

Environmental READINGS 2012

Editors

Billy Fleming
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Foreword

Frederick Steiner

Each spring for the last several years I have taught the Environmental Readings course in the School of Architecture at The University of Texas at Austin. The course attracts graduate students from landscape architecture, community and regional planning, architecture, sustainable design, urban design, history, and public administration. I especially enjoy this cross-disciplinary aspect of the class.

The course was inspired by my Arizona State University colleague Laurel McSherry, now director of the Master of Landscape Architecture Program at Virginia Tech. She originated a class for landscape architecture and environmental planning students to explore classic writings about nature, using Harvard Professor Lawrence Buell's *Writing for an Endangered Planet* as the organizing text. When she went on sabbatical as a Rome Prize recipient, I inherited the class for that year. After I moved to Austin, I began offering the class and evolved it on my own.

Each year, the students write three papers – one on a theorist, one on existing theory, and one on their own theory. These papers have been interesting and thought-provoking and I believe worthy of a broader audience. For several years I offered the students the opportunity to publish the papers from the course. This trio of ambitious, bright students—Billy Fleming, Annie Palone, and John Rigdon—took up this challenge and produced the work contained here.

A long, deep green thread exists in American literature, from Ralph Waldo Emerson and Walt Whitman through Herman Melville and William Carlos Williams on to Terry Tempest Williams and Wendell Berry. This literature has influenced how we perceive our environments. In addition, many planners, designers, conservationists, and social reformists, including Jane Addams, John Muir, Aldo Leopold, Lewis Mumford, Frank Lloyd Wright, Rachel Carson, Lawrence Halprin, and Anne Whiston Spirn have been influenced. In this seminar, we explore this green thread and analyze its influence on how we shape our environments through design and planning.

The Environmental Readings course has three parts. Throughout, the influence of literature on design and planning theory is explored. The first part focuses on the three most important theorists in environmental planning and landscape architecture: Frederick Law Olmsted Sr., Charles Eliot, and Ian McHarg. The senior Olmsted pretty much created the field of landscape architecture, adapting the English landscape aesthetic for the rapidly

urbanizing North American continent to address pressing urban issues. Arguably, the planning profession in the United States also began with the senior Olmsted. Charles Eliot was a protégé of Olmsted's. Eliot pioneered the use of comprehensive, scientific landscape inventories; originated the concept of land trusts; and designed the first metropolitan regional open-space plan. Educated in both landscape architecture and city planning, Ian McHarg influenced both fields in the late twentieth century. He urged us to better understand natural processes and how people use space.

The second part of the course critically explores current theories in environmental planning and landscape architecture. Topics include: frameworks for cultural landscape studies, the future of the vernacular, ecological design and planning, sustainable and regenerative design, the languages of landscapes, and evolving views of landscape aesthetics and ethics.

In the third part of the course, students build on the readings to develop their own theories for ecological planning or, alternatively, landscape architecture. While literacy and critical inquiry are addressed throughout the course, critical thinking is especially important for this final section.

The goals of the Environmental Readings course are, first, to make students aware of the rich theoretical tradition and literature in landscape architecture and environmental planning and, second, to equip them with the critical thinking abilities to theorize about the future of these two interrelated disciplines. To achieve these goals, the objective is to develop the writing skills necessary for students to express an understanding of theory and theorizing. The papers collected here from the 2012 Environmental Readings course illustrate how that objective has been fulfilled.

January 23, 2013

Frederick Law Olmsted and Shlomo Aronson

Billy Fleming

"The mountain ranges, valleys, and great waters of America all trend north and south, not east and west. An arbitrary political line may divide the north from the south, but there is no such line in nature and there can be none socially"

'Yeoman', 1852

Frederick Law Olmsted scrawled this fleeting thought into his journal as he concluded his year-long sojourn through the Southern States preceding the Civil War. His political skills sharpened, Olmsted's commentary on natural and social processes in this journal would go on to embody the values expressed through his design interventions. Less than a year after returning from the journey, he inauspiciously won the commission to design Central Park and irrevocably altered the worlds of planning and Landscape Architecture through his fascination with nature, public health, and social interactions.

Nearly a century later, Shlomo Aronson would encounter similar political strife in the Middle East. Immersed in conflict and confronted with a nation rapidly shifting from an agrarian economy to an urbanized and technological powerhouse, Aronson found himself caught between the past and the future and, at times, unable to reconcile the tension. Like Olmsted, Aronson's design philosophy was acutely attuned to the pressing issues of his era and his ardent work helped establish Landscape Architecture as a profession in Israel.

Their experiences as young men forged their design values, and the various convergent and divergent threads between them help elucidate how and why they became iconic figures in the brief history of Landscape Architecture. The century separating their lives is transcended by their shared concerns of re-introducing urbanites to nature, and their belief that engaging public spaces have the ability to narrow the gap between social classes. In the end, each changed their profession, their nation, and a rising generation of designers for the better.

Frederick Law Olmsted's Early Life and Influences Ambulatory Education: A Young Olmsted Connects with Nature

Many have sought to distill Frederick Law Olmsted's character or essence into a simple phrase. Laurie Olin rightfully called him "tough as nails," describing his tenacious political acumen. His dear friend Charles Eliot Norton debunked the mirage of his feckless first

PART I: Environmental Theorists

impression, saying that “it is not till one has looked through [this] to what is underneath, that the force of his will and the reserved power of his character become evident.” Witold Rybczynski writes of young Olmsted that he resembled “a difficult child whose parents have trouble dealing with him, and who is sent away...for his own good.” Olmsted, in his own self-deprecating style, would characterize himself as “active, imaginative, impulsive, enterprising, trustful, and heedless. This made me what is generally called a troublesome and mischievous boy” (Rybczynski 1999). Though the image conjured up by these descriptions is of a man conflicted between the obdurate, capricious behavior of a boy and the relentless, calculating maneuvering of a conniving man, it was Olmsted’s youthful exuberance that defined his education as well as his career, and this ambulatory upbringing provides the broad strokes of his life’s portrait.

John Olmsted, Fred’s father, was a well-established, socially connected merchant in Hartford, Connecticut. His financial and social standing buoyed the hope that his first son would attend Yale after completing his studies. These dreams, however, were beset by a pair of unforeseen events: (1) the death Fred’s mother, Charlotte, when he was three, and his father’s subsequent remarriage; and (2) a disastrous eye-ailment at the age of fourteen that left the young Olmsted blind for nearly fifteen months.

As John and his new wife Mary Ann embarked upon starting their “own” family, Fred was sent to an unusual educational locale: a dame’s school, which was typically reserved for women, and often taught in the home of the schoolteacher. His education began here, as he was shipped to and from three separate dame’s schools throughout his adolescence. In fact, between stints at three such schools, private instruction from clergymen, and enrollment in one of the nation’s first high schools, Fred enrolled in at least nine schools throughout his youth (Rybczynski 1999). The only constant in the ever-shifting landscape of his education was Olmsted’s connection with nature. When his schooling took him to the hinterlands surrounding Hartford, Fred often wrote of his affinity for the outdoors in letters to his father, and this connection would become more apparent when the young Olmsted’s education was beset by a second transformative event: blindness.

At the age of fourteen, Fred was afflicted with a serious ocular disorder. Though the exact illness was never determined (due in large part to the primitive nature of mid-19th century medicine), Olmsted was blinded for nearly fifteen months and troubled intermittently for several years after his initial infection. Never a strong student prior to this ailment, Olmsted’s classroom education was ceased by this illness, and his first apprenticeship ensued after his recovery, as a topographical surveyor. Describing his ambivalence towards the job, Olmsted wrote in a letter to his father that it was:

“a decently restrained vagabond life, generally pursued under the guise of an angler, a fowler or a dabbler on the shallowest shores of the deep sea of the natural sciences” (Rybczynski 1999).

After a few short months, Olmsted’s unwavering curiosity and “lamentably short attention span” led him to abandon his first career in pursuit of a myriad of other fields, always with the financial backing of his father.

Olmsted tried his hand at his father’s mercantile craft next, though its appeal soon faded to monotony and a longing for a more footloose occupation. Unsurprisingly, in April of 1843, Fred boarded the *Ronaldson*, a vessel bound for the Chinese port of Hong Kong, where he hoped to satisfy his wanderlust. Intoxicated by the open sea’s romantic mythology, Olmsted’s perception of a sailor’s life was soon met with erasure by harsh realities of life on the *Ronaldson*. Perpetually seasick, required to do debilitating labor, and unable to explore Hong Kong (Olmsted’s true motivation for embarking on the trip), Fred was left bitter about his experience. Writing of his company on the ship he said:

“American seaman, as a class, are governed by more threats of force than any other civilized laborers in the world. When sober, they habitually hate their ship, officers, messmates, and they despise themselves” (Olmsted 1861).

Though he grew to despise his shipmates, Olmsted’s wanderlust continued to grow.

In Search of Meaning: Olmsted as the Traveling Gentleman Farmer

Recovering from his sailing-induced emaciation, Olmsted – now twenty-two – decided to try his hand at farming. Characteristic of his quixotic nature, Olmsted moved from farm to farm before discovering *The Cultivator*, a publication rooted in scientific farming. By the age of twenty-six, he had settled into the field and was producing decent, though still unprofitable harvests while contributing research to his emerging profession. But Olmsted was vexed by a series of recurring issues.

He wanted desperately to find a wife, and made no secret of this in his writings to his brother. By the age of twenty-eight Olmsted had experienced little more than fleeting romance in his life. Fred was also becoming increasingly disillusioned with religion, due perhaps to his immersion in it during his youth. Finally, Fred found himself unable to shed his perpetual wanderlust. In search of meaning, Olmsted believed his farming endeavor could become profitable, and thus respectable, if merged with the burgeoning nursery business. Considered the world’s beacon for the modern nurseryman, Great Britain became his destination of choice for selecting the species that would populate his farm.

