

Integrating Experience through the Work of William Newell and Maxine Greene

by

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Abstract: This article focuses on an article by William H. Newell (2001): "A Theory of Interdisciplinary Studies" (*Issues in Integrative Studies*, 19, pp. 1-25). It explores the spatial and temporal dimensions in the architecture of urban form, applying the essential inquiry process that begins in sensory experience. This process of inquiry, a form of mapping experience, proceeds from the work of Maxine Greene, educational philosopher and existential phenomenologist, responsible for the development of an arts-based methodology known as aesthetic education. Newell's approach to interdisciplinary understanding of complex systems resonates powerfully with the philosophical underpinnings of aesthetic education. With Newell's interdisciplinarity and Greene's philosophy as integral guides, the article analyzes how weaving experience, inquiry and interdisciplinary work can result in the development of layers of meaning and understanding about the urban space.

Keywords: aesthetic education, arts integration, complex systems, inquiry-based learning, Maxine Greene, social imagination, William Newell

*The initial mystery that attends any journey is how did the
traveler reach his starting point in the first place?¹*

Introduction

I am standing on a street corner in the city. All around me is evidence of the built world and here I stand in relationship to it, bringing to this moment all that I am and know. The depth of my interaction with this space relies on my awareness of phenomena perceived from various perspectives, with certain approaches brought to bear on how I process my experience. How I

¹ *Journey Around My Room* is a compilation by Ruth Limmer (1980) of the work of poet Louise Bogan. This excerpt can be found on p. 2

develop such awareness, and what I do next, using these approaches, is the subject of this article.

Interdisciplinarity and aesthetic education, two approaches to learning that seek to develop tools of awareness needed for such an adventure, resonate with one another in remarkable ways. The article focuses on an examination of these approaches, embodied in the work of William Newell and Maxine Greene and associated others, within the context of specific lived experience, represented here through the examined experience of standing on the street corner.

Along the way the process of experiential mapping – a way of capturing information and experience in a single construct as a means of interdisciplinary and aesthetic integration – is explored, as a means of discerning relationships between and among perspectives, facts, anecdotal information, and whatever else is discoverable on the corner of the city street, acknowledging that there is “no single interpretation” of place and time (deNardi, 2014).

Interdisciplinarity and Aesthetic Education

One approach brought to bear here is the development of aesthetic regard, using an arts-based methodology known as aesthetic education (AE) developed by Maxine Greene and artists who worked with her for over thirty years bringing the approach into being. The other approach is interdisciplinarity, using a process defined and theorized by William Newell (2001), founder of the Association for Interdisciplinary Studies, focusing on his article “A Theory of Interdisciplinary Studies” (henceforth referred to as “Theory”). In this article, Newell argues that interdisciplinarity is “necessitated by complexity, specifically by the structure and behavior of complex systems,” and that it is complex systems that provide a rationale for IDS, “complexity generated by nonlinear relationships among a large number of components, and on the influence of the components and relationships of the system on its overall pattern of behavior” (p. 7).

Greene defines AE, a methodology that considers works of art “privileged objects” created for the sake of particular aesthetic regard, in “Variations on a Blue Guitar”:

We do not regard aesthetic education as in any sense a fringe undertaking, a species of “frill.” We see it as integral to the development of persons – to their cognitive, perceptual, emotional and imaginative development. We see it as part of the human effort (so often forgotten today) to seek a greater coherence in the world. We see it as an effort to move individuals (working together, searching together) to seek a

grounding for themselves, so that they may break through the “cotton wool” of dailyness and passivity and boredom and come awake to the colored, sounding, problematic world. (Greene, 2001, p. 7)

One might imagine the street corner, then, as a complex system, a kind of collective work of art, and an opportunity for the person-in-development to confront the complexity of the “colored, sounding, problematic world” and its “nonlinear relationships” through an integration of interdisciplinary and aesthetic inquiry.

A Little History

Aesthetic education (AE) – as developed by Maxine Greene and teaching artists at Lincoln Center Institute (LCI)² – and Interdisciplinary Studies (IDS) – as developed by William Newell concurrent with the creation of the Association for Interdisciplinary Studies (AIS or the Association for Integrative Studies, as it was known until 2012) – each began its life during the same era in American history. The late sixties and subsequent seventies were a potent time in which powerful notions of change and challenge captured the imagination of many dedicated to new ideas about emancipation, education, and reform.

Newell and Greene were each particularly inspired by this historical period, bringing to their work deep connections to philosophies of imaginative reform; they were impassioned agents who developed strategies and tools for changing and bettering human lives. Both created methodologies for achieving that end by weaving together their own ideas with those of other like-minded thinkers, past and present, working to imagine and enable a better future. AE methodology seeks to break down walls that stand between individuals and works of art – walls that block entry into authentic transactions that encompass one’s own experience of life and the works of art that reflect human life experience. IDS methodology seeks to break down walls between disciplinary views of the “truths” of the world, encouraging understanding of these disciplinary views as ways of knowing, while creating pathways into new knowledge through integration of these multiple views.

IDS and AIS inception

The Association for Interdisciplinary Studies came into being in the late 70s but was a gleam in Newell’s eye earlier, as he reveals in a 2008 article

² Now called Lincoln Center Education (LCE).

for the AIS journal entitled “The Intertwined History of Interdisciplinary Undergraduate Education and the Association for Integrative Studies: An Insider’s View”:

If the late 1960s was a time of open-ended societal possibilities, epitomized for me by the experimental college movement, it was also full of such turbulence that I feared American society – possibly the entire Western world – might be torn apart by social, political, cultural, racial, and generational clashes. The giddiness of reinventing America as a Great Society in the wake of Kennedy’s New Frontier was sobered by race riots in the summer of 1968 and by radical protests against the war in Vietnam. A vigorous young presidential hopeful and a charismatic civil rights leader were slaughtered by assassins. Cities like Paris and Mexico City had seen violence and social chaos fully as unsettling as I had witnessed in Philadelphia, and Russian tanks had just crushed Czechoslovakia’s bid for freedom in the Prague Spring. I told myself there had to be better ways of promoting societal change, ways that reformed society instead of demolishing it or unleashing a conservative backlash. (Newell, 2008, pp. 2–3)

In the late 60s, while completing work on his dissertation in economics at the University of Pennsylvania, Newell was hired to teach two sections of an interdisciplinary social science course at Temple University. He believed that in order for students to confront the complex problems of the world via interdisciplinarity, they needed first to be familiar with the “basic concepts and theories of each [relevant] discipline.” However, he had discovered, in developing courses during these early days of “find-out,”³ a sense of uneasiness in himself in his work among disciplines in which “political ideologies” presented themselves as “the one right way of thinking.” He was concerned and “increasingly dismayed by systems of belief that claimed to corner the market on Truth, whether they were promulgated by disciplines, political parties, organized religions, or cultures” (Newell, 2008, p. 3).

At this same time, Maxine Greene, who was then Professor of Philosophy of Education at Columbia Teachers College and soon to become “Philosopher in Residence” at Lincoln Center Institute, was feeling similar unease with the set “truths” that seemed to confront learners in school. She was interested in being part of educational reform at LCI during the turbulent

³ “The Road to Find Out” is a song by then-named Cat Stevens (now Yusuf Islam) that appeared on the album “Tea for the Tillerman,” released 1970. Its lyrics reflect the tenor of the time-period as one of openness, adventure and curiosity.

times of the 60s and 70s; she later shared her thoughts on the period in a short video, where she stated: “During the Civil Rights Movement and the Vietnam War, going to demonstrations and organizing demonstrations – those were my big moments... I liked being part of a mass that had ideals” (“Inside the Academy: Maxine Greene,” 1998).

An existential phenomenologist, Greene saw herself as always in a state of becoming, never finished, believing the goal of education was to enable learners, too, to awaken to a contingent, verdict-free world.

We are concerned with possibility, with opening windows on alternative realities, with moving through doorways into spaces some of us have never seen before. We are interested in releasing diverse persons from confinement to the actual, particularly confinement to the world of techniques and skill training, to fixed categories and measurable competencies. We are interested in breakthroughs and new beginnings, in the kind of wide-awakeness that allows for wonder and unease and questioning and the pursuit of what is not yet. (Greene, 2001, p. 44).

In much the same spirit, in 1970 when hired to teach in the experimental program called the Paracollege at St. Olaf College in Minnesota, Newell pursued a more enlightened view of knowledge-making than that long familiar in disciplinary contexts. He had seen how the interdisciplinary programs in operation in the 1960s – mostly at “experimental colleges” such as Antioch, Bard, Bennington, Goddard, and Sarah Lawrence – “reflected the vision of a single educational theorist or charismatic leader such as John Dewey, Robert Maynard Hutchins, or Alexander Meiklejohn” (Newell, 2008, p. 5). At the Paracollege, too, students “focused on topics, issues, or fields of study, not on individual disciplines,” moving easily between and among these. As well, students were encouraged to think critically about all aspects of their education, making connections between these and social and political realms. Still, with so little information about interdisciplinary studies available to him and his colleagues at this time the work proceeded “ad hoc” (p. 5).

