sought the answer to the question, "How can we design for a variety of different aesthetic experiences for an audience interested in or capable of vastly different aesthetic perceptions?" (p. 121). DeKay confesses from his years of observation, experience, and contemplation that "as other self-related lines develop, an individual shifts from one way of appreciating design to another" (p. 122). He then proceeds to uncover the aesthetic levels of sustainable design (each level transcending and including the dignities of the ones preceding it): Level 1 Traditional aesthetics where rule, tradition, and the mystery of natural beauty live; Level 2 Mental aesthetics where modern mind, eco-minimalism, and design order inform us; Level 3 Pluralist aesthetics where ecological process, paradox, and patterns of context connect us; and Level 4 Integral aesthetics where holarchic structure and multi-perspectival polyphonic design affirm the beautiful life. DeKay gives us aesthetic perspectives that can be defined from the point of view of the actor/architect, the viewer, and the historian of design. All of this is accompanied by inspiring photographs that illustrate his points and prepare us for the developmental levels that Part 2 explores.

In concluding Part 1, DeKay points out that we are much more than just our positions or perspectives (i.e., we are the Witness of all that is). And as such we can hold all we survey with compassion and consideration for the qualities that exist in self, culture, and nature. It is an empowering affirmation and an enticing invitation to read further.

Part 2: Levels of Complexity in Sustainable Design

DeKay has a designer's gift of anticipating future sections before the reader arrives there. In Part 1, he introduces within the contexts of the four quadrants the four levels of Traditional, Modern, Postmodern, and Integral. Part 2 addresses these levels by explicitly parsing them into lines as well as quadrants. He starts off by warning the reader that the arguments for environmental value tend to fall on deaf ears if the message and messenger are not attuned to the audience. Thus he sets up the *raison d'être* for wanting to learn about the relevance of levels. Without much preamble he proceeds to point out that levels emerge as we "carve a groove" (p. 136) into our consciousness and cultural landscapes. But more to the point of the UR and LR arguments related to sustainability he points out the research that indicates the major impact building and design have on energy consumption. Building construction and materials plus building operations consume 83% of electricity as compared to the sectors of transportation (<1%) and industry (16%).

DeKay appeals to the reader's general knowledge of sports as a line of development to illustrate how an intelligence or capacity develops over a lifetime. He identifies five levels characterized by: a toddler

playing with the ball, playground practice, the YMCA, collegiate competition, and finishing with the emergence of a Michael Jordan. In this way the door is opened to accept that lines of development are a natural occurrence. The trajectory is verified from multiple lines of research spanning Darwin's propositions for biology, to Beck's descriptors for values, to Taylor's stages of social organization and Habermas' levels of communication.

If DeKay can be faulted for anything in Part 2, it would be the challenge for a reader new to the Integral framework to digest his tables illustrating multiple calibrations of levels. For example, he describes Level 5 deriving from Robert Kegan's five orders of consciousness (p. 142), eight levels using Spiral Dynamics' values complexity (p. 144), followed by Jean Gebser's descriptors of five stages and Ken Wilber's eight levels of consciousness (plus transpersonal). Perhaps DeKay is making a scholarly case for his own profession to substantiate the proposition he settles on as an easy and obvious expression of levels? Ultimately, he expresses his preference for simplifying this plurality of levels into the Traditional, Modern, Postmodern, and Integral levels he introduced in Part 1. DeKay argues that "within professional practise, we can assume that designers as a group operate at some mix of lines at a range of levels (different levels for different lines) in thee or four basic structures." (p. 146)

It is at this point that DeKay introduces a critical definition relating to design structures. He defines them as shown in Table 1. The stretch for the reader comes when DeKay can't resist introducing in this chapter another level—Transpersonal—that he does not address in depth until Part 4. That being said, I found his Table 6.7 (p. 149) giving design examples and emergent issues or movements related to each of these structures (plus transpersonal) to be really helpful to grasp the relevance of levels as applied to design issues. Table 2 gives an example from each level.