Olmsted’s European voyage proved useful in two ways: (1) it exposed him to the English garden traditions that would later become key elements in his design vocabulary, and (2) it inspired him to write. Traveling across England introduced Olmsted to parks like Birkenhead and Stowe, where he postulated on the social-leveling power of public space in the travel journal he kept. His journey to England would become the foundation of his rural design vernacular, and the experiences captured in his journal would lead to publications alongside Andrew Jackson Downing and eventually his first book, “Walks and Talks of an

American Farmer in England.” His literary success won him praise from Charles Brace, editor of the recently founded New York Times, who commissioned Olmsted to embark upon a similar sojourn across the Southern States (Rybczynski 1999).

This excursion, which began in December of 1852, would prove to be another formative experience in Fred’s search for meaning. Operating as an embedded reporter of sorts, Olmsted entered the region as tensions between the north and south rose, investigating southern society and publishing reports from the road under the alias of “Yeoman.” Though he initially approached his work as an unbiased observer, Olmsted made keen insights into slavery’s deleterious economic effects on the agrarian south, writing that:

“I cannot see how it can be doubted that the beings called negroes are endowed with a faculty, which distinguishes them from brutes, of perceiving the moral distinction of good and evil; of loving the good and regretting the evil which is in themselves. They are, beyond a question, I think, also possessed of independent reasoning faculties” (Olmsted 1861).

In August of 1854, Olmsted returned to Tosomock Farm in New York, briefly entering the publishing industry, and forming a friendship with Charles Eliot, positioning himself for the watershed moment in his career: becoming superintendent of New York’s Central Park.

Shlomo Aronson’s Early Life and Influences Lines in the Sand: A Young Aronson’s Immersion in Conflict

Born in Haifa, Israel in 1936, Shlomo Aronson’s formative years have received understandably less attention than Olmsted’s. There are no Witold Rybczynski’s to cover his work as of yet; even Olmsted had to wait nearly a century for such attention. Nevertheless, what has been written about Aronson – and the era and region in which he grew up – does paint a compelling picture about the driving forces behind his ascension to Israel’s Landscape Architectural throne.

Aronson’s upbringing was not unlike Olmsted’s. His father was a merchant in the vibrant port-town of Haifa and his family was somewhat well-off. As the United States was drawn into World War II, Haifa (and much of what was then called Palestine) was used by the Allied Forces as a staging ground. Entire forests were clear-cut to accommodate occupying military forces. Their field exercises and loud artillery were commonplace in the adjacent Mount Carmel region of Israel’s Mediterranean Coast, and Shlomo often found himself surrounded by soldiers when accompanying his father to Haifa’s port market.

This era also heightened tensions across the Middle East as Zionists flocked back to their homeland and pressured the sympathetic Western Allies to support the creation of Israel as penance for enabling Hitler’s rise to power. Unfortunately, when the war in Europe ended, the war in the Middle East began. In 1947, Jewish settlers waged the “Israeli War of Independence” in an effort to create their homeland along the Mediterranean coast. For Zionists, it was about more than finding a destination for Jews in diaspora. It was also about

reconnecting Jews with their historical landscape, as the *kibbutz* movement and *moshavim* attempted to begin following the first World War. Many of Shlomo’s extended family members founded and worked on *kibbutzim* in the 1920s and 1930s, and their connection to Israel’s agricultural legacy would stick with him throughout his lifetime (Helphand 2002).

Though the “War of Independence” was over in 1948, Shlomo, now twelve, found that he had spent his entire life surrounded by soldiers or immersed in conflict. Israel would eventually grow into a thriving economic marketplace, but persistent conflict throughout the 1960s and 70s left many in the nation financially and psychologically strained. Like many Israelites of his generation, Shlomo’s family fell on hard times, and he began working as a teenager to help pull in more household income, and delayed the start of his college education until the age of twenty-two. Eager to find a respite from the grinding conflict in Israel, Aronson chose to attend Berkeley in 1959, hoping to find a quiet place to engage in his studies. By the end of his first year on campus, however, he would once again be confronted with conflict.

An Awakening: Aronson’s Introduction to Landscape Architecture

Aronson enrolled in Berkeley’s Architecture program – a luxury Olmsted was never afforded –and found himself in close proximity to daily Civil Rights protests on campus. It was in these settings that Aronson began to sharpen his political acumen and associate with some of the Bay Area’s most active political actors, most of whom were Communists (Aronson 1991). By 1962, he was not only attending the protests at Berkeley, he was helping to organize them. Perhaps his youthful immersion in conflict created a proclivity for the sort of tension these protests wrought, but Aronson would later proclaim that these events played a prominent role in shaping his view of design as the “great social-equalizer.”

As he neared the end of his architectural education in the fall of 1962, Aronson got sidetracked on the way to meet some friends and found himself in a lecture hall where Lawrence Halprin was speaking. Shlomo had never given much thought to Landscape Architecture; in fact, Halprin’s lecture was his first exposure to the profession. Because his firm was doing so well, Halprin took time after the lecture to engage and recruit Berkeley students to his office. Shlomo made quite an impression on Halprin, and a few days later, Aronson was interning in his firm. After graduation, Shlomo remained in Halprin’s office for three more years before moving on to roles with The Architects Collaborative in Massachusetts, The Greater London Council, and eventually Harvard’s Graduate School of Design.

Halprin’s influence on Aronson was profound. As a graduate student at Harvard, he had been granted admission to both the Architectural and Landscape Architectural Master’s programs. His experience under Halprin convinced him to pursue a degree in Landscape Architecture, where his interests in the cultural landscapes of Israel could be better explored. After completing his work at Harvard, Aronson returning to Israel in 1968 and found himself in a unique position.

The Six-Day War had just concluded, and in 1973 the Yom Kippur War would begin. Coupled with the ecological degradation caused by Allied forces during World War II and the subsequent over-grazing by the region's farmers, Israel was becoming a nation of environmental ruin. The forests were gone, rivers were drying up, and the coast was so polluted that swimming in the Mediterranean was prohibited for months at a time near Tel Aviv. Israel's limited natural resources were nearly eradicated and Aronson felt compelled to intervene.

Aronson founded his own practice in 1969, though he received very few and rather small commissions until the end of the Yom Kippur War in 1973. The conflict that permeated his childhood and young adulthood, along with Halprin's tutelage caused Shlomo to view the landscape much as Olmsted did. His belief in the power of public space to assuage tensions and cultural dissonance became the cornerstone of his own practice. The arid nature of Israel and the gross mismanagement of its resources during the 20th century also placed the region in the precarious position of trying to modernize and urbanize its population while regenerating its denuded landscape. Thanks to his fortuitous timing, Aronson became the first Landscape Architect to return to Israel after the Six-Day War and his impact on the nation's development has been unparalleled.

A Watershed Moment: How Olmsted and Aronson (Re)Shaped Their Nations' Landscape

As Olmsted and Aronson embarked on their newfound careers in Landscape Architecture, each faced his own unique set of challenges. In 1857, as Olmsted and Calvert Vaux prepared to design New York's iconic Central Park, the nation was in the final throes of its Industrial Revolution. Urban areas, and particularly New York, were plagued by deplorable public sanitation systems, overcrowded tenement housing, and the rapid disintegration of the connection between nature and urban residents. In 1974, as Aronson was building his practice, Israel was emerging from a half-century embroiled in conflict, the near-complete depletion of its natural resources and amenities, and persistent tension between its Jewish and Arab populations.

As pioneers in the field, there was little precedent for Olmsted or Aronson to build their philosophies upon. Rather, the values and perspectives forged by their youth led these Landscape Architects to confront the challenges of their day in transformative ways. Though they differed in their choice of materials and design vernacular, both Olmsted and Aronson sought to leverage their work to meet the pressing environmental and socio-cultural issues of their respective eras. For each man, a seminal project occurred, which would transform not only their lives, but their nations as well.

Central Park: The Great Equalizer

Olmsted received the commission for Central Park somewhat serendipitously. The man in line for the job, Andrew Jackson Downing, passed away suddenly, and when a contest was

arranged to select a designer, Olmsted and Calvert Vaux's submission was chosen (while Fred was serving on the selection committee). His political maneuvering may have won him the project, but it was *Greensward's* infusion of pastoral iconography in the center of New York City that won him praise. Though some of Olmsted's later projects have received greater professional attention, Central Park's influence on the American landscape remains unmatched.

The idyllic landscape that Olmsted had come to value shone through in his first project: "It was a brilliant solution. The city had been able to acquire...land for the park in part because it was unsuitable for normal real estate development. Vaux and Olmsted turned this liability into an advantage by exploiting the craggy outcrops and turning the lowlands into lakes" (Rybczynski, 1999).

An ensemble of "brilliant solutions" transformed this neglected property into one of the world's most iconic and oft-emulated landscapes. Borrowing from his European travels, Olmsted used "ha-ha" walls to hide the park's carriageways from plain sight, designed a more formal, but somewhat "American-ized" Mall, and blended each element – formal and informal – into a continuously varied pastoral landscape. Olmsted and Vaux embellished the site's sparse natural features by excavating around prominent rock outcroppings, subtly enhancing topographic undulations, and transforming the mosaic of micro-landscapes within the park into a handful of broad, sweeping features.

Olmsted's final "brilliant solution" for Central Park came in his understanding of the inextricable links between its ecological and socio-cultural systems. Not only was Central Park intended to allow New Yorkers the chance to re-inhabit the natural world, it strove to do so for every resident, not just those of the aristocratic class. In describing his vision for Central Park's effect on New York's social hierarchy to the Parks Commission of Chicago, Olmsted wrote:

"Those who live in any place, who have pretensions to create an institutionalized locus of social and political power, have to find or invent an imaginary community sufficient to achieve some level of social cohesion, solidarity, and institutional order" (Germic 2001).