While Newell was part of an interdisciplinary movement that was proceeding “ad hoc” in a growing number of unconnected institutions – a situation that led to his creation of AIS – LCI was itself evolving. AE methodology was clarified as Greene and teaching artists worked together to establish specific processes that characterized the goals of the LCI program – to open works of art to perceivers in ways that fostered opportunities for aesthetic experience. The work of Dewey, particularly his arguments regarding transactional experience, a term he used to describe the bringing together of “ir-

reconcilable separates” (Dewey & Bentley, 1949, p. 120), was highlighted especially when Greene sought to explain the “integrative nature of doing.” Greene used the term “artistic-aesthetic” to “effectively embrace the domains of doing and seeing” which she (and Dewey) saw as inseparable (Sullivan, 2000).

Newell (2010) was strongly influenced by Dewey as well. In “Undergraduate General Education” he wrote, “Dewey sought a balance between passing on the cultural heritage and critiquing it. Dewey advocated starting with students’ interests and then drawing them out into larger contexts, where insights into pressing social and political issues could be achieved through discussions among people with different perspectives” (Newell, p. 362).

The importance of beginning with students’ interests and connecting them with larger contexts is present in AE as well. Greene saw works of art as inherently powerful vehicles for the development of imagination, empathy, and compassion, offering students opportunities for personal connections to works of art, for one to become what one is not yet. Her AE methodology values the transformative transaction that can occur between the observer and the artwork in the moment of encounter. In this Greene was an avid supporter of Dewey’s view that the art object has “esthetic standing only as the work becomes an experience for a human being” (Dewey, 1934, p. 4). She said,

You have to be fully present to it – to focus your attention on it and, again, to allow it to exist apart from your everydayness and your practical concerns. I do not mean that you, as a living person with your own biography, your own history, have to absent yourself. No, you have to be there in your personhood, encountering the work much in the way you encounter other persons. The proper way to encounter another person is to recognize the possibility of some fresh perception or understanding, so you may know the other better, appreciate that person more variously. (Greene, 2001, p. 54)

A work of art, perceived in its entirety as experience, is not reduced to a “case history” (p. 54), but rather is seen as involving knowledge transformed, something “more than knowledge because it is merged with non-intellectual elements to form an experience worth-while as an experience” (Dewey, 1934, p. 290).

In her teaching, Greene guided students into conscious aesthetic encounters with works of art that could serve as pathways into deeper understanding of fundamental social issues. She held that the ability to engage personally with works of art, taking in the whole and noticing what is there to be noticed, might help students develop a sense of agency in their own lived

lives. “Aesthetic education,” she believed,

is a process, in part, of educating persons into faithful perceiving. It is a means of empowering them to accomplish the task of perception from a unique standpoint, against the background of their own personal history. Perceiving involves a participation in what is being perceived; it is important to remember that. We perceive things as wholes, directly, immediately. (Greene, 2001, p. 55)

The experience of standing on the street corner, a sort of collective work of art, is an opportunity, then, for perceiving the whole and its parts much as one would a single work of art – as involving knowledge transformed and transformative. According to Dewey, achieving aesthetic experience itself is a skill to master, and one seeking to make sense of the “tangled scenes of life” (and, for our purposes, the dynamic world of the street corner) can make them “more intelligible not by reduction to conceptual form, but by presenting their meanings as the matter of a clarified, coherent, and intensified or ‘impassioned’ experience” (Dewey, 1934, p. 290). He saw as problematic theories that isolate

one strand in the total experience, a strand, moreover, that is what it is because of the entire pattern to which it contributes and in which it is absorbed. They take it to be the whole. Such theories either mark an arrest of esthetic experience on the part of those who hold them, an arrest eked out by induced cerebral reveries, or they are evidence of forgetfulness of the nature of the actual experience in favor of enforcement of some prior philosophical conception to which their authors have been committed. (p. 290)

Newell writes of the importance of parts cohering into wholes when people are doing interdisciplinary work as he describes his early IDS work at the Paracollege where there was concern “that students working towards their general exams were focused on familiarizing themselves with disciplines without regard for how to integrate their insights” (Newell, 2008, p. 7). There was concern, too, that students who don’t know how to integrate will become citizens who don’t know how to integrate:

The need, I thought, was for holistic, not general, thinking. We need specialists in interdisciplinary problem areas to complement the specialists in disciplines. And we need citizens trained in interdisciplinary as well as disciplinary thinking, citizens who can understand both where the disciplinary experts are coming from and how their proposed solutions fit into the larger problems confronting society – in short, citizens who can discuss and vote intelligently on the issues of the day. That analysis led me to believe that

the liberal arts or general education component of American higher education needs to be transformed. (Newell, 2008, p. 15)

His hope, as he moved on in 1974 to Miami University and further work on the development of IDS and, eventually, to the formation of AIS, was “that this transformation in education would in turn transform the way society addresses societal problems” (p. 7).

Both Newell and Greene can obviously be viewed as innovators, infusing their work as it evolved in these early days with heartfelt belief in the importance of education as a path to civic engagement and social action. In a time of great social and political turbulence, they each developed ideas about education in ways that provided direction for change not just in academe but in the world-at-large.

The Street Corner as Transactional Experience

And what of we who seek to stand or otherwise engage, wide-awake, with the real world complexities our street corner experience epitomizes? And, in such a circumstance, how might there be a way for us to weave present experience and various provinces of knowledge together, allowing understanding to come into coherent, integrated being? How might this process, grounded in AE and IDS, lead to problem-solving in the world, progress brought into being by consciously motivated citizens-in-the-making? We must bring to our quest for answers to these questions not only our consideration of Newell and Greene, but also consideration of those by whom they were influenced.

A particularly strong connection between Newell, Greene, and their “mus-es” comes to light as we examine how they each thought of actions necessary to bring about such changes as they hoped to see. Newell has identified the process of “futuring” as one he implemented to bring his “vision” of change to the American system of higher education (Newell, 2008, p. 15). “Futuring,” originally conceived by Kenneth Boulding, the British economist and interdisciplinary scholar, is described by Newell as a “technique” by which “one starts by examining the gap between the world the way it is and the world one envisions, and listing all the changes required” (p. 15). Indeed, it was in this way that Newell first imagined creating a “national association of interdisciplinarians” such as the one that would eventually become AIS (p. 15).

Greene engaged in “futuring,” too, in her case relying on Jean-Paul Sartre’s notion of a “project” (as cited in Greene, 1978b) – a way of thinking about “what might be” – that is, what might emerge from what is. As Greene

put it in an article from 1978,

[W]e may be moved to choose our project because of certain lacks in a social situation in which we are involved: to repair those lacks and make that situation what it might be, rather than what it is. Or our choice of project may be connected with our notion of what we want to make of ourselves, of the kinds of identity we want to create. In either case, we are trying to become what we are not yet by acting on perceived deficiency or on perceived possibility. (Greene, 1978b, p. 26)

The street corner experience, for all its immersion in the present moment, in what is, is also one of transaction in the context of possibility, of “future,” in the context of what might be as one integrates one’s perceptions into a whole: pavement, facades of buildings, wide and narrow streets, people performing their daily “ballet,” shops, traffic, commerce, noise, smells – along with history, those unseen and perhaps forgotten layers of human activity that lie just out of sight, yet accessible to a seeker of truths (Jacobs, 1992, p. 162).

Greene describes in detail how we might achieve aesthetic experience on the street corner:

It is indeed the case that you can have an aesthetic experience in the natural world, even on the streets of [a] city...There are the angular shadows of the buildings, the hazy look of the towers downtown, the sometimes gray-blue light over the river, the green of leaves against stone, the occasional flash of the sun on a windowpane, the colors of the fruit on the Broadway fruit stands, the sound of a street violinist, the turn of a lithe body on a skateboard, the sun on a child’s yellow hair. Now you know very well that, if you are primarily concerned with getting [somewhere] on time, keeping your eyes on the traffic, peering to see if the bus is coming, you are not going to pay heed to shadows or gray-blue light tones or the colors of apples and cherries and pears. The boy on the skateboard will be nothing but an obstacle. The yellow-haired child will be part of the crowd. It takes a kind of distancing, an uncoupling from your practical interests, your impinging concerns, to see what we sometimes describe as the qualities of things, to make out contours, shapes, angles, even to hear sound as sound. If you can uncouple in this fashion, if you are still for a moment, if you take the kind of stance that allows the river or the towers or the fruit stand to appear in what might be called an aesthetic space – one you would be bringing into being by your paying heed – you can indeed have an

aesthetic experience with the world around. (Greene, 2001, p. 53)

Newell would agree that we can (if understanding and eventual action are our goal) bring to the street corner (and any real life experience it represents) our own personal history as well as a wealth of diverse knowledge. In “Theory,” Newell (2001) advises that before proceeding with an interdisciplinary approach (in other words, with integration of the multitude of perceptions one experiences in a street corner situation), one must ascertain whether the situation merits such an approach. This determination rests on the concept of “complexity” and behavior (p. 1). Newell (2001) suggests we consider the problem of system “quality” through the metaphor of a GIS map of an urban area – with its “overlay” of multiple simple systems (“maps of water and sewer districts, fire districts, school districts,” etc.) creating a more complex representation of these various types of information. One must consider these informational layers individually and in dynamic relationship with each other to approach understanding the behavior of the complex system.

As noted earlier, a work of art as the subject of an investigation using aesthetic inquiry similarly contains a multiplicity of “systems” (engineering of materials, architectural formations, sound generation, contextual considerations, use of space and time, human expression, etc.) waiting to be perceived as a whole and in its parts. And to begin to approach its complexity, one must attend in multiple ways, individually and all at once in the totality of the work of art. Approaching the collective work of art that is the street corner requires embodying both the work (in its verb form) of art – in other words, aesthetically noticing what is there to be noticed – and at the same time perceiving examples of myriad disciplinary models of human activity. This is an integrative transaction that can result in an as yet unknown and perhaps unexpected “future” (Newell, 2001, p. 11).