That being said, in Chapter 7 DeKay outdoes himself by drilling down into the structures via design history. For each of the four levels he summarizes the key "dignities and disasters" in a way that the reader can really appreciate the evolution of design problem solving. What is more, DeKay uses this framing to build on the integral precept of "transcend and include" that he introduced on page 144. In a most elegant way, he demonstrates that the job of the (landscape) architect-designer, informed by history, is to transcend the disasters and include the dignities in his work. Chapter 7 finishes with a very powerful exercise for the reader to experience their own levels of awareness. It is essentially a guided meditation that might have been better saved for Chapter 12 on Expanding the Design Self—but again, it may be that DeKay is using it here as a foretaste for that chapter.

With levels and history providing a resilient preparation of the palate, and our appetites for more on lines having been whetted, DeKay does not disappoint. Chapter 8 opens up the six essential lines that all designers must address. He summarizes these in Figure 8.1 and then proceeds to explore them in more depth: Space & Form; Place & Context; Use & Program; Building Systems; Human Experiences; and Ideas & Meanings.[2] DeKay does an excellent job in expanding the Level 1 Traditional into all these lines (p. 169) and then does the reverse and takes one of the lines—Place & Context—and expands it into the four Levels. (The

Worldview Level	Worldview Descriptor	Design Structure
4	Integral	Transformative networking
3	Postmodern	Pluralistic practices
2	Modern	Independent professionalism
1	Traditional	Guild traditions

Table 1. Four structures in design; adapted from DeKay (2011, p. 146).

Worldview Level	Design Example	Emergent Issues/Movements
5 (Transpersonal)	Seminary, Jarna (R. Steiner)	Design to facilitate developmental evolution
4 (Integral)	Eishen Campus, Japan (C. Alexander)	Whole systems design; Pattern languages
3 (Postmodern)	Portland Building (M. Graves)	Contextualism; Environmentalism
2 (Modern)	Bauhaus School (W. Gropius)	Individualism; Personal expression
1 (Traditional)	Classical temples; Pyramids	Expression of divine order; Fusion of art, science, morals

Table 2. Sample of major levels of designers' worldviews, exemplars, and common issues; adapted from DeKay (2011, pp. 149-150).

only caution I offer is that I was disappointed that this level of detail was not offered for all six lines and four levels; perhaps an Appendix could have served this purpose or even an online reference.)

The *pièce de résistance* of Part 2 may be Chapters 9 to 11, where DeKay delves into what he has named "Prospects" (pp. 174-175). He acknowledges the analog drawn from Esbjörn-Hargens & Zimmerman (2009), who used this same matrix to identify eco-niches. What is so powerful with this matrix is that it must be a key "cheat sheet" for any integral designer to double check the quadrants, levels, and concerns for each prospect. I appreciated that this enabled parsing across Mediation (UL), Nature (LL), Behavior (UR), and Systems (LR). The two chapters that follow unpack in some depth first the interior prospects and perspectives and then the exterior ones. I found it very useful in tracking the examples, illustrations, and descriptors that DeKay started each section with an orientation within the prospect matrix and the quadrant perspectives. Throughout Chapter 10 and 11, DeKay also chooses powerful illustrations of architecture that reveal the characteristics he is exploring—so both the informed and the novice reader can appreciate how the framework he is offering has been adapted into built form. Keeping the sustainability inquiry alive, the author pauses to ask: "How do we configure the artefacts of culture in the context of a world in which the artefacts of Nature coexist in the same time and space?" and "How do we design to live on a living planet?" (p. 201).

While acknowledging the pivotal role of Green Building, DeKay proposes that it is necessary but not sufficient to the design needs we face today. He dares to grapple with the evidence of architectural icon Frank Lloyd Wright as an evolving modernist with integral tendencies and perhaps a transpersonalist even—but avows that Wright "is a Modernist thinker: breaking from the past, creating newness without preconception … at the same time … evidence … in which a higher mind is aligned 'organically' with …. Timeless Way … a topic for Part IV" (p. 225).