Olmsted was prescient in recognizing the borderless nature of both ecological and social systems. Though he would refine his design solutions over the ensuing half-century, Central Park was his first foray into the realm of re-inhabiting nature through physical interventions. From this effort, Landscape Architecture emerged as a profession, and while it has built upon his ecological legacy quite admirably, it has often neglected his understanding of design's effect on social processes.

Gabriel Sherover Promenade: A New Pattern Language

Aronson's return to Israel coincided with a growing disconnect between the young nation's policies, and the depletion of its natural resources. His path towards Landscape Architecture

was forged primarily through his belief that the communities most responsible for urban development – businessmen and politicians – lacked the incentive and knowledge to understand natural processes in a long-term, meaningful way. Therefore, he concluded, it was up to Landscape Architects to bridge the gap between the “short-term focus” of these actors and the “technocratic jargon” of the ecologists, climatologists, and scientists who were intimately familiar with long-term natural processes (Aronson, 2008). His first opportunity to test this assertion came in 1985, when he won the commission to design Jerusalem’s Gabriel Sherover Promenade.

The Promenade, gifted to the city of Jerusalem by Gitta Sherover in honor of her son, was located on one of the region’s most ecologically sensitive sites: a ridge in the Judean Hills draining directly into the Jordan River Basin. The site was topographically complex, as bombing from the 1973 Yom Kippur War had left large swaths of exposed limestone and karst features. Aronson was worried about the very concept of a promenade in such an arid location, as they were typically reserved for “seaside cities, where they are graced by a cornice and meander elegantly amongst shops, restaurants, and other stroll-worthy destinations” (Aronson 1998). The design was also commissioned at the height of the first Palestinian Intifada, as Jerusalem found itself at the epicenter of daily protests, bombings, and government retaliations.

To address these pressing concerns, Aronson developed the project around three loci: (1) to assuage the cultural conflicts that might otherwise overwhelm the site, Aronson wanted to draw upon the agricultural iconography of the Judean Hills in the project’s planting palette; (2) to ensure the impact on the Jordan River (Israel’s primary source of potable water) was minimized, he sought to accentuate rather than struggle against the site’s topography, thus using a rather complex catchment system to mitigate storm-water pollution on-site; and (3) because the site boasted view-sheds to each of Jerusalem’s iconic landmarks, Aronson wanted to create an experience that would honor each, while avoiding emphasizing one focal point over another throughout the project (Aronson 1998).

Years later, after construction was completed, and the project had garnered a slew of international awards, Aronson would remark that “Sherover changed the way we all viewed the idea of a promenade...as well as how we perceived places like the city of Jerusalem or the Jordan River in terms of ownership” (Aronson 2012). Aronson’s infusion of agricultural iconography in the site proved to be useful ecologically, as it created productivity in an urban environment. It also instilled a new design vernacular across the region as Israeli designers attempted to reconnect settlers with the land. More importantly, however, Aronson viewed this site much as Olmsted had viewed Central Park. For Aronson, the social and ecological systems embedded in the Sherover Promenade were inexorably linked, and he capitalized upon them in a way that improved changed the profession’s trajectory in Israel.

Without Precedent: Olmsted’s and Aronson’s Legacies Grow

Though Fred and Shlomo each experienced a watershed moment, the breadth of their influence stretched beyond a singular project. Defining the very boundaries for the profession, Olmsted would experiment with community design in Riverside, green-printing of sorts in Boston’s Emerald Necklace, and forest-management on the Biltmore Estate in North Carolina. A century later, Aronson would go on to create a new framework for managing storm-water in Tel Aviv that preceded Low-Impact Development, develop the Middle East’s first reforestation plan in Yatir, and pioneer form-based planning in the resort town of Eilat. Each of the projects represented new foundations for Landscape Architecture and offered new methods of reconnecting people with their environment.

Brick by Brick: Olmsted Lays the Foundation for Contemporary Landscape Architecture

As a run to produce central parks ensued in most of America’s large urban centers, Olmsted turned his attention to grander scales of design. Tasked initially with mitigating the hazardous public health conditions along Boston’s Back Bay Fens, Olmsted sparked another “brilliant solution.” Firstly, he recognized that the natural system of storm-water treatment was far superior to any engineered-solution, and engaged the natural features of the Boston site to better manage that waste.

But his brilliance extended far beyond this, as Olmsted recognized the source of the problem – the Muddy River – could only be meaningfully addressed at the city-scale. Over the course of several years, he would be asked to design Boston’s “Emerald Necklace” through a series of parks that culminated in the “crown jewel,” Franklin Park. Olmsted spent nearly a decade convincing the Parks Commission in Boston to commit to the entire system, and his political acumen shone in the process. It was the first such system in the nation, and Olmsted’s revitalization of this sensitive hydro-ecological system not only provided environmental benefits to Bostonians, it also allowed them to reconnect with nature on a daily basis.

In the Chicago suburb of Riverside, Olmsted blurred the line between planning and design, setting the stage for Landscape Architects to oversee entire projects on their own from conception to construction; from a sketch master plan, to curb and gutter details. Though it included many negative elements – curb and gutter drainage, large setbacks, and oversized lots – that continue to manifest themselves in contemporary practice, this project thrust Landscape Architecture out of its park design box and into the realms of design coding, transportation planning, and community development. This suburb – for better or worse – in many ways became the model for middle-class homeowners in the mid-20th century, who sought economic opportunity in city-centers, but escape from urban vices for their home lives.

But Olmsted's greatest legacy may be his design for the Biltmore Estate in Asheville, NC. Beyond his artful blending of English and French garden design, Olmsted helped create *another* profession through Biltmore: Forestry. After convincing Mr. Vanderbilt that a managed and productive forest would be a profitable addition to his property, Olmsted enlisted Gifford Pinchot to craft a management plan for the woodlands. Through this experiment, Pinchot would help establish the first school of forestry at Yale, and which eventually led to the formation of the US Forestry Service. Olmsted's ability to grasp environmental systems at a regional scale facilitated both the USFS, and the notion of green-printing as a planning approach, both of which were bolstered by his ability to persuade and engage his clients.

A New Desert Life: Aronson Re-inhabits Israel's Aridscapes

Aronson's completion of the Sherover Promenade introduced Israelis to the power of Landscape Architecture. But as solicitations for his work on similar projects rolled in, Shlomo sought new venues for assuaging the environmental and societal tensions in his homeland. This came first in the form of an urban design project, the Suzanne Delal Dance Center, in the Tel Aviv neighborhood of Neve Zedek.

Once an Arab bedroom community for the town of Jaffa, the rapid urbanization of Tel Aviv had transformed all three communities into a continuous sprawl of urbanity. Though he was initially commissioned to augment the entry plaza to the center, Aronson saw other opportunities for the site. Once surrounded by orange groves, this portion of Tel Aviv contained porous soil and a fragile coastal ecosystem that had become imperiled over the years as development encroached upon it. In what would become a model for development along the Tel Aviv seaside, Aronson incorporated many elements into the plaza that would now be categorized as Low-Impact Development: infiltration basins, permeable pavements, and other surficial storm-water management tools. Almost a decade later, the City of Tel Aviv would adopt an LID ordinance based largely upon Aronson's work with the Delal Dance Center (Aronson 2008).

This site-specific approach would have an impact on the City of Tel Aviv, but Aronson's next commission— the Yatir Reforestation Project — would have far-reaching implications for the entire nation. A national policy of over-harvesting timber and water resources had led to the desertification of large swaths of central Israel. To combat the Negev Desert's (the Desert covering most of Southern Israel) march northward, Aronson was commissioned by the Israeli Ministry of the Interior to devise a reforestation plan for the region (Aronson 1998). It would become Aronson's contemporary Biltmore in some respects, as his project employed many of the forest management practices developed by Pinchot, and ultimately served as the training ground for Israel's burgeoning forestry profession. Much like Biltmore, it also became a tourist destination, and Aronson would be re-commissioned several years later to design a series of camping and recreation sites in what would become Israel's first National Park.

Aronson's greatest legacy, however, may lie in his approach to the comprehensive plan for the resort town of Eilat. Due to the rapid urbanization of the nation, new-town planning became commonplace in Israel during the 1980s and 1990s. Located along the Red Sea, and between the borders of Jordan, and Egypt, Eilat was unique in that it had no historical settlement to draw upon. This blank-slate provided Aronson with what would become *the* defining project in Israeli regional planning. Eilat's comprehensive plan was the first to consider an extensive suitability analysis, and Aronson used it to direct development away from the agricultural lands to the north, and into the relatively flat sea-front where the town could engage with its greatest asset: the Red Sea. In the end, Aronson's plan for Eilat produced the first form-based coding in Israel, as well as its first regional plan for an urbanizing area (Aronson 1998).

Conclusions

In the final analysis, Olmsted and Aronson shared a number of common threads in their approaches to design: each sought to re-engage urbanizing populations with nature, each sought to draw upon the cultural iconography of his time and place to do so, and each strove to lessen the gap between social classes through vibrant public realms. While their built work tends to speak for itself, both of these men also left behind a skilled cohort of successors who aimed to build upon their strong foundations.

Olmsted's son Fred Jr.'s firm "The Olmsted Brothers" was so successful that historians lost track of the senior Olmsted for several decades. Men like Daniel Burnham and John Nolan also built upon Fred's legacy as they established the profession of city planning in the United States. But Olmsted's greatest lesson for contemporary Landscape Architects may have been in his willingness to engage in the "politics of design". His maneuvering landed him commissions in New York, Boston, Chicago, and more, and enabled him to build a profession from scratch in a few short years.