In addition to involving multiple urban systems, well approached, no doubt, through the scientific disciplines, the street can involve elements more suited to approaches drawn from the humanities and social sciences (Repko, Szostak, & Buchberger, 2014). After all, history is in the making here, as are multiple creations of humanity in the form of architecture. Embodied social issues pass along, and perhaps ride the rails under, its pavement. Young and old alike are represented in all their current issues and ancestry. In consideration of the complex system – in this case the street as complex system – within the context of the humanities, Newell suggests that we think about “local knowledge” and its impact on the observer, or in our case, the witness standing there (Newell, 2001, p.10). The person, present amid the complexity (of the street corner) is capable, Newell says, of creating “indeterminacy” through interaction with the system (of the urban setting), forming “feedback loops” – “even changing relationships that shape

the overall behavior of the system.” Newell describes this as a kind of reaching “beyond separate influences to an appreciation of the overall behavioral pattern of the system.”

What complex systems theory contributes to our interdisciplinary understanding of these influences is that they form an overall pattern that promotes unique behaviors at each location within the system. Thus, an interdisciplinary interpretation of a text must reach beyond separate influences to an appreciation of the overall behavioral pattern of the system. And it must recognize the systemic as well as the individualistic sources of uniqueness, author and text. (Newell, 2001, p. 11)

Change, then, seems a significant factor in the aesthetic and interdisciplinary experience, as individuals (like the witness on the corner) interact with the system in the moment (p. 9). Using Greene’s approach to encounters with phenomenal experience, one can think of the person and the place together as always in a state of becoming, never finished. The body itself, perceiving, traveling along, can be viewed as a complex system complete with feedback loops. And recent work in brain science has discovered more than simple feedback loops at work as the brain processes sensory information. “Nested feedback connections” seem to show that higher level areas of the brain talk back to lower ones, feeding them previously stored information to assist in creating the present moment’s “reality” (Eagleman, 2012, p. 46). Imagine the dizzying layers of interaction and feedback at play in the midst of the street corner experience, always in a state of change.

Making sense of this flow of experience lives within the methodologies of both aesthetic education and interdisciplinarity. Each approach provides tools that enable learners to proceed in meaning-making. Szostak (2017) reminds us in his recent chapter on creativity and interdisciplinarity, “Interdisciplinary Research as a Creative Design Process” in *Creative Design Thinking from an Interdisciplinary Perspective*, that the interdisciplinary research approach consists of several steps: “asking a suitable research question, gathering insights from relevant disciplines and evaluating these, mapping interdisciplinary linkages, creating common ground among these insights, integrating disciplinary insights, developing a more comprehensive insight, and then testing, reflecting and communicating” (pp. 18-19).

Aesthetic education methodology entails certain “steps” as well, enabling transactions with a work of art and aesthetic experience in general, that involve four specific processes: inquiry, art-making, reflection, and the making of contextual connections.

Based on the work of artists, our version of aesthetic inquiry fol-

lows closely the process artists use as they create works of art. As such, it includes, along with cognition (including problem-solving skills and imagination), use of the senses, emotion, and other forms of embodiment. (*Entering the World of the Work of Art*, 2008)

These “steps,” however, need not occur in a linear continuum (inquiry first, art-making next, etc.). Rather these activities create a fabric of inquiry, allowing one to weave intuitive understanding with contextual information at any point along the way. There may well be a reflective component within which the whole of the experience is expressed in some way, mapping, for example. However, there is no definitive end or conclusion to the process. Rather, the goal is to open to what is next, whatever that may be.

Szostak points out that the creative design process in interdisciplinary work is non-linear, as well: “The literatures on creativity, design, and integration concur in a further important respect: [T]hey all recognize the importance of iteration, of revisiting earlier steps as one proceeds” (p. 19). The ID and AE methodologies agree that first things must come first, however. Similar to the first step in Szostak’s outline of ID methodology, asking a suitable research question, AE methodology requires that we ask a question that enables exploration of a work of art as text (what one might think of as the “problem”); it needs to be a question that is neither too broad nor too specific, and that opens pathways into the “text under study” using multiple perspectives.

An investigation into the experience of the street corner – one that includes both aesthetic and interdisciplinary perspectives – might best be begun by means of carefully crafted guiding questions:

What are ways we can experience, absorb, and integrate complex aesthetic, historical, and socially relevant information that presents itself to us in this particular contemporary urban setting?

How might these facets of experience and information be articulated so as to communicate understanding and new knowledge about the world we live in – as represented by the street corner?

How can the development of the integrative, creative skills we’re applying to the street corner experience serve us in other experiences of complex learning situations?

It is a point of conjecture as to whether one can identify any of the steps involved in our combined research approach to the street corner experience as coming from the witness’s conscious or subconscious mind. It may be that a more fluid process is under way, one that weaves together the many constitutive processes at work in the moment on the street.

One might consider the brain’s *inquiry* into the street corner experience to

be filled with ongoing feedback loops that inform the encounter – through the senses, in a kind of *reflective* dynamism – changing the relationships Newell speaks of that “shape” meaning making (and the behavior of the system as perceived by the witness) in the moment. This may be the kind of reflection described by Maurice Merleau-Ponty, a phenomenologist often referenced by Greene, who says: “We must consider reflection to be a creative operation that itself participates in the facticity of the unreflected” (Merleau-Ponty, 2013, p. 62). “Facticity” in this case refers to “experience” itself and the “unreflected” to the state of things before the witness arrives on the street corner. Inquiry, to the witness or “spectator” on the street, is “not passive but intellectually and imaginatively investigative” (Arvidson, 2016, p. 37) .

We can think of one of the non-linear steps that serve as a framework within AE methodology, that of art-making, in the context of mapping (as it begins in the mind and is actualized in some outward way) as a way of helping to make meaning of what we are coming to know about the corner. If this built world event is to be fully experienced using both ID and AE approaches, we must find a way to understand and represent our insights in a fashion that helps us make integrated meaning of the many kinds of knowing the street offers. We must find a way to put into relationship, creatively and without preconception of what might be revealed, the myriad transactions we are having. We might then move through this dynamic representation and find unexpected connections, transgressing boundaries between and among all we are coming to know about the complex world of the street corner. We need first, though, to think more about knowing.

Knowledge

In order to make connections, integrating bits and pieces of knowings from various layers on the street, we need to know more about knowing itself. How do we know what we know, and how do we know when we know it? And how can we let go of what we *think* we know, in order to be open to more? To explore this matter, we continue with an investigation of ideas brought forward by two influential contributors to the thinking of Newell and Greene: the aforementioned Kenneth Boulding and John Dewey.

Kenneth Boulding, the British economist and interdisciplinary scholar, was AIS’ first keynote conference speaker. In “The Intertwined History of Interdisciplinary Undergraduate Education and The Association for Integrative Studies” Newell reminisces about Boulding’s address, “The Unity of Human Knowledge,” at the first AIS conference in 1979. In it, Boulding

“likened disciplinarity to home and interdisciplinarity to travel, observing that both are useful and that they are potentially complementary” (Newell, 2008, p.17). This notion gives rise to conjecture regarding the comfort one might feel within one’s own discipline as like what one feels in home-y surroundings. And it brings to mind, as well, the enlivened way one feels when venturing beyond familiar boundaries, encountering new territories and new ways of being in the world. This venturing beyond borders requires courage, a willingness to let go of the comfort of home, of a single perspective, becoming open to an as-yet-unknown future. One might think of the street corner experience as providing a comparable opportunity for adventure, a going “into the woods,”⁴ as one risks something by letting go of one’s fixed position in space and time, escaping “the old forbidding codes,” breaking through “the artificial barriers,” challenging “the unquestioning passivity, consumerist attitudes, or the kind of carelessness and indolence that move all of us to take the easy, the conventional paths” (Greene, 2001, p. 76) .

Boulding situates himself in his own space and time in the introduction to his book *The Image: Knowledge in Life and Society*. “I am not only located in space and time,” he says. “I am located in a field of personal relations. I not only know where and when I am, I know to some extent who I am” (Boulding, 1956, p. 4). He writes of the image of this present world as “built up as a result of all past experience of the possessor of the image” (p. 6). For Boulding (1956), it is through one’s continuing response to experiences, encountered first as an infant, and accumulating through childhood to adulthood, that one develops one’s composite world image, constituting “knowledge.” This knowledge is a structure the person holds as “truth” until something comes along to challenge this view. As one holds on to this “structured knowledge,” anything like the street corner experience is, in a sense, unobserved, unnoticed, “unreflected.” The witness is unable to perceive what is going on right before his or her eyes through the opaque walls of pre-conceived knowledge.

In *Democracy and Education*, Dewey speaks of how knowledge comes to be something we “take for granted. It is that which is settled, disposed of, established, under control.” He refers to it not as a “sentiment, but a practical attitude.” And yet, he contends that we may be in error.