Chapter 11 embraces the Level 4 prospect on systems with holarchy, living systems, and unique solutions for particular places (p. 233). But I found it was the introduction of Bill Reed's design developmental trajectory that brought me back to appreciating the influence of the environment on design. Reed's five levels of design complexity are: high performance, green design, sustainable design, restorative design, and regenerative design. DeKay is certain that Reed's stages 1 and 2 conform to his Modern and Postmodern (omitting Traditional), but I found he left me uncertain as to how to locate stages 3, 4, and 5. However, at this point DeKay reinvokes Alexander's Pattern Languages (and Lyle's "Regenerative Design") and perhaps confused me about whether systems thinking can be located at Level 3 or whether it properly belongs in Level 4.

This quandary somewhat clouds the clarity of Chapter 12's description of eco-manager-strategist-pluralist-integralist designers. But in general, the level of granularity that DeKay attempts is laudable.[3] This

confusion is most evident in Table 12.1 (p. 244), where DeKay outlines the levels and what each is dissolving and developing. As a critic of leadership frameworks, I would propose that his dissolutions actually represent the center of gravity of each level as he has previously defined it; the developments represent descriptors of the next stage. This table would be improved with more infusion of adult stage development theory. But this is a small critique—I applaud the attempt. Chapter 12 concludes by drawing on Murphy's body practices and Roger Walsh's religious practices to identify suitable developmental practices for "designing designers." The Conclusion to Part 2 is an excellent summary of the six chapters and can be used as an abstract of a very intricate and detailed exploration.[4]

Part 3: Ecological Design Thinking

Part 3 of the book is challenging and intriguing. Challenging because it builds on the four perspectives of Part 1 and the 16 Prospects of Part 2; intriguing because it adds something completely new to the exploration of the designer's developmental trajectory that was proposed in Chapter 12. However, the introduction of something new, which DeKay calls "Shifts," created a bit of a dilemma for me. Because DeKay is so careful in laying out his arguments in Parts 1 and 2, it was a difficult bridge to understand the derivations of these six shifts. In the Introduction to Part 3, DeKay first points to the contribution to his thinking derived from Capra's core characteristics of a living system: patterns of organization, structure and life processes (p. 257). He then proceeds to identify these six perceptual shifts needed by the mature Integral Sustainable Designer as:

1. From objects to relationships to subject-object relationships
2. From analysis to context to analysis-context-ground
3. From structure to process to unfolding
4. From materiality to configuration to pattern languages
5. From parts to wholes to holons
6. From hierarchies to networks to holarchies (p. 261)

These make sense on an intuitive basis. In a subsequent personal communication with DeKay (July 22, 2011), I learned that his approach began with an inquiry in LR systems theory and ecology that took him into UR and UL and into the questions: "How do I have to think if I am going to design in terms of systems?" and "How to I have to look or perceive differently if I am going to think that way?"). However, in reading the book it was not until I discovered the application of these shifts in Part 4 that I gained an implicit understanding of how they emerge naturally from one another. In the last chapter of Part 4, the structures (which substantiate Part 3's perceptual shifts) emerge in holarchic sequence:

1. Materials (brick, glass, steel) [objects]; to
2. Elements (windows … columns as configurations of materials) [context, relationships]; to
3. Building systems (structural … roof systems as configurations of elements) [configurations]; to
4. Rooms and courtyards (configurations of building systems) [relationships, configurations, structures, parts/wholes]; to
5. Whole buildings (configurations of rooms and courtyards) [wholes]
6. [to cities as a holarchy of urban elements, block patterns, neighbourhoods … quarters … wholes]. (p. 309)

I was much more confident of Part 3's proposition about these shifts when I found them embedded in

this Part 4 sequence. There DeKay reveals the reasoning that results from the application of the Part 3 six shifts (as marked by the words in square brackets above). In reverse one can easily see this emergent holarchical pattern as the elegant simplicity on the other side of the complexity of the six perceptual shifts.[5] That being said, I would have found it very helpful to have this information about the roots of the shifts shared in the Part 3 Introduction.

At the time of writing, DeKay would not have had the insights from Barrett Brown's recent doctoral studies (Brown, 2011). Brown's research affirms these shifts as being what distinguishes the three levels of sustainability leaders, defined in terms of Susanne Cook-Greuter's (2004) and William Torbert's (2000) levels for Strategists, Alchemists, and Ironists. Brown identifies a key action that distinguishes each of these leaders is that Strategists work *on* the system, Alchemists work *with* the system, and Ironists work *as* the system. These would seem to tie very closely into DeKay's perceptual shift practices.