Aronson always kept his office small – no more than 5 full-time employees – and this allowed him to develop and retain the talent around him. His first project manager, Judy Green, stayed with the firm for nearly twenty years, and after leaving for a faculty position at the Technion, she opened her own boutique practice in 2010. Shlomo's children – Barbara and Ittai – now run the office, as he has moved into semi-retirement. Thanks to his own brand of political gamesmanship, Aronson's office continues to receive the majority of Israel's national commissions and is in constant demand from municipalities to provide expertise on their own local and regional projects.

Olmsted, writing as Yeoman, provided a philosophy for designers to emulate. Aronson, writing in his first book to document his early work in Israel, crafted a philosophy that contemporary firms *should* emulate:

"We specialize in being unspecialized. We prefer the responsibility of the *entire* job, from beginning to end. We believe that our preference for doing the whole project gives us a great advantage in doing any one of its parts" (Aronson 1998).

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Gifford Pinchot: Father of Conservation and Sustainability in the United States

John Rigdon

Gifford Pinchot was the first professionally trained forester in the United States. He was also the first head of the US Forest Service and twice elected Governor of Pennsylvania. His writings and theories on forestry processes were the first of their kind in America. Pinchot worked closely with President Theodore Roosevelt and together they are credited as the founders of the Conservation movement. Additionally, Pinchot's work on forestry served as the precursor to modern ideas of sustainability. This list of accomplishments begins to address what Gifford Pinchot means to conservation, sustainability, and American environmental history. In order to best understand his impact it is important to begin with Pinchot's formative years.

Early Years

Pinchot was born in 1865 in Simsbury, Connecticut. His father had amassed a fortune through land speculation and the lumber industry in the Northeast. By virtue of this fortune, Pinchot had a comfortable life with a high level of access to opportunities. Childhood experiences in the Connecticut wilderness had a particular impact, and shaped him into a naturalist; "As a boy it was my firm intention to be a naturalist. Camping was my delight" (Pinchot, 1947). He had no knowledge of forestry at the time, but his love for nature would lead to an important insight from his father. Pinchot offers that a single question may have prompted him to pursue a career in forestry, and that this question led to the birth of Forestry in the US. His father asked him just before his departure for Yale, "How would you like to be a forester?" Pinchot was intrigued by this question, and continues that his father "saw what nobody else had seen. Here was a career waiting for somebody's son" (Pinchot, 1947). Following this revelatory moment Pinchot was certain that he wanted to pursue a career in forestry.

Pinchot followed family tradition: attending Yale University and graduating in 1889. At the time, there was not a single university in the US offering a degree in forestry. In spite of the lack of academic focus on forestry, he searched for any material that he could find on the subject. Pinchot noted that the writings of George Perkins Marsh and Charles S. Sargent were some of the only texts on Forestry in the Yale Library. Pinchot also made a trip to Washington D.C. to speak with the current Secretary of Forestry Bernhard Fernow. During their discussion, Fernow advised Pinchot to pursue a different career as "forestry was impracticable in the United States" (Pinchot, 1947). This conversation would shape Pinchot's negative feelings about his predecessors in the field. Despite the obstacles in his

path, Pinchot did not give up on forestry. Instead, he decided that he needed to go abroad in order to complete his education. Using family connections, Pinchot was able to secure a place at the French National Forestry School in Nancy, France. After a year of studies, he returned to the US to establish the profession of forestry.

Beginning of Forestry in the United States

Shortly after returning to the United States, Pinchot was offered an opportunity that would shape the rest of his life and the future of Forestry in the United States. George W. Vanderbilt had recently inherited a fortune and wanted to set up a home and gardens near Asheville, NC. He hired famous landscape architect Frederick Law Olmsted to lay out the grounds for his new estate, the Biltmore. Olmsted was well established by this point in his career, and had begun to incorporate the beauty of the American wilderness into his landscapes. He utilized the English, and French traditions, and pioneered a new American style of landscape design for the project (Rybczynski, 1999). Olmsted wanted a well maintained forest for this part of his plan and needed an expert in forestry to run the project. Gifford Pinchot was chosen to carry out Olmsted's vision. Pinchot states that the credit for being chosen for the project goes to his father. The elder Pinchot was friends with Olmsted and made the introduction. Gifford Pinchot also gives a great deal of credit to Olmsted, stating that Olmsted's idea for the Biltmore was the "nest egg for practical forestry in the United States"(Pinchot, 1947).

Pinchot happily took on the Biltmore project, seeing it as the opportunity of a lifetime. However, wrote later that at the time he saw the project as a "devastating commentary on the injustice of concentrated wealth"(Pinchot 1947, 48). Despite his hesitations over social conditions in the region, he could not pass up the opportunity to implement his visions for forestry. His social concerns would later return to shape his deep involvement in the Progressive Party.

While working on the Biltmore Estate, Pinchot established the first systematic forestry program in the United States. Prior to the Biltmore, the common belief in the United States was that the forest was an inexhaustible resource. Large old-growth forests dominated the American landscape and few people could imagine a day when these forests would be depleted. Pinchot saw things very differently. He could envision this bleak future and began to develop a model for conservation. He would later state in his autobiography, that his goals for the forest were two-fold. Firstly, he wanted to develop a forest with steady annual yields, or "Sustained Yield;" this would pay back the costs of the investment in conservation and annually turn a profit. His second goal was to identify the species that performed best in the local climate, and favor the planting of those species. This view was very practical and economic (Pinchot, 1947). Using this two-fold approach he was able to bring together two notions that his contemporaries thought irreconcilable: profitable logging of a forest with natural resource conservation.

Many of Pinchot's insights on forestry from the Biltmore Forest read like common sense today. However, these were groundbreaking insights at the time. The autobiography lists 'Cutting Rules,' which he developed at the end of his time at Biltmore, for his next major project, the Ne-Ha-Sa-Ne Forest. Some of the more notable rules are:

1. Only trees marked by the forester must be cut
2. No timber outside of the road shall be used for corduroy, culverts, or any other road purposes until all timber cut for the clearing of the roads has been utilized
7. Felled trees must be cut into logs at once, to release young growth crushed by their fall

These rules lay out a practice for sustainable and sensible cutting of a forest. Prior to this time, clear-cutting was the main practice. Loggers would cut all of the most accessible trees regardless of age, location, species, or other environmental concerns(Pinchot, 1947). Pinchot is due credit for laying out the first scientific approach to forestry in the US. The approach would later be implemented nation-wide when Pinchot took charge of the Forestry Service.

It is also important to note the contributions that Pinchot made in the training of professional foresters. Pinchot trained a handful of young men in forestry while working on the Biltmore estate. When he left the property to pursue other work, his successor Carl A. Shneck established the Biltmore Forest School. This was the first school of forestry in the United States. Shortly after the establishment of the Biltmore School, Pinchot convinced his family to fund the creation of a school of forestry at his alma mater, Yale. The school was founded in 1900 and was the first post-graduate forestry program in the United States (Studies, 2011). The two year program was created through generous grants from the Pinchot family estate, run by Gifford's brother. These two programs would train the first generation of forestry professionals in the United States.

Foundations of Conservation and Sustainability

While Pinchot was developing and refining forestry, an environmental movement was beginning to take shape in the US. A handful of individuals were laying the groundwork for environmentalism as we know it today. Despite being in the nascent stages of development, key distinctions were already being drawn in the movement. Pinchot is largely responsible for conservationism, while contemporary John Muir can be credited with the preservationist movement. Pinchot saw nature as a resource for humans that should be used in the most profitable way possible. However, he also included a long term horizon in his view. He asserted that nature should be used in a sustainable way so that it would survive to benefit future generations (Pinchot, 1947). These environmental values reflected his political views. He was an active Progressive Republican and a firm believer in the Efficiency Movement. The Movement's name sums up the purpose: to most efficiently use resources and to eliminate all kinds of waste (Hays, 1959). Together, politics and forestry would shape the broader movement towards Conservation. This approach was a source of constant debate between Pinchot and the Preservationist John Muir. Muir

believed in saving the environment for the environment's sake. He saw nature as having an intrinsic beauty and believed that this beauty should be preserved for future generations. The two men were ideologically at odds with one another throughout their careers.

Pinchot may also have been the first American to write about, and practice what we now refer to as 'Sustainability.' Pinchot's autobiography describes how his views diverge from those of the wasteful clear-cutting logger, as well as the views of the hard-line preservationist:

"The job is not to stop the axe but, to regulate its use. For that the whole stream of public thinking about the forest had to be shifted into a new channel—that of the few forest preservers no less than that of the many forest destroyers. A nation utterly absorbed in the present had to be brought to consider its future. The ingrained habit of mind of the best part of a hundred million people about a fundamental necessity of human life had to be changed" (Pinchot 1947, 29).

This rhetoric lines up precisely with modern views on sustainability. Sustainability shares this focus on the human-in-nature as a central theme. It also shares the important notion that future generations must be considered in each decision that we make. Although it seems like a logical approach, long-term horizons were not part of the American vocabulary when Pinchot was writing. Americans saw the country as possessing unlimited resources, and looked only for the best ways to exploit these resources. Pinchot applied this notion of sustainability specifically to forestry practices in the United States in order to combat the prevailing ideology at the time. However, in the longer term, his ideas have been influential in the founding of the sustainability movement in the United States.