What is taken for knowledge – for fact and truth – at a given time may not be such. However, everything which is assumed without question, which is taken for granted in our intercourse with one

⁴ Into the Woods, a musical with music and lyrics by Stephen Sondheim and book by James Lapine that premiered in 1987 in NY, addresses the quest for knowledge and wisdom, using the plots of fairy tales as its enabling structure.

another is what, at the given time, is called knowledge. Thinking, on the contrary, starts, as we have seen, from doubt or uncertainty. (Dewey, 2004, p. 313)

Boulding, too, refers to doubt and uncertainty as things that challenge our image of reality, necessitating a reevaluation of our “knowledge” of accepted “fact.” For Boulding these challenges are called “messages” – those meanings that result from experiences and that form the new image. These messages can have a variety of effects on a person’s image of the world – the world that is made from one’s response to existence. According to Boulding, we are bombarded with messages through our experience of being alive, our transactions with life – too many, as we grow more used to being alive, to “take in” as noticeable.⁵ *Noticing* (like the *wide-awakeness* encouraged by Greene and Thoreau) involves a message received that calls attention to the moment in a way that potentially shifts the already formed image into a new one. It may “change the image in some rather regular and well-defined way that might be described as simple addition.” Or, it might have more consequential effects, occasioning “revolutionary change” that radically shifts the existing image (altering its very structure, which he likens to molecular structure) (Boulding, 1956, p. 9).

The goal of the educational approaches under study here, championed by Newell and Greene, is to incite learners to venture away from the familiar to consciously encounter complexity, and to give them the tools by which to discover and negotiate new knowledge in that new territory, opening to messages that may alter perception, perhaps radically. As a consequence, these approaches facilitate awareness of the dynamism of complexity, cultivating the capacity to challenge the status quo, to change one’s mind in unexpected, unimagined ways, through the interplay of interdisciplinary and aesthetic regard. Opening to such a fluid approach to new knowledge requires developing the ability to imagine that one can do it at all; that one has the freedom to break with what may have seemed settled as fact, whether perceived by, given to or imposed upon us.

In *Knowing and the Known*, published in 1949, Dewey and Arthur Bentley sought to define terms with which to define the kind of experiencing necessary for just such radical perception – passing “from loose to firm namings in the realm of inquiry” (Dewey & Bentley, 1949, p. 120). They believed it a fundamental right “to open our eyes to see” and see differently through Transactional Observation (p. 120).

Transactional Observation is the fruit of an insistence upon the

⁵ Jill Bolte Taylor’s (2008) Ted Talk of this in “My Stroke of Insight” that relates how she, as a brain scientist, witnessed her own stroke is a notable example.

right to proceed in freedom to select and view all subject matters in whatever way seems desirable under reasonable hypothesis, and regardless of ancient claims on behalf of either minds or material mechanisms, or any of the surrogates of either. (p. 137)

The point for the person who stands on the street corner, then, is to be able to exercise one's right to "see" the subject matter the street corner represents with a kind of freedom that releases one from any earlier claims as to what one *must* "see" and *must* think of it all, disciplinarily or otherwise. In ID terms, a process of perspective-taking occurs here on the street, as the witness or "spectator" sheds pre-conceptions and actually sees what is there to be viewed (Repko & Szostak, 2017, p. 15).

Dewey and Bentley (1949) seem to affirm this approach:

Our position is that the traditional language currently used about knowings and knowns (and most other language about behaviors, as well) shatters the subject matter into fragments in advance of inquiry and thus destroys instead of furthering comprehensive observation for it. We hold that observation must be set free; and that, to advance this aim, a postulatory appraisal of the main historical patterns of observation should be made, and identifying namings should be provided. Our own procedure is the transactional, in which is asserted the right to see together, extensionally and durationally, much that is talked about conventionally as if it were composed of irreconcilable separates. (p. 120)

Greene also embraces the importance of freedom in the continual process of seeing and evaluating – if that process is to yield wholes rather than "irreconcilable separates":

Freedom has to be gradually achieved and nurtured in situations that have been made intelligible but that have to be continually named and understood. The pedagogical implications of this view are multiple, and it is hard to conceive of a set of educational purposes that does not include a concern for human freedom and sense of agency in the face of a more and more controlled and administered world. (Greene, 1995, p. 178)

Integrating separates into wholes – escaping the shattered worldview that Dewey describes above – is addressed by Newell (2001) as he discusses the need for "comprehensive understanding" of complex systems that ID methods may help fulfill:

No one I have talked to or read (including my own writings) has been able to explain clearly how to integrate disciplinary insights into a comprehensive understanding. We are not even clear on ex-

actly what is meant by integration. I believe complex systems theory holds the potential not only for validating the remaining steps [towards integration], but also for assisting us in conceptualizing and evaluating interdisciplinary integration. (p. 18)

And Greene (2007) sees AE methods as addressing the problem, positing how, through sustained aesthetic transaction, the ostensibly “irreconcilable separates” of the moment (the work of art, the street corner, the named things) can be made whole:

When we perceive, we are in the world as a whole. It is thought or reflection that make us see perspective or the surrounding environment as objectively there, apart from our involvement. Instead of observing space from a distance, we are immersed in space; space is no longer to be contemplated as above a landscape; we are in the landscape. (p. 2)

A Theory of Interdisciplinary Studies

Comparisons between interdisciplinary and aesthetic processes have thus far been explored through a glimpse into the perspectives of Newell, Greene, and related others. In “Theory,” Newell (2001) outlines a way of proceeding with interdisciplinary inquiry in a two-part process that includes a variety of tasks. The first part involves defining, determining, developing and gathering, and searching as its main tasks. The second part involves integrating interdisciplinary insights, and it includes identifying and evaluating, resolving and constructing, and creating, producing, and testing. This article further develops its comparisons by following the outline of the process Newell presents.

Part I: The Steps in the Interdisciplinary Process

Defining

In approaching, say, the street corner from an interdisciplinary perspective, we must first determine if the system is a complex enough phenomenon to merit such an approach. Each discipline approaches a problem or facet of that problem using the tools of the discipline. Newell uses the example of acid rain, describing how the problem of acid rain is seen differently by economists, political scientists, and engineers. He relates that, when the problem is seen as a complex system in an interdisciplinary way, it is possible to “focus more broadly on the pattern of acid rain” rather than seeing it

only from one particular perspective (Newell, 2001, p. 16). Similarly, situating the street corner in aesthetic space, focusing broadly, provides a way to begin to notice an overall pattern at work.

Newell's reference to the GIS map as a way of thinking about complex systems like the one that yields acid rain is useful when beginning to think about defining and mapping the experience of the street corner. Layering informational categories one on top of another – or arranging them in some other way – creates opportunities for making patterns visible. The mind's eye can see new networks of connections. Experiential mapping can work the same way. The experiential map is a way of processing all the states of being and knowing one discovers on the street corner, an integrative process included in the simple statement *I am here* (Harmon, 2009).⁶

Determining

“The challenge to interdisciplinarians in selecting disciplines and other perspectives from which to draw is to figure out which sub-systems contribute substantially to the overall pattern...they wish to study” (Newell, 2001, p. 17). Addressing the challenge of choosing appropriate disciplines for interdisciplinary inquiry has parallels in the aesthetic approach to a complex system, given the transdisciplinary nature of experiential mapping. Developing aesthetic literacy helps meet this challenge (Obrist, 2014). Pat Hutchings's and Richard Gale's (2005) description of the qualities of aesthetic literacy includes the following:

Aesthetics permeates all disciplines and ways of thinking. Understanding is advanced through aesthetic interpretation, and the aesthetically literate student will embrace the beauty of all fields. The aesthetic dimensions of disciplines are related to understanding, and many fields share common (or similar) vocabularies in the aesthetic realm. (Hutchings & Gale, 2005. p. 2)

Standing on the street corner involves the process of assessing the many categories and layers of information present and includes situating self in

⁶ The map can be art as well as pathfinder/maker, reflector and feedback loop. It can open categories of inquiry we may not have considered before. The edges of things may come more into focus, where ideas, impressions and information transect, combine and diverge. All of this becomes more apparent in the experiential map when one can incorporate in-the-moment responses, in multiple modes, to what presents itself. Recent publications of innovative mapping techniques include *Mapping Manhattan* by Becky Cooper (2013), *Nonstop Metropolis* by Rebecca Solnit and Joshua Jelly-Schapiro (2016) and even – and perhaps especially – the novel *The Selected Works of T. S. Spivet*, by Reif Larsen (2009).

aesthetic space. As Greene reminds us, “Sometimes I think that what we want to make possible is the living of lyrical moments, moments at which human beings (freed to feel, to know, and to imagine) suddenly understand their own lives in relation to all that surrounds” (Greene, 2001, p. 7). The role of the imagination is paramount in the process of beginning to perceive subsystems that make up the whole, the “all that surrounds,” bringing aesthetic experience and various disciplinary information together in making meaning of the urban space.

As a believer that learning to experience works of art can enable us to “become conscious of what daily routines have obscured, what habit and convention have suppressed” (p. 123), Greene often referenced part of a certain poem by Wallace Stevens (1982), “Six Significant Landscapes”:

Rationalists, wearing square hats,
 Think, in square rooms,
 Looking at the floor,
 Looking at the ceiling.
 They confine themselves
 To right-angled triangles.
 If they tried rhomboids,
 Cones, waving ellipses –
 As, for example, the ellipse of the half-moon –
 Rationalists would wear sombreros.