Each of the chapters in Part 3 explains the six shifts in terms that appear to build on Chapter 12 ("Expanding the Design Self"). In fact, each chapter traces the three stages of the Modern, Postmodern, and Integral (AQAL) capacities that emerge after each shift. Essentially these details explicate the path of professional development for the designer.

Following DeKay's guidance (and acknowledgement of the steep learning curves involved), the Integral Sustainable Designer would embody the qualities of: perceiving subject-object relations, being able to shift in any direction from analysis to context to ground, remaining open to a path of unfolding, communication in pattern languages, seeing holons (and their parts/wholes simultaneously), and traversing the complexity of holarchies (systems of hierarchies and networks operating holarchically). If one wants a quick guide to each of these integral qualities, the reader can jump to "The Wider Embrace" sections at the end of Chapters 13, 14, 15, 16, 17, and 18.

DeKay excels in his mastery of not just complexity in Part 3, but in his appreciation of living systems.[6] He draws heavily on Capra and the "godfathers" of systems thinking including Bertalanffy, Prigogine, and Bateson. (However, I am curious why David Bohm's implicate order was missing from the discussion of unfolding.) In looking for examples of designers who are actually in the realm of being able to apply these shifts, especially relating to wholes and holarchies, DeKay is able to point to 17 design examples from both well-known and unknown architects from many parts of the world. Although Alexander is again identified, it appears that evidence is emerging from all four points of the compass as well as all four of the quadrants. However, what I found missing that would have strengthened the arguments of the process, pattern, and structure of the shifts is an inclusion of some references to adult development literature. The opportunity exists to provide such an explanation through at least two sources he previously cited; namely Kegan and Beck/Graves. In particular, Kegan's well-framed theory of adult change based on subject/object relationships (which is briefly mentioned but not well explained) offers substantiation for all six of the perception shifts. Beck and Cowan's (1996) and Graves' (2003, 2005) theory of change would also help to support DeKay's argument for the natural evolution of perceptual shifts.[7]

Part 3 is especially well framed by DeKay's design questions, which are peppered throughout each chapter, with the most complex questions included in "The Wider Embrace" sections. A juicy example of such questions is this one: "With what entities beyond the scope of this design, is the design in dialogue and collaboration for the purpose of creating a greater whole?" (p. 271).[8] The test of the validity of Part 3 may come from the "Big Challenges" recently explored by the Belmont Forum and the International Social Sciences Conference in the European Union (Belmont Forum, 2011); namely, how could DeKay's six perceptual shifts address the challenges they name? These include Observing Environmental Systems, Responding with Global Environmental Change Research, Confining Environmental Damage, Generating Transdisciplinary Connections, and Forecasting Environmental Impacts. I would propose that applying DeKay's integrally informed perceptions along with the Expanded Design Self qualities explored in Chapter 12 would deliver

the kind and quality of answers that the Belmont Inquiry seeks (perhaps with a modicum of Holacracy [Robertson, 2007] thrown in for effective decision making).

In summary, Part 3 integrates many concepts from the first two parts of the book while adding a fresh new angle to the designer's consciousness and culture as expressed in process, structure, patterns, and holarchical emergences. It is an impressive start to future developments (as DeKay states he intends to take on).

Part 4: Designing Relationships to Nature

Part 4 is the dessert of the sumptuous four-course meal that DeKay has prepared. Its purpose is to reveal the relationships of designing to nature. It intends to guide the designer to "manifest the next level in a local culture's dominant worldview about Nature" (p. 425). This section of the book starts with some necessary definitions of Nature and its relation to Culture, Form, and Pattern. To that end, DeKay introduces us to the five levels of complexity and their related metaphors and design intentions as shown in Table 3.

DeKay builds on the Culture/Nature column in the matrix he presented in Part 2 showing the sixteen prospects. In that framing he showed that Culture's relationship to Nature could be traced from the Traditional to the Integral through managing, using, saving, and uniting with Nature. In Part 4, he takes this one stage further by adding the Transpersonal level of complexity so that he can demonstrate how to design appropriately for the culture that is at the Integral stage of development. Following his conjecture, such people will want (if not long for) the next level of aesthetic expression as they reach for their next highest level of development within their habitats.