The Creation of the US Forest Service

After successfully practicing scientific forestry in the Biltmore Forest and other private holdings, Pinchot was promoted to Chief of the Division of Forestry. He took this position in 1898; in 1905 he was renamed the US Forest Service. Once in charge, Pinchot dramatically changed the agenda of the department. Under former chief Bernhard Fernow, the primary goals were the distribution of information on tree species, and provision of maintenance instructions to individuals who wrote in to ask. Pinchot pushed an active role onto the Forest Service of teaching and advocating for scientific, yield-enhancing methods (Hays, 1959). He also offered the services of his trained foresters to private landowners. Under Pinchot, Forest Service employees would draft a scientifically-based cutting plan for the land, geared towards conservation and high yields.

Pinchot was the Chief of the US Forestry Service from 1905-1910, during which time Pinchot became close friends with President Theodore Roosevelt. Roosevelt released the National Forest Reserves into Pinchot's control and gave him a great deal of autonomy to make decisions for the Forest Service (Pinchot, 1947). Their shared conservationist ideology gained Pinchot the President's trust. They shared a similarly bleak view of the future of nature if sustainable yield methods were not implemented. After the Forest Reserves were

released, Pinchot consolidated them into the National Forests that Americans cherish to this day. Thus, one of the most lasting impacts of the Roosevelt-Pinchot relationship is the current system of National Forests in the United States.

Conflict and Fallout at the Forest Service

The 1908 election of President Roosevelt's chosen successor William Howard Taft led to a dramatic change in Gifford Pinchot's life. Like Roosevelt, he believed that Taft would continue to support the conservation and land use policies that Roosevelt created. However, Taft proved to have different ideas about conservation. These differences came to a head in the 1909 Pinchot-Ballinger Controversy. Richard A. Ballinger was promoted by Taft to Secretary of the Interior. Ballinger had been a staunch opponent of the many conservation efforts of Roosevelt and Pinchot (Hays, 1959). This appointment was the beginning of the end of Pinchot's career with the US Forestry Service. The appointment led to a series of heated public disputes over public land use policy. Much of what Pinchot had been able to get done was facilitated by close cooperation with the Department of the Interior. Ballinger began to roll back many of the agreements and channels of communication that had developed between the two organizations. In particular, Pinchot was enraged when his department was no longer allowed to investigate mining claims on National Forest lands. These claims were frequently falsified as a way for private landowners to clear cut and develop their land. The US Forestry Service had been given authority to investigate these claims, but Ballinger and Taft repealed the authority and gave it to the Department of the Interior. Roosevelt had also allowed Pinchot to circumvent some of the legal processes for utility right-of-ways. Pinchot defended his methods as a way of cutting through unnecessary red tape. However Taft saw it as the subversion of Federal law (Hays, 1959). Constant conflicts occurred throughout 1909 and 1910 and ended with Pinchot's firing by Taft in 1910.

Career in Politics and Later Work

Following his firing from the US Forest Service in 1910, Pinchot decided to take up the Progressive political cause. He became one of the leading voices in the new Progressive Party. This party formed as an offshoot of the Republican Party due to the chasm that had developed between the two factions. Pinchot and his brother Amos would play major roles in the short-lived party.

Despite a promising start, the Progressive Party began to dissolve shortly after the defeat of Teddy Roosevelt in the 1912 presidential election. However, Pinchot did not abandon his political ambitions. He ran unsuccessfully as the Progressive candidate for Governor of Pennsylvania in 1914. After the failed campaign, he was appointed the head of Forestry for the state in 1920. He was using this position as a stepping stone towards his ultimate goal of becoming governor. As planned, two years later Pinchot ran successfully for Governor. His legacy in office was one of strong support of public works, infrastructure projects, and labor rights (Pinchot, 1947). He was again elected governor in 1931 on a similar platform of job creation and reform. Pinchot would run two more unsuccessful campaigns before

retiring from politics in the late 1930s.

After retiring from politics, Pinchot spent his remaining years writing. Much of his work went towards putting together his autobiography titled "Breaking New Ground" and compiling his collected writings on forestry. His autobiography was not released until the year after his death. This massive document outlines Pinchot's life, as well as the creation of professional forestry in the United States.

Criticism

Public criticism about Pinchot began to emerge following the Ballinger-Pinchot Controversy. His falling out with President Taft and the Republican Party painted a picture of an uncompromising and stubborn man. He was said by many to be a man of black and white, totally lacking the ability to see the gray area. He was also viewed as impetuous and ready to jump to conclusions (McGeary, 1961). These personality traits had served him quite well under President Roosevelt, as the President gave him a great deal of power and support. But when Taft took office, these traits were scrutinized for being authoritarian and heavy-handed. The criticism of his leadership style was certainly a contributing factor to his on and off political popularity.

Another criticism that has been levied against Pinchot emerged after his death. The release of his autobiography was viewed by some as a slight to his predecessors and contemporaries. In particular, offense was taken at the fact that he labeled his own father as the founder of forestry in the United States. His father is said to have given the younger Pinchot the idea to pursue his career, but he himself was never a forester. Pinchot gave no credit to his predecessor at the future US Forestry Service, Bernhard Fernow (McGeary, 1961). His autobiography paints Fernow and his contemporaries as sell-outs to the lumber companies and as generally ineffectual and short-sighted.

Legacy

Gifford Pinchot has the distinction of being the founder of forestry in the United States. He is also given credit for the founding of the Conservation movement and the concept of sustainability. Pinchot summarizes his approach best:

"Without natural resources life itself is impossible. From birth to death, natural resources, transformed for human use, feed, clothe, shelter, and transport us. Upon them we depend for every material necessity, comfort, convenience, and protection in our lives. Without abundant resources prosperity is out of reach." (Pinchot 1947, 505)

He saw nature as a resource for human survival and advancement. His goal was to conserve nature for future generations while maximizing its productivity and usefulness for the current generation. This approach has impacted thinking in many fields beyond forestry.

Pinchot is due a great deal of credit for creating the National Forest system. With the support and confidence of President Roosevelt, Pinchot claimed millions of acres of at-risk forest and conserved them as National Forests. These forests are American icons to this day.

Gifford Pinchot was a talented and driven man. His best contributions harnessed this drive and singularity of purpose. He was able to bring forestry to the US from Europe, and establish the legitimacy of the profession. His uncompromising ideological stance paved the way for the conservation movement, and laid the groundwork for sustainability. Despite later battles and criticisms, Pinchot should be remembered fondly for his contributions to the American landscape.

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Aldo Leopold: A New Land Ethic

Travis Glenn

We all strive for safety, prosperity, comfort, long life, and dullness . . . A measure of success in this is all well enough, and perhaps is a requisite to objective thinking, but too much safety seems to yield only danger in the long run. Perhaps this is Thoreau's dictum: In wildness is the salvation of the world. Perhaps this is the hidden meaning in the howl of the wolf, long known among mountains, but seldom perceived among men.

Aldo Leopold, *Arizona and New Mexico*

First published posthumously in 1949, Aldo Leopold's "A Sand County Almanac" has attained critical importance in the national environmental consciousness in the United States. Through its advocacy of the "land ethic" at a time when conservationism had yet to take hold as a popular cause, Leopold's thinking and writing was part of a movement that shaped the way that America viewed its "spacious skies", "amber waves of grain" and "purple mountain majesties." Timely in its publication, and exhaustive in its impact on each successive wave of environmental writers and activists, this text has proven time and again to be of value to generations of environmental thinkers who have returned to it as one of the cornerstones of contemporary American thought.

This essay provides a contemporary analysis of Leopold's thoughts as presented in "A Sand County Almanac", and several other essays by Leopold, examining the observations and prescriptions made by him during the last century, and mining them for their continued relevance to the environmental dialogue, and to designers. The analysis begins with "A Sand County Almanac", and then builds on the ideas expressed therein with contributions from other essays by Leopold. This body of thought is examined for a relevant, guiding thesis for investigating the role of the design professions at the intersection of ecology and culture.

Like any true almanac, "A Sand County Almanac" is written as a record of a year's worth of observations of the natural world found in, and around Leopold's farm in Sauk County, Wisconsin (near Baraboo, in the south central part of the state). He purchased the farm after moving to Madison, Wisconsin in 1929, first to take a position with US Forest Products, and then as the first professor of game management at the University of Wisconsin-Madison. The farm itself was located on the sandy soils typical of the area, had been abandoned by a previous owner, and its only building was little more than a chicken shack that Leopold

repaired sufficiently for his family to use as a cabin. The importance of the farm, however, quickly proves not to be in its economic prospects, but rather in the rich opportunities it affords for Leopold to indulge in his several past times, mainly hunting, fishing, and watching. (Leopold extols the virtues of such 'hobbies' in his entertaining essay "A Man's Leisure Time.") As Leopold moves through the months, charting the migrations of waterfowl, the domestic habits of the farm's more permanent residents, and the soil preferences of several picky species of vegetation, he moves frequently between macro discussions of the systems that direct these behaviors, and the micro, very personal encounters he has with the actors in each environmental drama. This alternation in the scale of the observations over the course of the year serves to create a fully fleshed picture of the world Leopold inhabits, inviting familiarity with the geese, chickadees, and grouse that make up his avian neighborhood, as well as the exhausted soils, wasted wheat fields and scarce pine stands that characterize his agricultural ecoregion. The short narrative of the "Red Lanterns" found at the end of the chapter "October" serves as an excellent illustration of the multiple scales at which the Almanac operates. Ostensibly about the experience of partridge hunting with his dog in late October, Leopold incorporates the sensitivity of blackberry bushes to seasonal changes, where they are found within the riparian corridor, their importance as refuges for a variety of woodland species, and the plants that grow in association with them, all without failing to capture the intimate working relationship required between hunter and dog for success, and the thrill of the flush when the birds are finally found.

Often presented as a seamless transition between abstract analysis and concrete experience, Leopold's narrative style does contain an inherent tension in that the universal qualities ascribed to general theories must be evaluated, and tested by the specific observations of the individual (in this case Leopold himself), forcing the reader to rely on a second hand retelling of an event or discovery whose very value is derived from the immediacy of personal experience. This tension is inherent in many of Leopold's essays, and is a theme that will be taken up later.