Greene assured us that

there must be rationalists, mathematicians, logicians and the rest, but there is no good reason for them, grounded human beings as they are, to confine themselves to “right-angled triangles.” There are dimensions of the world (rhomboids, cones, waving ellipses) that will remain forever out of reach if the range of intelligences remains untapped, if passion is ignored, if imagination is unused. (Greene, 2001, p. 135)

Imagine, for instance, that one “knows” certain “facts” about the urban space of the street corner. Take a situation, for example, where a particular building – once used as a tavern or a dwelling of some kind – has been repurposed, during an urban gentrification phase, to be an art gallery. One may bring to one’s personal experience of this building certain researched information: Aspects of real estate development may be brought to bear, as one learns of skyrocketing rent rates in the neighborhood; the roles of local government and community activists may be found to be significant in the overall story as may be issues of population migration and crime rate. However, to fully confront the complex system, one must oneself engage with

this place, integrating into the experience all the above-mentioned aspects and more, swirling like messages in the air. But as importantly, one must come face to face with the experience of entering the place that was once a tavern, hearing one's own footsteps on the wide wooden planks once trod upon by countless citizens of the past. Until one pays heed, freely noticing all that is there, smelling the smells, noticing the view of cobblestones through antique wavy glass; until one speaks to the owner of the gallery, listening to the heartfelt stories of preservation and struggle and frustration in this old/new space; until one puts these real moments together with the disembodied information one has brought from other sources – until then, one has not begun to make the “non-linear connections” into an integrated whole, but a whole that is still not finished, that is in process, that is open to and awaits shaping from new experience, new messages.

This is the pattern of behavior Newell (2001) suggests we humans experience in complex systems, the pattern that “is identifiable but evolving, intelligible but not strictly predictable” (p. 9). And it is the use of the imagination, awakening to the qualities of aesthetic space, cognizant of the many elements that mark this present moment, that has enabled this behavioral transaction. Richard Sennett contends that in the course of the development of modern, urban individualism, the individual has fallen silent. To arouse this “silenced” individual is to bring sensitivity to the “messages” and “knowings” that abound, making the street corner not a place “of the gaze” but an opportunity for “scenes of discourse” that may promote understanding and action (Sennett, 1994, p. 358).

Developing and Gathering

Newell asks the interdisciplinarian to become sensitive to connections made visible when viewing a problem from multiple disciplinary perspectives. The pattern of the overall system is made clearer when we view it through various disciplinary lenses, developing “sufficient command” of these to “illuminate specific features of that particular complex system” (Newell, 2001, p. 17).

As the witness of the street corner begins to map informational layers that present themselves, lines might be drawn between and among pieces of information and experience, lines that the imagination helps draw, revealing the web of connections that constitute the street corner experience. It is the transaction between the human being on the scene and the overall system that is key. This transaction may be captured in the moment through photography, as one notices textures and geometry, or by sketching the relationships of shapes

and lines, colors and textures; one might even record the sounds of the jackhammer unearthing the past as one waits for the light to change. In these ways, and more, the art-making of the imaginative act weaves itself into inquiry, into challenging the status-quo, into making sense of the local world. A kind of “field guide” is developing, as one chronicles experience in the moment, looping through and among the facts of the street corner, in real time.

Searching

In the search for connections between and among disciplinary insights, the interdisciplinary research challenge, Newell (2001) writes, is “to identify and study the typically nonlinear linkages between disciplinary sub-systems” (p. 18). He reminds us of biologists who “know that living complex systems behave differently from non-living ones,” social scientists who “can appreciate that complex systems whose components are conscious and self-aware behave differently from living systems whose components’ behavior is genetically hard-wired,” and humanists who “are alert to the special behaviors of components that can manipulate symbols, imagine, and anticipate the future” (p. 10). With the transactions now made possible in the aesthetically awakened witness who moves between and among various phenomena, open to a variety of disciplinary perspectives, the complex system of the street corner exists in greater definition. Envisioning and expressing the connections between and among the phenomena of the street corner perceived through experience and disciplinary inquiry, one may escape more conventional forms of analysis, enabling untethered integration of “knowings,” integration that involves creating new forms out of new messages, a kind of meaning-making, indeed, art-making on the corner, in a way not possible through more discursive operations (Langer, 1957, p. 91).

Newell quotes Fritjof Capra in his discussion of the role of the human element in system complexity: “Because of the ‘inner world’ of concepts, ideas, and symbols that arises with human thought, consciousness, and language, human social systems exist not only in the physical domain but also in a symbolic social domain” (as cited in Newell, 2001, p. 10). Capra speaks of knowledge itself here in referencing his “criteria” for “new paradigm thinking”: “Knowledge must be built on firm foundations. Then the paradigm shifts occur, shaking the foundations and everybody gets very nervous. Now we are moving to the metaphor of knowledge as a network rather than a building, a web where everything is interconnected” (Capra, 1991, p. 133).

Developing the capacity to break with what Sennett terms “image repertoire” that “fragments” the world into comfortable known quantities (cars, manhole covers, traffic lights, homeless people) is a challenge for the street

witness (Sennett, 1994, p. 365). Breaking with the taken-for-granted necessitates confrontation with fixedness. Beginning to “get the picture” with various densities of connections and interactivity is the task at hand for the mind’s eye, the imagination, and the mapmaker, as one seeks truth, meaning, and wholeness through experience. The human element interacting with this complex environment becomes significant as the transaction between individual and street corner is crucial and must be somehow represented in any integrated map. More about this, as our discussion continues.

Newell (2001) views integration of disciplinary insights as a thorny problem within IDS theory and process. Yet, he holds hope that complex systems theory provides a way for accomplishing “the remaining steps in the interdisciplinary process” (p. 19). Mapping integration in the digital world may well be one method for achieving the integration for which Newell hopes, and also fulfilling the possibilities of which Greene speaks when she encourages us to imagine an as-yet unknown future, one that challenges the status quo. Consider the potential we glimpse when viewing Google earth “when [we] can switch with one click from cartography to photography, from 2D to 3D, from small scale to large scale, depending on the choice [we] make of various overlays” (LaTour, November, & Camacho-Hubner, 2010). Consider also the “live” information that appears and disappears in the interface, including ads, messages from local social contacts, historical data, and other relevant or perhaps irrelevant visual and aural information that assail us in the moment. Experiential mapping gathers multiple forms of information in a time, a space, a container, and in doing so, allows the desired detachment from the “well-entrenched distinction between ‘physical’ and ‘human’ geography” (LaTour et al., 2010).

Part II: Integrating Interdisciplinary Insights

Identifying and Evaluating

If we are to utilize complex systems theory in processing the street corner experience, we must turn to Newell (2001), who suggests that in this process we need to become familiar with the way various disciplines identify certain concepts that “illuminate a different, particular facet of reality” (p. 19). How we begin to find commonalities between and among these facets or navigate seeming dissonances may well belong in the realm of intuition.⁷

The term “intuition” describes “a cluster of interrelated cognitive phe-

⁷ An example from the performing arts is the concept of “gesture,” which cannot be the same in music as it is in dance. The dancer uses the physicality of the body; the musician creates sound waves. Yet, somehow, the musician or dancer can, through a kind of intuitive leap, connect one way of knowing to the other. The concepts cannot be the same, as each dwells in a separate realm, and yet, connections, commonalities exist.

nomena that produce understanding of a problem or event without the use of reason or analysis” (Welch, 2007, p. 133). Welch tells us that intuition, balanced with critical thought, plays an essential role in the creating of interdisciplinary integration. Newell (2001) describes the mix of the analytical and intuitive in the process in his own way:

Integration necessitates working backward from the phenomenon and forward from the sub-systems studied by different disciplines. That integrative process is anything but linear. A proposed pattern is tested first against one criterion, then the other, then revised and re-tested. Thus, interdisciplinary integration is driven by the tension between disciplinary insights and phenomenological pattern. (2001, p. 20)

The creative act (in this case, the integration of aesthetic regard which privileges the intuitive and interdisciplinary inquiry which privileges the analytical) does not spring “out of the blue.” Rather, as Welch says, integration surfaces as the work is done (the aesthetic inquiry, the disciplinary research, the imaginative connecting in which the intuitive is balanced with critical thought).

Integrated insights, like Greene’s “achieved” freedom, must be “primed,” brought into awareness by the intensity and persistence of neural activity, within “perceptually rich, dynamic situations” (as cited in Welch, 2007, p. 137).

If insights are to be achieved and integrated, using the concepts of multiple disciplines, there must be an openness to the “messages” swirling in the intuitive fog. Accomplishing this means weaving “facts,” inherent in disciplinary perspectives, with intuitive knowings in order to move into a greater sphere of understanding. Greene suggests we must disengage with “everydayness” to situate ourselves in aesthetic space. This is a skill that becomes handy on the street corner. We must be “fully present” in a way that necessitates a letting-go of impinging concerns (Greene, 2001, pp. 53-54). The pursuit of this kind of letting-go in urban settings was developed by Guy Debord, philosopher and founding member of the Situationist movement. The significance of the “dérive” and of Debord’s concept of “psychogeographies”⁸ comes to mind in the context of this discussion of the street corner experience and the simultaneously analytical and intuitive mind, as the witness seeks to integrate the many aspects of the experience clamoring for attention. More is at work here than the disciplined or analyti-

⁸ For a compelling example of “psychogeography” within the arts, consider Dustin Yellin’s (2015) application of the concept here, in his work for the New York City Ballet: <https://youtu.be/5tVf2IXvsQ4>

cal mind alone can conceive of.