DeKay unfolds these five levels of LL metaphors and intentions by proposing two injunctions for each level of development. These are so beautifully aligned with the levels and gracefully unpacked for the reader that it is difficult not to want to read and re-read the several presentations of the 10 injunctions: first in Chapter 19, then in each of the succeeding five chapters, and finally recapitulated in the conclusion to Part 4. These 10 injunctions are like five sets of symphonic themes that are explored in a kind of hyperlinking iteration that continues to reveal the depths of a breathtaking series of vistas that open up to a wider and wider embrace.

In a Genesis-like way, the Traditional level injunctions are framed as: "Design spaces for humans to fit natural rhythms" and "Experience begets relationship begets meaning" (p. 427). As in the following levels, each of these injunctions is lyrically explained and then supported by strategies for the designer to practically apply the injunctions.

DeKay offers many delectable tastings to convey his meaning and the value of his propositions. As a teacher of Sustainable Community Development, I especially loved the question, "Could delight lead to the embrace of sustainability?" and the injunction to create "symphonies of the senses" (p. 427). The author draws on poets to convey his meaning and makes effective use of Wendell Berry's poem "Healing" both in Chapter 20 on Traditional Relationships and Chapter 24 on Transpersonal Relationships. DeKay borrows this multiplicity of literary structures, patterns, and processes to convey the continuous inquiry he sets up on the relationship of form and pattern as they unfold through the five levels. Like a symphony in five movements, the reader is transported from one level (and chapter) to the next with enticements and satisfactions of his/her appetite.

The Modern level offers the injunctions: "Fashion materially with natural origins" and "Express touching lightly; express plenitude" (p. 427), exercising the paradoxes and polarities that are embedded in many of the combinations. DeKay here reiterates the relationship between fit and form and honors this level with the logic of that relationship.

The Postmodern level enjoins the designer to: "Cohabit the site with 'all our relations'" (borrowing the term from the First Nations description of their relationship to the world), followed by Injunction 6: "Engage the metaphoric power of nature" (p. 428). As in the less complex levels, DeKay invokes the relationship to the level of complexity at its prime or peak expression, really building on the dignity of this level (and reminding

the reader to reconsider what was conveyed about dignities in Part 2).

The Integral injunctions are: "Source design order in the great order" (p. 428) and "Manifest ecological process as inhabited living systems" (p. 429). Thus DeKay invokes the living systems level of complexity and opens the door through the order of ecology to the higher order of nature, which the designer is called to unite with. Beyond Integral, the Transpersonal injunctions become reverent and spiritual: "Light a blazing fire with beauty" and "Create opportunities for silence" (p. 429). The ninth injunction is unpacked by a magnificent tribute to the power of Nature as the source of beauty and the capacity of beauty to release greater goodness and truth, but also to inspire the designer *as* nature to create designs that extend the expression of beauty through the designer. The tenth injunction to create a space for silence is a deeply centering place for DeKay to bring us to and leave us with. It is the place to consider all that he has offered and appreciate the immensity of his vision for Integral Sustainable Design in the conclusion to the whole book.

As noted above, I had been seeking some connection to Alexander's 15 properties of a living structure since he was introduced in Part 2 (largely because I had accorded much recognition to Alexander in my own book).[9] It was with both relief and delight that I finally found them embedded in the chapter on Integral Relationships with Nature. The integration and coherence of these properties as they reflect the characteristics of centers, wholes, and holons and their intimate relationship to living systems is a force majeure in DeKay's exploration of Nature. It further underpins his proposition in Part 3 that Alexander offers the only real foundation for a process-based theory that would be required for relating architecture to ecology. In the 15 properties we see more fully how Alexander substantiates that with his own words.