While the scale at which Leopold relates information changes within "A Sand County Almanac," his preferred method of acquiring data does not. His observations, experiences, and theories are all derived from his extended period of being in one place. It is the daily, monthly, yearly routines of flowers blooming, geese migrating, cranes flying overhead, and leaves changing colors, that set the rhythm of the farm life he shares with his surroundings. The observations of which are only accessible to him as a long term resident of the ecological community. The importance of experiencing one place for a meaningful length of time can not be overstated in the discussion of Leopold's thoughts on the environment, both within "A Sand County Almanac" and in his later writings. This insistence on immersing himself in the surrounding ecology is at once the greatest strength of his arguments – for many of his observations and insights would not have been possible without the great spans of time spent on his farm – and also its greatest weakness, as the amount of time his understanding requires could prove a discouraging greatest barrier to the aspiring practitioner. The prerequisite of extensive personal site familiarity for adequate understanding of the local ecology is an important factor of Leopold's theories, and is a second important concept in the body of thought that this essay investigates.

The original publication of "A Sand County Almanac" was accompanied by a series of essays collectively labeled "Sketches Here and There." Of these, the last is titled "The Upshot," and contains the now famous statement:

"Examine each question in terms of what is ethically and esthetically right, as well as economically expedient. A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise."

This is Leopold's first definition of his "land ethic," one that has been expanded upon, and taken up as a clarion call by many later environmental writers and thinkers. It has become a key part of the environmental discussion, even if it has not yet been fully adopted by mainstream society. For the purposes of this investigation, however, what is most relevant in this next step in chasing the vein of Leopold's thought is not the merit of what is arguably a very solid expression of a high ideal, but rather the identification of which elements are required for this definition to be applied. Particularly, what criteria should be used to establish the ability of a 'thing' to 'preserve the integrity, stability and beauty of the biotic community'?

In "Natural History", Leopold bemoans the state of science education within the schools of his time (to judge by his description and the persistent dryness of ecology texts today, the complaint is likely still valid). Education, he states here, is the key to bringing about "a striving for harmony with the land" that is the first step towards achieving the "higher aspiration" expressed in the land ethic, and should therefore be a necessary component of identifying the 'things' which serve to 'preserve the integrity, stability, and beauty of the biotic community.' However, Leopold notes that students in the field of natural history (our life sciences seem to be the modern day equivalent) typically spend their days memorizing bones and physiological structures of individual species, developing a specialist's knowledge of identification and categorization, without being taught how the "living animal" "holds its place in the sun" – he goes to great length to state that both should be taught, though if only one can, then it should be the latter. To him, the layperson's introduction to the life sciences should be through ecology, through an understanding of how the life in his or her backyard arrived there, how it continues, and what it requires in order to remain.

The professional, of course, should also be taught the memorization and identification needed for their advanced studies, but without losing the value of the public's contribution towards the larger body of knowledge (to prove this point, Leopold provides several examples of such valuable studies undertaken by members of the general public). Leopold's position on the possible merits of education is not, however, as one-sided as this discussion of "Natural History" might suggest. In another essay, "Wildlife in American Culture," Leopold provides a more nuanced discussion of what is required to know what action to take according to the land ethic, and it appears that formal education may not be sufficient. In this essay, Leopold suggests that "three kinds of nutriment are available to our outdoor roots;" nutriment that can be utilized to identify the right 'things' from the wrong. Leopold describes three distinct values that are the source of "renew(ed) contact with wild things"; "split-rail", "man-earth"

(which I will call "self-to-earth" in deference to my sister and the shotgun she received as a wedding present from my father), and ethical experiences. Of these three, the last two ably respond to the tools of classroom teaching, and modernization in general, though at the expense of the first, (probably) critical experience.

Characterized by an often-unknowing reenactment of national history with regards to the land settlement and use, the 'split-rail' experience is that of the boy (or girl) who tans a raccoon skin cap, and goes "Daniel-Booneing in the willow thicket beyond the tracks." It is born of an immediate, near instinctual desire for the outdoors, and driven by exploration beyond the 'known.' This first value is itself comprised of two parts in the American conscience, the "go-light" idea, and the goal of "one-bullet, one-buck." The notions of thrift, necessity, efficiency and skill that underpin these frontier ideals of thrifty resource-use give rise to the second value: the "self-to-earth." This set of experiences expands awareness of the interconnections between elements of the outdoor world, often through the immediacy of the soil-plant-deer-table-soil loop (or soil-carrot-soup-soil if that is preferred). Ethical experiences evolve when the first two values progress beyond meeting the needs of self and family, when the pursuit of 'wildlife' is done for purely leisure reasons. Intricately linked to what Leopold calls the "mechanization" of outdoor sports due to the ease with which modern equipment permits the participant to literally, and figuratively enter, and leave the natural world, this third value is strengthened, or destroyed, with each decision the hunter makes when alone in the woods, and faced with the dilemma of the easy shot versus the sporting one. The role of "mechanization", or modernization, has only expanded since Leopold wrote this essay, with consequently smaller and greater boundaries between society and nature. It is, for example, entirely possible to remain on the couch and see inside the den of a desert fox, the migration of penguins, and mating rituals of tropical birds within one half hour special on the television, but rare is the person who spends even a day of their life outside the embrace of society, with only the wilderness as company. The way in which society's relationship to nature has been negatively impacted by technology and modernity, and tempered by particular styles of education, is the third key theme to which this essay will return.

The complication with education emerges when Leopold notes that in the interest of maximizing the opportunities available to the public to develop these three values, thereby expanding the capacity of the public to identify the 'right' action from the 'wrong', certain actions are required both of the public and the government agencies charged with protecting or preserving natural resources. (His argument remains tied to the notion of hunting, but it can be as easily applied to four-wheeling, mountain biking, rock climbing, or even merely hiking in fragile areas.) The conundrum is embedded in the very impetus that drives any child into the willow thickets in a home-made coonskin cap, mainly the drive inherent in our culture to conquer, exploit, and use all that falls under our purview. This "free-for all exploitation" is historically linked with the "split-rail" adventure, but tends to oppose the observance of social codes mandated by the ethical experience of the outdoors, as well as the ecological balance informed by the self-to-earth experiences. It is the role then, of education to contain the exuberance of the 'splitrail' by developing the mature reasoning

associated with the “self-to-earth” and ethical experiences, even if it comes at the cost of a certain amount of passion. Hence, the somewhat ambivalent possibilities of formal education to fully develop the desired land ethic. With the added layer of context provided by the interrelationship of these three values, the recommendation from the analysis appears to be a difficult balance between the personal immediacy of ‘split-rail’ experiences, the informed understanding of ecological principles and the willing observance of rules of conduct. This accounting of trade-offs between ways of learning the right from wrong within Leopold’s land ethic is the final piece in the body of thought for analysis.

This overview of a selection of Leopold’s key works provides an insight into society’s complex relationship with nature, and a means by which the relationship can be analyzed. Leopold has shown that nature must be observed across several scales, both spatial and temporal, and that rhythms and cycles may only reveal themselves over great spans of time; the only way to see them is thus to be present in one place for that time. Technology and modernization may make ‘wilderness’ experiences more accessible, but it may simultaneously deprive them of their value. Before a land ethic can be embraced society must be able to discern what is right and what is wrong according to the land, and to do so will most likely require more than formal education. These four key points encompass the key challenges facing designers active today.

Meeting the charge that nature is to be experienced across scales and time, through personal contacts mediated by maturity and rules of conduct, aided and not hindered by technological advance, is a large order for anyone’s own life. For those that are charged with designing these experiences for others, it can prove overwhelming. Many of the current approaches to teaching design within the landscape however emphasize techniques that serve to render this task more manageable.

Technology is put to the service of a deep understanding of the ecological systems at work in, through, and around project sites. Designers are ever more equipped with an understanding of the value of “self-to-earth” knowledge, whether that is through cradle to cradle philosophies, versions of adaptive reuse/repurposing, or simply the on-site cycling of material and energy. Most professions are developing ‘rules of the game’, codified in programs such as LEED or SITES, that help designers understand the consequences of their actions and make the right choices about many aspects of designing, building, occupying, and maintaining the built environment. Many of these efforts have led to measurable improvements in the performance and design of aspects of the built environment, and will only continue to do so as they are embraced more widely.

What this vast array of pedagogic and professional tools cannot do is substitute for that first, primordial experience of nature as adventure and discovery. A well-designed, correctly engineered artificial wetland may provide crucial ecosystem services, and when deployed at an industrial level such as wetland banking, may help to restore the ecology of entire regions. But this approach may miss out on critical elements of comparison or reference

systems, and so never reach the full richness of the original landscape. The danger is that, as Leopold remarked in his time, an ecologist is the “biological jack-of-all- trades (that) tries to be and do all these things. Needless to say, he does not succeed”. What can be lost amongst the astounding technological capabilities and in-depth systems analysis is the idiosyncrasy of *this* place versus *that* place. At some point the resolution of the soil map loses its accuracy, flood maps go out of date, wind averages fail to account for the leeward side of the trees that are not picked up by the infrared satellite aerial photograph. In short, the small army of technological sensors that is routinely deployed through design technology can not now (and may never) replace the experience of being in one place, for a long time, open to the world of possibilities just around the bend. Much of today’s best design work comes from a conscious effort to overcome this limitation, often through extended site visits, if not periodic ‘encampments’, to better understand the character of the place. An interesting alternative that has recently come to prominence, though not a new technique, is the use of participatory methods in design. Currently more often used for stakeholder feedback and to develop the scope or goals of a project, in instances where designers are unable to take the needed time to understand the rhythms of the site themselves, targeted methods for participating with the existing site community may be a way of tapping into vast reserves of knowledge about just what are the particulars of *this* place over *that* place.