Dérives involve playful-constructive behavior and awareness of psychogeographical effects, and are thus quite different from the classic notions of journey or stroll. In a *dérive* one or more persons during a certain period drop their relations, their work and leisure activities, and all their other usual motives for movement and action, and let themselves be drawn by the attractions of the terrain and the encounters they find there. Chance is a less important factor in this activity than one might think: from a *dérive* point of view cities have psychogeographical contours, with constant currents, fixed points and vortexes that strongly discourage entry into or exit from certain zones. (Debord, 1956)

There arises the necessity, for our witness on the street corner, of letting-go of pre-conceptions prompted by “critical thought” so as to perceive more. However, there are impediments to achieving this receptive state of mind.

Fixation is identified by Welch as “the persistence of initial, gut-level impressions, habits of thought or structured ways of knowing,” describing a state that arises “through habits of rationally organizing reality” that must be “overcome to allow the more open methods of active learning necessary for the mastery of interdisciplinary inquiry” (Welch, 2007, p. 138).

Similarly, Greene speaks of the “dangers of fixity” as she imagines transforming experience through the artistic-aesthetic. She writes of the aesthetic experience as “a challenge to many kinds of linear thinking, as well as to the taken-for-grantedness” that such fixity embodies (Greene, 1978a, p. 172).

Greene (1978a) borrows from Schutz and his view of “multiple realities” in explaining the process that integrates various perspectives. Calling them “provinces of meaning,” Schutz proposes we define them by the kinds of cognitive attention needed to apprehend the meanings they offer. It is in passing among these provinces that one...begins to perceive the web of relationships.

All these worlds...are finite provinces of meaning...The passing from one to the other can only be performed by a “leap,” as Kierkegaard calls it, which manifests itself in the subjective experience of a shock... nothing else than a radical modification in the tension of our consciousness, founded in a different *attention a la vie*. (as cited in Greene, 1978a, p.173)

These shocks, these shifts of attention, make it possible to see from different standpoints; they stimulate the “wide-awakeness” so essential to critical awareness, most particularly when they involve a move to the imaginary – away from the mundane (Greene, 1978a, p. 173).

Resolving and Constructing

The shifts of attention necessary to navigate between provinces of meaning are seen by Newell (2001) as “challenges: recognizing the overall behavioral pattern of the phenomenon being studied and constructing a complex system whose pattern of behavior is consistent with that of the phenomenon while it emerges from its constituent components, relationships, and sub-systems” (p. 20).

It becomes clear that Greene and Newell are convinced of the importance of developing skills that allow one to disengage from the “mundane” and move freely between and among phenomena presenting in the moment. Arousing the passive witness on the street corner to recognize “the overall behavior pattern of the phenomenon being studied” (Newell, 2001, p. 20) necessitates providing pathways “in” to just what is going on then and there. The qualities of things must be attended to, in themselves and in relationship to what is around. The witness must also track emergent phenomena – constructing, in the process, a complex *aesthetic* image of the systems under study.

There is artistry in such construction, as Greene well knew. She spoke of actual artists as people who, aware of the “insufficiencies” of the world, present their art as a kind of “possibilizing” with the “power to disclose present insufficiencies to the consciousness of those they address” (Greene, 1978a, pp.172-173). (She uses Picasso’s *Guernica* as an example of the artist making visible the horrible “insufficiency” of the world of the Spanish Civil War.) She believed we are all capable of such artistry, capable of finding or rather making meaning in our daily lives (Booth, 2001); noticing insufficiencies where we might not have seen them before, we too can don the cloak of creator, “possibilizing” our own worlds, imagining them into something more than they are at any given moment – like the moment when we stand on the street corner.

The creation of an experiential map, then, as an act of art-making and a way of making meaning, too, has the potential to facilitate integration of the phenomena of the street corner, helping us to see how things are – and to imagine how they yet might be. The witness stands in the present moment, free from fixation, able to shift attention back and forth, integrating multiple perspectives and realities in the process interdisciplinary thinker Sven Arvidson describes as “phenomenological” (Arvidson, 2016, p. 37). Phenomenology offers a useful approach to this experience, especially in the context of mapping. In referencing the GIS map (the Geographic Informa-

tion Systems mapping tool Newell also references in “Theory,” p. 8), archeologist Alicia Wise contends “[P]henomenology is a powerful theoretical framework for archaeological GIS because it actively disables our learned tendencies toward functional analysis and requires ‘truth’ to be located in human experience” in which the analysis always finds the human at the center, “given primacy” (Wise, 1996, p.143).

How does one get the most out of the behavior patterns perceived on the street corner, escaping from fixation and entering the phenomena that surround one? Unless directed to do so, one does not attend to the notion of “behavior” that Newell references, let alone its analysis and integration. Once so directed, though, one can begin to become a witness indeed, to notice everything more acutely and in doing so may see patterns emerge. Stripes painted on pavement and drawings of stick figures show the pedestrian where to go and where not to go; street furniture invites passage or blocks the way. Traffic flows obediently, responding to the rhythmic pattern of red and green lights. This traffic tells stories of commerce, tourism, families on-the-go, igniting all manner of questions in the mind, igniting curiosity that may lead to more questions. Pedestrians reveal their lives in the clothing they wear, the strides they take, the gestures they make, even the scraps of conversations that trail them, as they pass us by.

Jane Jacobs was a keen observer of the behavior patterns evident in the streets of the city.

This order is all composed of movement and change, and although it is life, not art, we may fancifully call it the art form of the city and liken it to the dance – not to a simple-minded precision dance with everyone kicking up at the same time, twirling in unison and bowing off *en masse*, but to an intricate ballet in which the individual dancers and ensembles all have distinctive parts which miraculously reinforce each other and compose an orderly whole. The ballet of the good city sidewalk never repeats itself from place to place, and in any one place is always replete with new improvisations. (Jacobs, 1992, p. 50)

It is a fluid, ever-changing event for one standing on the corner amid the ballet of the street. And as a backdrop to the living show, one also sees more static elements, made of basic shapes, in infinite configuration. In AE methodology, noticing the qualities of all things that comprise an experience is an important step on the path to engagement, and this kind of noticing is guided by elements embedded in the objects of inquiry.

For example, to begin to attend to the behavior of the street aesthetically, one might focus not only on pedestrians but also on the backdrop and the

notion of building facades, identifying personal connections (what is my “facade” as I face the street?) and transferring this concept to the many examples of facades all around. Surface ornamentation of these “faces” might come to the fore, requiring consideration of “aesthetic style” and “fashion”; curiosity might become dominant in the examination of the relationships between one building and another, catalyzing historical connections reaching back to the Greeks and Romans. Consideration of use of materials might come into play, as glass and stone compete for attention. The expression of various kinds of architecture becomes relevant as buildings engage in conversation with each other, speaking of times gone by and present glamour and, most especially for the city, money spent.

Buildings – “human constructions” – are everywhere, telling stories, if one knows how to read them, each one a complex system of its own. Reflecting the “temper of a people,” they communicate through the languages of multiple disciplines. “Because no aspect of the human habitat is unaffected by our presence, there is no exaggeration in saying that architecture and the human environment are, in the final analysis, synonymous and coextensive” (Berleant, 1993, p. 77).

In the process of delving into the details of the street, one can develop ways to describe what is noticed as well, building an aesthetic and analytical vocabulary. Berleant, for instance, suggests architecture has categories such as “monolithic, cellular, organic, ecological,” providing disciplinary tools by which to focus attention on aesthetic choices made in the construction of buildings and on where they have been placed (Berleant, 1993, p. 81). Studying the discipline of architectural criticism, we can think about and discuss what we see and feel in the built world. “We need to learn how to read a building, an urban plan, and a developer’s rendering, and to see where critique might make a difference” (Lange, 2012, p. 8).

Moving in and out of disciplinary and aesthetic regard, one begins to see the street corner as a multitude of worlds to explore, a universe of nested systems in process. Knowing more about the disciplinary dynamics of the street corner, the witness is better prepared for attending, for deep noticing, and for making integrated meaning. Greene shows us that situating ourselves in aesthetic space along with “the work” under study – in this case, the street corner – opens the possibility of grasping the whole and its parts together, in the presence of our own lives. She notes:

So we need to know something about aesthetic space and the significance of distancing or uncoupling, to the end of grasping a work [of art or a work of meaning made from real world experience] in its integrity and its autonomy. But we need to know something else

too, and this brings me back to my beginning. We need to understand what is involved as we move (as we should) from attending to the work in its integrity to moments of presence, of felt relation to the work, when we allow our imagination to play on what we have perceived, when we incarnate it and make it ours. It is at this point that the work may infuse our consciousness, bring new and unexpected patternings into our experience, offer us new vantage points on the world. (Greene, 2001, p. 11)

One considers the “problem” of the system’s behavior, then (in this case, of the street), through multiple facets of disciplinary perspectives (Newell, 2001, p. 19). The built world is made of basic elements, known to every beginning student of architecture. And one can think easily in its terms: ground, threshold, platform, pit, wall, roof, bridge, window, columns...and so forth. From this clear architectural perspective, one can begin to look around the street and see evidence of these things everywhere in one form or another. One can begin to see samenesses and differences – this window here, that window there – and wonder at them.

One can also “think” about the built world in the way suggested by Swiss architect Peter Zumthor (2010) in *Thinking Architecture* as “an envelope and background for life which goes on, in, and around it, a sensitive container for the rhythm of footsteps on the floor, for the concentration of work, for the silence of sleep.” One can move among basic elements, shifting to an aesthetic perspective, envisioning the whole as an “envelope” for human activity. One can even consider the sound of the city’s structures, experiencing “the composite of numerous surfaces, objects, and geometries in a complicated environment” as one that “creates an aural architecture” (Blessner & Salter, 2007, p. 2).