For a true Integral Sustainable Design, the LR elegance of Alexander would have to be expanded into UR completeness, LL embrace, and the UL awareness to which DeKay aspires. Nevertheless, the elegance of Alexander's living structure demonstrates how complexity increases with each additional property. It resonates with what I surmise underpins the perceptual shifts DeKay describes in Part 3. Like DeKay's Part 3 trajectory of form-based evolution of complexity from material to element to configuration to whole to holon to holarchy, each of the Part 4 injunctions builds on an increasing LL level of complexity in how the designer is coached to design for relationships that matter to the different levels of people who live in different habitats. More than the preceding parts, Part 4 reveals DeKay's passions, poetry, and literary prowess. This section of the book is indeed the denouement to a very magnificent opus and the integral reader is left feeling fully uplifted. So many of my tensions and curiosities were rewarded with a re-reading of this section, my impatience ceased, and my admiration of the author increased. I also am pleased to see in this section that DeKay lands on Integral as being the level where living systems and complexity are fully realized (whereas I found it somewhat inconsistently applied in Part 2).

Worldview Level	Metaphor of Nature as	Design Intention to Connect People to Nature as
5 (Transpersonal)	Great self manifesting	Access to the unity of spirit
4 (Integral)	Great matrix of perspective	Complex living systems
3 (Postmodern)	Great web of life	Community
2 (Modern)	Great biosphere	Resources and services
1 (Traditional)	Great primeval garden	Primal force and structure

Table 3. Designing relationships to nature, metaphor, and intention; adapted from DeKay (2011, p. 426).

I would caution that for the non-integral reader this section is too much for one sitting. However, as DeKay writes in the Preface, it is clear that each of the book's four parts merits a full semester course (or more) to fully do it justice—in fact, the book could be the basis for a full graduate program in Integral Sustainable Design. For that reason, I recommend that each part of the book be given its proper due and be read for the different approaches each brings to the design table.

Conclusion

The conclusion of *Integral Sustainable Design* leads us back to the early theme of the book, like a final movement of a symphony. We feel the aesthetic sense of a recapitulation that is neither boring nor inconsequential. DeKay leads this chapter with a proclamation of a need for a general Integral Design theory. Such a statement has a strong resonance with the general systems theory search commenced 60 years ago by the Club of Rome and its elite systems theorists. DeKay is no apologist for the contributions of the Traditional, Modern, or Postmodern theorists and practitioners because he seeks to include their approaches but does not want to be restricted by their drawbacks.

Like myself (Hamilton, 2008), DeKay proposes that his integral maps are neither complete nor sufficient—but are quite necessary to discern better navigation and discover more of the "territory." Fearlessly, he maps out the territory an Integral Sustainable Design metatheory would address, like pointing out instructions for design practice; wholeness of Beauty/Truth/Goodness; ecology of design knowledge; reconstruction and reintegration of fragmented design knowledge; resolving tensions between different understandings of aesthetics; responding to the explosion of complexity while "maintaining the unique valid aspects of difference"; addressing a vast plurality of needs, values, and worldviews; design regionalism; origin of form; creating the bones of a common professional practise framework; plumbing the depths of human psychological development; and the framing of a design critique and evaluation protocol. He proceeds to propose an implementation of Integral Methodological Pluralism for design so that both designer and design project can situate their Kosmic addresses, to reveal the validity of their methods and integrations.

Continuing to develop the bones of a community of Integral Sustainable Design practice, the second section of the conclusion focuses on "commitments." These 12 commitments reiterate principles that DeKay unfolded in the four parts of the book. He makes a sweep through the commitments to designing with AQAL perspectives and approaches, with complex prospects, willingness to shift views from self to culture to nature, and to embrace the state experiences inspired by Nature.

Although these commitments underscore DeKay's belief that action must make theory real and manifest, he moves on to speculate about the critical issues for the evolution of Integral Sustainable Design. In doing so, he demonstrates the value of serious professional self-assessment while articulating multiple ways forward. These include: an Integral Design Yoga; Integral Sustainable Design educational model (especially for the 16 Prospects); "models of practices, method and techniques" that bridge the injunctions (from Chapter 12) and the four quadrants and four-plus levels of complexity; and a whole list of topics hinted at but not developed in the book—states, types, lines, Integral Methodological Pluralism, and well-being and pathologies at each level.