Engaging the public in decisions that affect the natural world around them, incorporating their local, individual knowledge of the patterns and processes around them, would begin to relieve some of the impossible burden on the jacks-of-all-trades to be and do all things, and move toward achieving Leopold’s goal of elevating the lay public to a valued, contributing role within the world of professional resource management, increasing the knowledge of both worlds. This would capitalize on the designers’ position at the intersection of ecology and culture, making best use of their professional knowledge and skilled techniques by complimenting them with the familiarity and experiences of the local community. At the end of “Natural History”, Leopold makes the statement that “we shall never achieve absolute harmony with the land”, but the promise of those “higher aspirations” is found in the striving rather than the achieving. The problem Leopold identifies is “how to bring about a striving for harmony with land among a people many of whom have forgotten there is any such thing as land, among whom education and culture have become almost synonymous with landlessness”. The process of learning which ‘things’ are right, and which are wrong for the land will never have just one step, but greater participation between communities and designers will help both along the way to developing a new land ethic for the modern world.

To conclude:

I have congenital hunting fever and three sons. As little tots, they spent their time playing with my decoys and scouring vacant lots with wooden guns. I hope to leave them good health, an education, and possibly even a competence. But what are they going to do with these things

*if there are no more deer in the hills, quail in the coverts? ... And when the dawn-wind stirs
through the ancient cottonwoods and the grey light steals down from the hills over the old river
sliding softly past its wide brown sandbars – what if there be no more goose music?*

Aldo Leopold, *Goose Music*

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Rachel Carson: Writer, Scientist, Activist

Eliza Bober

There was once a town in the heart of America where all life seemed to live in harmony with its surroundings. The town lay in the midst of a checkerboard of prosperous farms, with fields of grain and hillsides of orchards where, in spring, white clouds of bloom drifted above the green fields. In autumn, oak and maple and birch set up a blaze of color that flamed and flickered across a backdrop pines. Then foxes barked in the hills and deer silently crossed the fields, half hidden in the mists of the fall mornings.

Along the roads, laurel, viburnum and alder, great ferns and wildflower delighted the traveler's eye through much of the year. Even in winter the roadsides were places of beauty, where countless birds came to feed on the berries and on the seed heads of the dried weeds rising above the snow. The countryside was, in fact, famous for the abundance and variety of its bird life, and when the flood of migrants was pouring through in spring and fall people traveled from great distances to observe them. Others came to fish the streams, which flowed clear and cold out of the hills and contained shady pools where trout lay. So it had been from the days many years ago when the first settlers raised their houses, sank their wells, and build their barns.

Then a strange blight crept over the area and everything began to change. Some evil spell had settled on the community: mysterious maladies swept the flocks of chickens; the cattle and sheep sickened and died. Everywhere was a shadow of death. The farmers spoke of much illness among their families. In the town the doctors had become more and more puzzled by new kinds of sickness appearing among their patients. There had been several sudden and unexplained deaths, not only among adults but even among children, who would be stricken suddenly while at play and die within a few hours.

There was a strange stillness. The birds, for example – where had they gone? Many people spoke of them, puzzled and disturbed. The feeding stations in the backyards were deserted. The few birds seen anywhere were moribund; they trembled violently and could not fly. It was a spring without voices. On the mornings that had once throbbed with the dawn chorus of robins, catbirds, doves, jays, wrens, and scores of other bird voices where was now no sound; only silence lay over the fields and woods and marsh.

On the farms the hens brooded, but no chicks hatched. The farmers complained that they were unable to raise any pigs – the litters were small and the young survived only a few days. The apple trees were coming into bloom but no bees droned among the blossoms, so there was no pollination and there would be no fruit.

The roadsides, once so attractive, were now lined with browned and withered vegetation as though swept by fire. These, too, were silent, deserted by all living things. Even the streams were now lifeless. Anglers no longer visited them, for all the fish had died.

In the gutters under the eaves and between the shingles of the roofs, a white granular powder sill showed a few patches; some weeks before it had fallen like snow upon the roofs and the lawns, the fields and streams.

No witchcraft, no enemy action had silenced the rebirth of new life in this stricken world. The people had done it themselves.

Rachel Carson, *Silent Spring*

The people had done it themselves.

This is the start of Rachel Carson's influential book, *Silent Spring*. The 'Fable for Tomorrow' that makes up the first chapter describes an idyllic American town filled with nature and beauty. Here birds sing, foxes bark, and clouds lazily drift over green fields. Farms are prosperous; wild plants and animals are abundant; life is everywhere. Then something strange begins to happen: adults become sick, children die, livestock will not produce offspring, fields lay barren, and no birds sing. A silent spring has arrived, a time of death brought by the white poison that fell from the sky. It was no accident, no quirk of nature. The people had done it themselves (Carson 1962, 1-2).

This evocative and well-written introduction to the damage we cause through pesticides is a brilliant piece of writing that woke up a nation to the dangers of uncontrolled chemical warfare against mother nature. It is an emotional book, meant to inspire the public, and a factual book, with a meticulously documented, fifty-five page appendix and expert references. This book, often credited with inspiring the environmental movement, was a work that grew from a lifetime of observing the natural world, and five years of intense research and writing (Cottam and Scott, 151).

Although Carson started working on *Silent Spring* in 1959, the power of the book is built upon the lessons and image of the world she gained throughout her life, from her childhood in Pennsylvania, to her years working for the Fish and Wildlife Department. Every minute spent studying birds and the sea allowed her to see the world as an intricate system, where every action has a consequence, and no species lives without impact on others, or the environment. These beliefs lead Carson to take up the burden of informing the country of the perils of herbicides, pesticides, and the belief that man can control his environment.

The call of the trail on that dewy May morning...

Rachel Carson's love of the natural world, and her ability to observe the world that surrounded her, came from her childhood in Pennsylvania. Born on May 27, 1907 in

Springsdale, Rachel grew up on a 64-acre farm and orchard near the Allegheny River. Even though the area was an industrial center, her mother, Maria Carson, inspired in her a love of nature and learning (Holmes, 116). From Rachel's first birthday, her mother took her outside, and walking among the trees and streams, she began to teach Rachel the names of the trees, wildflowers, birds and insects around them. As Rachel grew older, more and more time was spent outdoors, especially watching for birds (Lear, 16). Her early love of nature is evidenced in a book of animals she drew for her father. Her animal 'friends', a mouse, frog, bunny and owl, are separated from the household animals found on the farm. In 1955 she recalled her childhood as "long days spend out of doors, happiest with wild birds and creatures as companions. I read a great deal" (Gartner, 6). Carson reminisced that she had loved to read as a child, as well as to make up stories. She could not remember a time when she did not want to be a writer.

At the age of ten she submitted her first story to *St. Nicholas*, a children's literary magazine, which published children's work and awarded prizes for it. By the age of 15 she had submitted a total of five stories to *St. Nicholas*, the last of which, "My favorite recreation," was her first published nature story. In it she already shows the brilliance of her writing, starting the story with "the call of the trail on that dewy May morning" and ending with "the cool of approaching night." The day of bird-watching is described in terms of the actions of both human and animal, as well as the passing of time through the sounds of silence and of nature. Her childhood observations are seen clearly on the page (Carson 1998, 12).

When Rachel finished high school she won a four-year tuition scholarship to the Pennsylvania College for Women, where she majored in English, hoping to become a successful writer. After taking a biology course from a young professor Mary Scott Skinker, with whom she would become good friends, she switched her major from English to Zoology. This change in careers paths was two-fold: first it spoke further of a fascination with nature and its mysteries. Second, it reviled her belief that, as confessed to her friend Dorothy, she always thought she didn't have much imagination. "Biology has given me something to write about. I will try in my writing to make animals in the woods or waters, where they live, as alive to others as they are to me" (Bonta, 263-264).

After graduating Magna Cum Laude in 1929, she received another scholarship to Johns Hopkins University, where she received her Masters Degree in Zoology. In the summer, Rachel worked at the Marine Biology Laboratory on Cape Cod, where for the first time she saw the sea. The experience was transforming, and she spend much of her free time exploring the tidal pools and beaches (Holmes, 119-120). Her friend Mary describes Rachel wandering off by herself, stopping to listen to the ocean, watch its rhythms, and those of the life around her. During the full moon Rachel would go down to the dock to observe a mating ritual of thousands of polychete worms. The feelings she described that day were those of fascination and union with this ancient rite. These spiritual experiences were matched by the practical ones. The group she was with included both professionals and students, and she gained valuable experience with research. She also went on a deep-sea collecting trip on a US Bureau of Fisheries vessel, the *Albatross II*, a voyage that revealed to her the opportunities that existed at the bureau (Lear, 61-62).

Who has known the ocean?

When Rachel Carson graduated from Johns Hopkins in 1932, America was in the midst of the Depression. Although she held two part-time teaching jobs, this was not enough to support her family, who were at the time living with her. Using her earlier connections to Mary Skinker and the Bureau of Fisheries, she got a job writing radio scripts on Marine life (Lear, 78-79). One of the articles she wrote for the radio was rejected by her boss, Elmer Higgins, instead he suggested she send it to Atlantic Monthly. Published as "Undersea," it caught the eye of a publisher and became the basis of her first novel. In "Undersea" Rachel asks her readers to "shed human perceptions of length and breadth and time and place, and enter vicariously into a universe of all pervading water." Explaining the ecology of the tidal pools, Rachel first asks who has known the ocean, and then answers that no man ever has (Carson 1998, 4). Indeed the message of the piece seems to be the greatness and grandness of the ocean, and its mysterious life-giving force. The ocean is made up of many creatures, all interdependent on each other:

"Thus we see the parts of the plan fall into place: the water receiving from earth and air the simple materials, storing them up until the gathering energy of the spring sun wakens the sleeping plants to a burst of dynamic activity, hungry swarms of planktonic animals growing and multiplying upon the abundant plants, and themselves falling prey to the shoals of fish; all, in the end, to be redissolved into their component substances when the inexorable laws of the sea demand it" (Carson 1998, 11).