In “About Looking,” John Berger writes about the lessons of the city experience from the perspective of the paintings of “primitivist” Ralph Fasanella, a Bronx-born son of Italian immigrants who took up painting in adulthood as a way to relieve arthritis in his hands. He focused his work on the lives of ordinary people in the city and the buildings in which they live. His paintings lead us to think about windows themselves – “each window frames the locus of a private or social activity. Each frame contains the sign of a lived experience.” Imagine looking at the city from the vantage point of our street corner simply through the lens of windows...windows that “present their interiors in such a way as to show they were never interiors. Nothing has an interior. Everything is exteriority. The whole city, in this sense, is like an eviscerated animal.” This particular “disciplinary perspective” – that of learning how to “look” through the eyes of the artist – ushers us into a realm

that might be unexpected for one simply standing on a corner. Fasanella's paintings seek to "lend us" his life (Greene, 2001, p.6), inviting us to share his immigrant's perspective on the hungry city where time and money are interchangeable, where the city is temporary, in process, always open for business⁹ (Berger, 1992, p. 106).

In addition to finding personal relevance in the street corner experience through aesthetic investigation, another "facet" of the approach of AE is the contextual quest, and in terms of the historical perspective, the interdisciplinary inquiry into the "truth" of the street comes to the fore as one seeks more information about what has happened there as years have gone by. The disciplinary tools of the historian can help: excavating memoirs, letters, photographs, all these become avenues of time travel for the imagination as well as for truth (fact?)-seeking. Poems and works of fiction can give shape to facts of the past and can free the imagination, bringing the street to life in ways not possible through time-lines, lists, graphs, tables and statistics alone. The "human landscape of culture and history" is captured not in the "physical configuration of our surroundings alone but in the haptic layer of sounds, smells, and substances that fill our ears and lungs and are absorbed deep into our bodies" (Berleant, 1993, p. 77). This is integration in process, on the fly, in the moment, as one brings multiple ways of knowing – some discovered already through research – to the "common ground" of the street corner. The "oscillation" Newell (2001) describes, "between sub-systems and overall pattern," as one makes cognitive leaps and adjusts "to the larger understanding as it is developed" (p. 20), making "something" out of it all, belongs in the realm of the experiential map.

Creating, Producing, Testing

In "Theory," Newell (2001) focuses on seeking "common ground" between and among the disciplines chosen as relevant when one is pursuing the ID process. "It is my contention that the process of creating common ground, while requiring creativity, need not be thought of as mysterious or nebulous" (p. 20). He singles out specific techniques to consider:

These include: redefinition of terms from different disciplines to bring out a commonality; extension of the meaning or range of application of a concept; creation of a continuum of meaning along which concepts from different disciplines can be arrayed; trans-

⁹ For a compelling connection, see Maxine Greene speak on the topic of "windows" in the city, the arts, responsibility and the social imagination in this video: <https://www.youtube.com/watch?v=c9pwAi8-bZE>

formation of opposing disciplinary axioms into a continuous variable; rearrangement of sub-systems to bring out inter-relationships such as facilitation, encapsulation, or absorption; and recognition of joint dependent variables. (p. 21)

As we seek to navigate the process of finding common ground, Newell asks us to approach the process with a creative mind. “Some *common ground* solutions are better than others” (p. 21). It may well be that we must hold our “definitions” loosely, extending our understanding of “meanings” and “applications” in ways reminiscent of the *dérive* of the Situationists and DeBord. Mapping our understanding of the disciplinary insights we have gained thus far, searching for answers to questions yet to be imagined, we may need to agree that art historian Hans Ulrich Obrist has a point. In his afterward to *Mapping It Out* (2014) – a volume that “explores and interrogates the practices and potentials of mapping in the world today, and its relation to multiple disciplines: art, literature, architecture, science and film” (p. 232) – he says we must “drift through urban landscapes” and through “the spaces of the imagination, in order to arrive at an invention of reality” (p. 233). What is our goal in seeking common ground after all if not in creating a new arrangement of reality as we experience and understand it now, in the midst of the ID process?

As Greene reminds us about the aesthetic stance,

Wherever we are we can only discern profiles of things, there is no “view from nowhere” – no universal view. Each view being incomplete, there is the sense of more being in reserve, an unpredictable possibility. Not only does the likelihood of such a perspective feed into the ability to grasp a work of art [or the street corner] as something multi-layered, in most ways inexhaustible....What occurs, therefore, is an event – often unexpected, untranslatable into words – that some of us call an aesthetic experience. (Greene, 2007)

As we map out and draw connections, finding common ground between and among our multitude of responses to the street corner – and its facts – we realize that “place” is different from location – more

personal and multi-dimensional altogether.... temporal as well as spatial, because it thickens with personal memories, local stories, history and archaeology. It’s not just a question of how things look, but of how things feel to those who know it well. (Stafford, 2017)

Newell and Greene, as guides on our journey (away from home, and away from the classroom) into the world of the street corner, want us to get to “know it well.” Newell describes himself as “a pragmatist interested in understanding the world around us in order to facilitate human activity”

(Newell, 2001b, p. 142). His pragmatism is evident in his development of an interdisciplinary approach “illuminated” by complex systems theory in which practitioners draw “from disciplines while transcending them through integration” (Newell, 2001, p. 48). And Greene (2001, p.7) exhorts us to awaken to the “colored, sounding world” as one can learn to do through the practice of aesthetic education and the attention to works of art that it teaches – an attention that can be applied to one’s experience of life in the real world – on the street corner and beyond.

What is “the problem” posed by the street corner, though, and, while we’re at it, what in the world is the solution to the problem, if that is what we seek? Our aesthetic line of inquiry, for example, doesn’t ask us to seek solutions to the street experience. Nor does it even suggest there is a problem. Rather, it asks us to open the door to “starting points” for possible integrative activity (Repko et al., 2014, p. 183). We must turn for direction to the intentions of Newell and Greene: Newell, who seeks paths to “societal change” through interdisciplinarity (Newell, 2008, p. 3); and Greene, who is concerned with the creation of environments within which questions can be posed, questions that may help us to disrupt or at least confront the fixed world, of things as they are, and imagine how we might make them things as they are “supposed to be.”

Might it be possible for our witness on the corner (us, really, imbued with the sense of agency each of our protagonists seems to think important, even essential, to living in our modern world) to transform this urban space into a “place” that awakens citizenship and instigates action?

Might we witness this street corner as a space “hostile to humanity” affected by poverty and greed (Specter, 1974)? Or should we simply bask in the magnificent phenomenon of street-corner-ness, embedded as we are ourselves in the “fabric of time, culture, and personal experience” (Repko et al., 2014, p. 182), enjoying the corner as a place that is an interesting expression of human activity, whatever the impact on the humans involved? Can a deep investigation of aspects of the situation at hand lead to interpretations or conclusions that catalyze the kind of corrective action in the world so hoped for by Newell and Greene? How can we hear the many voices clamoring to be heard on this corner – and so many others in the city – responsively and responsibly? Perhaps the ultimate question for us here and now is: How can aesthetic and interdisciplinary investigations help us to think in better ways about cities full of people burdened or buoyed by the powerful forces in evidence (or any other complex systems yearning for attention) clearly, consciously, and in a fully awakened state?

The 2001 volume of *Issues* contained not only Newell’s article “Theory”

but also several articles written by interdisciplinary scholars in response to his article. In response to Julie Klein's critique, Newell (2001b) wrote,

Though I stand by it as a theory, I would not be entirely displeased if it were to be embraced as a useful metaphor, especially in the humanities and the fine and performing arts. I would be quite happy if my theory encourages interdisciplinarians to think more critically and self-consciously about the interdisciplinary process, to think of that process in terms of complex systems, to see that science and the humanities are complementary responses to complexity, and to approach interdisciplinary integration more deliberately and systematically. (p. 143)

Newell seems to be asking interdisciplinarians to awaken to an awareness of complexity that is creative, fluid and in process as well as grounded in analysis and critical thought. These are not incommensurate perspectives but "complementary" and as Greene shares, works of art provide opportunities for just such integrated encounters with real-world problems: "It is important, when we consider integrations and wholeness, to break with such notions as those that split the cognitive from the emotional, the rational from the affective capacities" (Greene, 1978a, p. 189).

Greene believed that conscious, personal, aesthetically aware transactions with works of art can bring us directly into the critical, "self-conscious" state of mind required for wide-awake encounters with real-world matters, and with interdisciplinary integration. "We need to hold in mind somehow that many works of art (wherever they come from) address themselves to human freedom – meaning the capacity to choose and (we would hope) the power to act in a changing world" (Greene, 2001, p. 185). She held firmly to the conviction that through such encounters we can glimpse "what it means to break with anchorage, what it means to move with others, to care for others, to reach beyond where we are" (2001, p. 185). Greene encouraged teachers to remain wide-awake, as well – to imagine, along with their students, a better world.