DeKay relates the experience of visiting Gandi's house in Sevagram, India, with its simple but integrated design to Self/Culture/Nature and compares it to his life back in America. Moving beyond his highly competent writing style on display in the majority of the book, he allows himself to become quite poetic:

> This non-separateness, an integral non-duality with nature, was made clear to me when I saw a communal water pump …[from which] a simple and elegant overflow channel guided wastewater along the ground to a trench, encircling mulch at the base of a single shade tree. Every time the pump was used, the tree was watered…. In the

> heat of the day, the tree returned the favour as it cooled the ground for an afternoon of napping, reading or contemplation. (pp. 437-438)

While DeKay offers this as an object lesson of how a city could manifest an integration of form with nature, it is also a beautiful metaphor of the experience of reading this book. The reader feels that the author's vision has been substantiated by pumping through the four parts of the book and at this point feels refreshed and ready to lay it down so that its powerful design, direction, and discourse can incubate and activate in our soul. We are given an image of Beauty, Truth, and Goodness that empowers us to see the essence of Integral Sustainable Design as releasing life and aliveness in the world. We are embedded in our existence of Self/Culture/Nature and as designers, DeKay has given us the lenses and tools with Traditional approaches to design "on" these qualities; with Modern capacities to design "for" these qualities; with Postmodern perspectives to design "with" these qualities; and with the Integral approach to design "as" these qualities.

Like the final return from the core of a labyrinth, when we look back over the path this book has lead us through we realize that we have been traversing an elegantly designed unfolding of the body, mind, heart and soul. We see our journey has introduced us to an invaluable book for integral designers (not only of architecture, but all manifest form) and sustainability leaders that guides, coaches, and inspires with intimately integral wisdom.

We finish back at the beginning where we started "and know it for the first time," seeing more clearly our "place in the family of things" (Mary Oliver, as cited in DeKay, 2011, p. 431). What's more, we have immersed "ourselves in the beauty of Sustainable Design as living Nature" and become more fully alive to "a living world [that has] called us forth … to create an Integral Sustainable Design" (DeKay, 2011, p. 441). In all respects, my expectations of DeKay's work have been exceeded, and I wholeheartedly recommend this book to all those who seek a manifesto that meshes Integralism, Sustainability, and Design.

NOTES

[1] The omission of Alexander's qualities created a delicious tension for me because I anticipated that it could strengthen DeKay's argument for the role of nature in his description of Integral Aesthetics. However, I was finally rewarded in Part 4 where Alexander's principles are given a place of prominence in "Designing Relationships to Nature."

[2] Another one of my small bones of contention related to the inexperienced reader is that DeKay does not keep these descriptors consistent from one page to the next (e.g., p. 166 differs in the table descriptors from p. 167 in the text).

[3] As a professor who has been grading leadership competencies for the past 10 years at the postgraduate level, the differentiations between Levels 3 and 4 are often difficult because Level 4 is still manifesting in the world (without full evidence of what is needed to support this level of development).

[4] If asked what are the key arguments in Part 2 for making cities sustainable, I would point to AQAL (p. 135); Form and Design Lines (p. 166); 16 Prospects (p. 234); Trajectory of Design (p. 234); and the Conditions for Change in Design Selves (p. 244).

[5] On my first read, I surmised the holarchy was the source of the six shifts and was subsequently set straight by DeKay who allowed that "the shifts are the roots of the results on page 309 and not the reverse—although it might also work the other way around for some minds" (personal communication, July 22, 2011).

[6] The level of complexity explored in Part 3 argues for the addition of a glossary to the book (or as an online adjunct) to assist the novice reader through the maze of terminology.

[7] While I believe the reader would be better served with the linking of holarchic evolution and the expansion of adult development processes, I was satisfied with DeKay's selection of the six shifts. This definitely adds to the developmental pathway of designers of all kinds, particularly designers of sustainability solutions.

[8] All of the questions from each chapter are collected together in a very useful appendix at the end of the book, which

can serve as a wonderfully practical primer/checklist for any Integral Sustainability Designer.

[9] Alexander's 15 fundamental properties of a living structure: levels of scale, strong centers, boundaries, alternating repetition, positive space, good shape, local symmetries, deep interlock and ambiguity, contrast, gradients, roughness, echoes, the Void, simplicity and inner calm, and not-separateness.

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