We want our students to choose themselves and to be strengthened in their choosing by art experiences that open doors, that allow them to realize how wide and various and enticing the contemporary world can be. I have been trying to say throughout that we are all in process, we who are teachers along with those we teach. And in a pluralist world, with newcomers appearing every day, we somehow have to realize that no one of them is fixed forever, identified forever by a culture, a religion, a class, an ethnic identity. Like ourselves, they may be aware of their roots, of their begin-

nings, but like ourselves, they need to use their imagination “to light the slow fuse of possibility.” (p. 185)

In an interview on *National Public Radio*, Pulitzer Prize winning author Ayad Akhtar discusses the importance of works of art in relation to real world problems. His play *Junk* examines that period in U.S. history when, in his view, “the monetization of everything” had its beginnings. And it is with alarm and concern that his play dramatizes, in ways otherwise perhaps inaccessible to us, our “blind spots” in this matter. Akhtar (2017) comments, in relationship to the message of the play itself,

Deep understanding of what the real problems are, in this case the meaning of ownership, the meaning of shareholder rights within a democracy, the meaning of value, the definition of what the individual is, the definition of what the collective is – it’s not an abstraction to say that those philosophical questions stand at the heart of our republic. And our inability to articulate either the questions or meaningful answers to those questions is what has resulted in the kleptocracy in which we are now living.

Akhtar contends that while he doesn’t know that a play or an artist is qualified to offer an answer to such questions, he does think “it’s about asking the right questions.” Our aesthetic transactions with relevant works of art processed through integration with multiple other forms of knowledge, achieved through personally relevant experiential mapping, may help us to at least approach consideration of the “right” questions. And such questions may help us to begin to imagine new possibilities amid present social ills.

We began this journey on a street corner in the midst of the built world. And we brought to bear on this experience all that we are and know. We gained insight into the world of the street corner through our senses, our gathered research, and our aesthetic regard, informed by the ideas and work of various disciplines and of artists and thinkers. And we did so, having as our companions two like-minded individuals concerned with what happens next – that is, what we might help to happen next. The contention of this comparative discussion of the work of William Newell and Maxine Greene is that the integration of interdisciplinary research methods through consideration of complex systems theory and aesthetically aware transactions with the world and its works of art may provide a dynamic educational approach that helps us – students and teachers alike – to understand aspects of this world deeply enough to imagine wide-awake societal change for the better.

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References:

- Akhtar, A. (2017, November 3). Money talking. Retrieved November 5, 2017, from http://www.wnyc.org/shows/moneytalking?utm_source=sharedUrl&utm_medium=metatag&utm_campaign=sharedUrl
- Arvidson, P. S. (2016). Interdisciplinary research and phenomenology as parallel processes of consciousness. *Issues in Interdisciplinary Studies*, 34, 30-51.
- Berger, J. (1992). *About looking*. Knopf Publishing Group.
- Berleant, A. (1993). *Art and engagement*. Temple University Press.
- Blessner, B., & Salter, L.-R. (2009). *Spaces speak, are you listening?: Experiencing aural architecture*. Cambridge, MA: The MIT Press.
- Booth, E. (2001). *The everyday work of art: Awakening the extraordinary in your everyday life*. Lincoln, NE: iUniverse.com, Inc.
- Boulding, K. E. (1956). *The image: Knowledge in life and society*. Ann Arbor, MI: University of Michigan Press.
- Capra, F. (1991). *Belonging to the universe: Explorations on the frontiers of science and spirituality*. San Francisco, CA: Harper San Francisco.
- Cooper, B., & Gopnik, A. (2013). *Mapping Manhattan: A love (and sometimes hate) story in maps by 75 New Yorkers*. New York, NY: Harry N. Abrams.
- Debord, G. (1956). *Situationist international online*. Retrieved November 5, 2017, from <http://www.cddc.vt.edu/sionline/si/theory.html>
- deNardi, S. (2014). Senses of place, senses of the past: Making experiential maps as part of community heritage fieldwork. *Journal of Community Archaeology & Heritage*, 1(1), 5-22. <https://doi.org/10.1179/2051819613Z.0000000001>
- Dewey, J. (1934). *Art as experience*. New York: Perigee Books.
- Dewey, J. (2004). *Democracy and education*. New York: Dover Publications.
- Dewey, J., & Bentley, A. F. (1960). *Knowing and the known*. Boston, MA: Beacon Press.
- Eagleman, D. (2012). *Incognito: The secret lives of the brain*. New York: Vintage.
- Entering the world of the work of art. (2008). Lincoln Center for the Performing Arts, Inc. Retrieved from <http://www.casenex.com/casenet/pages/virtual-Library/Readings/enteringTheWorldWorkofArt.pdf>
- Greene, M. (1978a). *Landscapes of learning*. New York, NY: Teachers College Press.
- Greene, M. (1978b). Teaching: The question of personal reality. *Teachers College Record*, 80(1), 23-35.
- Greene, M. (1995). *Releasing the imagination: Essays on education, the arts, and social change*. San Francisco, CA: Jossey-Bass Publishers.
- Greene, M. (2007). *On painting*. Retrieved from <https://maxinegreene.org/uploads/library/onpainting.pdf>
- Greene, M., & Lincoln Center Institute. (2001). *Variations on a blue guitar: The Lincoln Center Institute lectures on aesthetic education*. New York, NY: Teachers College Press.

- Harmon, K. (2009). *The Map as art: Contemporary artists explore cartography*. Hudson, NY: Princeton Architectural Press.
- Hutchings, P. & Gale, R. (2005). Aesthetic Literacy Across the Curriculum: A Conversation. The Carnegie Foundation for the Advancement of Teaching. Retrieved from https://apps.carleton.edu/campus/ltc/assets/AestheticLitHandout3_31_05.pdf
- Inside the Academy: Maxine Greene*. (n.d.). Retrieved from <https://www.youtube.com/watch?v=R8hp8GD8-p4>
- Jacobs, J. (1992). *The death and life of great American cities*. New York, NY: Vintage.
- Lange, A., & Lange, J. M. (2012). *Writing about architecture: Mastering the language of buildings and cities*. Hudson, NY: Princeton Architectural Press.
- Langer, S. K. (1957). *Problems of art*. New York, NY: Charles Scribner's Sons.
- LaTour, B., November, V., & Camacho-Hubner, E. (2010). Entering a risky territory – Space in the age of digital navigation. *Environment and Planning D: Society and Space* 2010, 28, 581-599.
- Larsen, R. (2010). *The selected works of T. S. Spivet*. New York: Penguin Books.
- Limmer, J. (1980). *Journey around my room: The autobiography of Louise Bogan – a mosaic by Ruth Limmer*. New York: The Viking Press.
- Merleau-Ponty, M. (2013). *Phenomenology of perception*. D. Landes (Tr.). New York, NY: Routledge.
- Newell, W. H. (2001a). A theory of interdisciplinary studies. *Issues in Integrative Studies*, 19, 1-25.
- Newell, W. H. (2001b). Reply to the respondents to “A Theory of Interdisciplinary Studies.” *Issues in Integrative Studies*, 19, 137-148.
- Newell, W. H. (2008). The intertwined history of interdisciplinary undergraduate education and the Association for Integrative Studies: An insider's view. *Issues in Integrative Studies*, 26, 1-59.
- Newell, W. N. (2010). Undergraduate general education. In R. Frodeman, J. T. Klein, & C. Mitcham (Eds.), *The Oxford handbook of interdisciplinarity* (pp. 360-371). Oxford: Oxford University Press.
- Obrist, H. U. (Ed.). (2014). *Mapping it out*. London: Thames & Hudson.
- Repko, A. F., Szostak, R. & Buchberger. (2014). *Introduction to interdisciplinary studies*. Los Angeles, CA: Sage.
- Repko, A. F., & Szostak, R. (2017). *Interdisciplinary research: Process and theory* (3rd ed). Los Angeles, CA: Sage.
- Schutz, A. (1977). Making music together: a study in social relationship. *Social Research*, 18(1), 76-97.
- Sennett, R. (1994). *Flesh and stone: The body and the city in Western civilization*. New York: W.W. Norton.
- Solnit, R., & Jelly-Schapiro, J. (2016). *Nonstop metropolis: A New York City atlas*. Oakland, CA: University of California Press.
- Specter, D. K. (1974). *Urban spaces*. Greenwich, CT: New York Graphic Society. Retrieved from <http://trove.nla.gov.au/version/45419804>
- Stafford, F. (2017, January 5). To make landscape a place, you have to feel it. Retrieved November 5, 2017, from <https://onbeing.org/blog/place-is-a-landscape-deeply-felt/>

- Stevens, W. (1982). *The collected poems of Wallace Stevens*. New York, NY: Vintage Books-Random House.
- Sullivan, G. (2000). *Aesthetic education at the Lincoln Center Institute: An historical and philosophical overview*. New York, NY: Lincoln Center Institute.
- Szostak, R. (2017). Interdisciplinary research as a creative design process. In F. Darbellay, Z. Moody, & T. Lubart (Eds.), *Creativity, design thinking and interdisciplinarity in the Twenty First Century* (pp. 17-33). Singapore: Springer.
- Taylor, J. B. (2008). *My stroke of insight* [Video file]. Retrieved from [http://www.ted.com](http://www.ted.com/rest_of_URL).rest_of_URL. <http://tedtalkspsychology.com/my-stroke-of-insight-with-jill-bolte-taylor/>
- Welch IV, J. (2007). The role of intuition in interdisciplinary insight. *Issues in Integrative Studies*, 25, 131-155.
- Wise, A. L. (1996). Building theory into GIS-based landscape analysis. In *Computer Applications and Quantitative Methods in Archeology*. Romania. Retrieved from <http://proceedings.caaconference.org/year/1996/>
- Zumthor, P. (2010). *Thinking architecture* (3rd edition). Boston: Birkhäuser Architecture.