The message is clear. Everything in nature is part of this interconnected web. Things come and go, things live and die, but in the end they all go back to the same 'simple materials' from which all life comes. Layered into this is the belief that human understanding of the ocean, and by extension of nature, is inadequate (Norwood, 742; Carson, Lost Woods, 4). Our way of looking at nature from a primarily anthropocentric point of view, blinds us to a true view of nature.

"Undersea" developed into Rachel's first book, *Under the sea wind*, which describes the lives of several animals, each with names and emotions, from their own point of view (Norwood, 744.) Human beings, when they appear, usually as fisherman, are portrayed as simply parts of the bigger story of the ocean (Holmes, 127-128). *The Sea Around Us*, came out after the end of the war in 1951, establishing Rachel as a first-class writer. It shows the ocean in terms of the resources it provides for humanity, as well as exploring the discoveries made by contemporary scientists about the marine world. She explains that her motive was to make sure people know some things about the sea. Teaching people to know, would teach them to care, and she had become deeply concerned that "what took centuries to develop is being destroyed in a few years" (Lear, 202).

Rachel's last book about the sea, *The Edge of the Sea*, started out as a guide to shore life, but quickly turned into the description of three shore communities: rocky shores, sandy beaches, and the coral coast (Holmes, 131). What ties the book together is an emphasis on

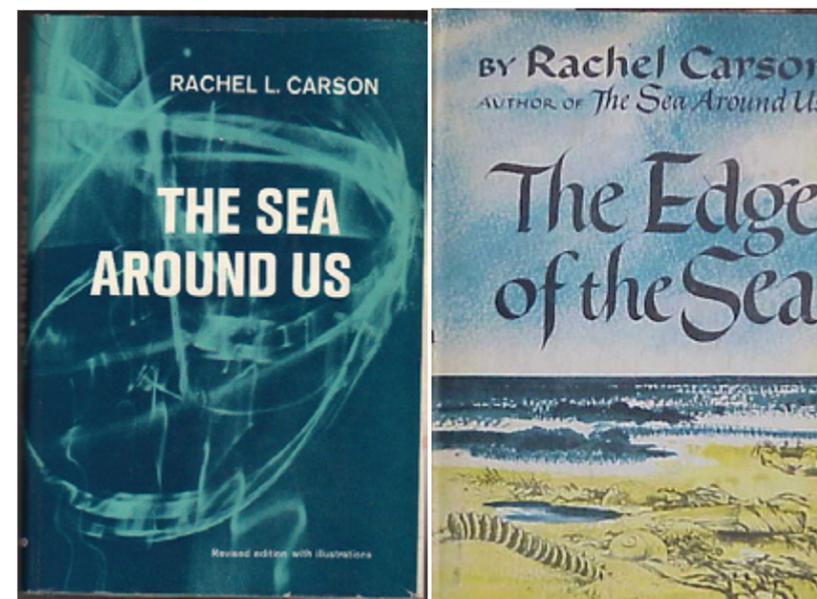
the life cycles of the animals found along the coast and their relation to the geology. It is an personal and emotive book that ties the well being of the sea to the well being of the land (Norwood, 744).

What are these threats of which I speak?

After publishing her third book, Rachel Carson embarked on a series of small projects, articles, and speeches to further educate the public about her first love, the sea. During this time, she also started to turn her attention to the problems that result when concerns of nature and the environment are omitted during planning and design decision-making. In 1954, she gave a speech to the Sorority of Women Journalists, Theta Sigma Phi, and for the first time talked about her personal life to the public. Among the revelations was a small anecdote about her time on the Albatross III, and the obstacles that still existed because of her gender. At the time of her hiring by the US Bureau of Fisheries, Carson was only the second woman to be hired by the department for a professional position. When it was decided that she should go aboard the Albatross in order to write about its work, the idea of a woman alone with fifty men was unthinkable. The Bureau therefore sent her along with a friend, so that each might chaperone the other. Her days on the vessel were tough: fishing, the noise of which she compares to being rammed by another vessel, went on day and night, the food was bad, the boat rolled in the sea, and the men enjoyed teasing the women until they proved their toughness. But what she gained from the experience was a further awe and appreciation for the beauty and the vastness of the ocean. Sometimes she would go out at night to see the fishing and observe "a world dominated by the immensity of the sea" (Carson 1998, 154).

Carson also warned of the threats to nature and to beauty that were cropping up in America. These threats – in the form of typical American suburbs with their identical lawns and

matchbox houses, or the dam being built in a national park, or a highway cutting through the only remaining patch of forest in DC – destroy beauty, individuality, and the tranquility of nature. Her condemnation of man 'intoxicated with his own power,' and 'blinded by the dollar sign,' destroying 'all the values that derive from beauty,' that 'are not measured and evaluated in terms of the dollar,' starts to move away from simply admiring, and cataloging the inner workings of nature. Rachel Carson takes



a further step to condemn this devaluation of nature in our society, and points us forward: "But I believe that the more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction" (Carson 1998, 162-163).

At the time of the writing of this speech, Carson had already become interested in the effects of pesticides on the natural world. In 1945 she proposed an article to *Reader's Digest*, in which she would describe the effects of DDT on beneficial insects, birds, and the delicate balance of nature. She was not the first to raise this concern. Well-known scientists such as Clarence Cottam and Edwin Way Teale warned about the ill effects of systemic use of DDT. Their concerns, as well as Carson's letter to *Reader's Digest*, went unnoticed. From then on she communicated with scientists around the US, and monitored the different pesticide programs of the time. More scientists and conservationists warned about the effects pesticides, especially when used large scale to kill fire ants in the South, had on bird and wildlife populations (McCay, 65-66).

In 1958, Carson's attention was caught by a trial in Long Island, where a lawsuit was brought against the state of New York for aerial spraying of DDT to control the gypsy moth. Huckings, a birdwatcher in the area, sent Carson a copy of an article along with a letter asking which agencies she should appeal in order to prevent the spraying of DDT. The article described the plight of her birds (Williams, 135-136):

"The 'harmless' shower bath killed seven of our lovely songbirds outright. We picked up three dead bodies the next morning right by the door. They were birds that had lived next to us, trusted us, and build their nests in our trees year after year... All of these birds died horribly and in the same way. Their bills were gaping open, and their splayed claws were drawn up to their breasts in agony."

This latter propelled Carson to write the book that would give her the least amount of pleasure, and the most amount of fame. She wrote it because "there would be no peace for me if I kept silent" (Bonta, 270). Pesticides threatened to destroy the nature she loved, but her book and her research weren't only about the effects of pesticides. Instead, she wanted to show people that the way they were living and the careless environmental policies they were enacting was having serious consequences not only on the nature that surrounded them, but also on their personal livelihood and health (McCay, 67).

The book that resulted from four years of research – during which time her mother died, and she was diagnosed with breast cancer – is a clear, accessible, and scientific account of the existing threat of broad-spectrum pesticides to both human health and wildlife populations. Among the many victims mentioned in *Silent Spring*, the bald eagle is one that easily captures the imagination. At the time of her writing, Carson could truthfully claim that the Bald Eagle was becoming extinct. Several eagle sanctuaries reported that although eagles still laid eggs, few eaglets hatched, and even fewer reached maturity. Studies showed at the time that high concentrations of DDT were found in both bird eggs

as well as the male and female reproductive organs. Birds that hatched already had almost deadly concentrations of DDT in their systems, due to the bio-accumulation that occurred when DDT was sprayed on land and water, and then made its way up the food chain (Carson 1962, 124). Bald Eagles, which sit on top of the food chain, were paying the price of the, often ineffective, spraying of pesticides.

There is nothing static about an ecosystem.

When Carson's *Silent Spring* was published in 1962, first as a series of articles and then as a book, she became a hero to some, and a 'hysterical queen of the nature cult' to others. Chemical and food companies attacked her book, her femininity, her credibility as a scientist, and her station in life, and her facts. Others defended her as a woman with the courage to take on a powerful opponent, one with money, influence, and the support of many elected officials. Overwhelmingly, the reviews of the book were positive. People praised her for both her writing and her science. The president, in response to her book, convinced a panel to study the effects of pesticides. All this brought Carson to the forefront of public attention. When she testified to Congress in January of 1964 she began: "The problem you have chose to explore is one that must be solved in our time. I feel strongly that a beginning must be made on it now – in this session of Congress..." Senator Ribicoff, who heard her speak that day, later believed that Carson's words carried such weight because of her strong conviction in her cause and her acceptance of the burden of informing the public about it" (Lear, 4-5).

Congress did not ban DDT and other chlorinated insecticides until 1972, almost 10 years after Rachel Carson testified before the committee. It was not until 1997, 25 years after the ban, that the population of bald eagles recovered enough to be removed from the endangered species list. Rachel died just one year after testifying, on April 7th, 1964. She did not live to see the ban, Earth day, or the rise of the environmental and green justice movements. She did not see the slow expansion of organic farming. Nor did she see the ten-fold increase in use of pesticides since her death, or the increase of their strength and lethality (Pimentel, 190-192).

During her lifetime Rachel Carson studied the sea and tried in her writing to instill into her readers the respect and awe for nature that she felt. It was this love of the natural world that compelled her to write a testimony to its destruction, and to attempt to reawaken public awareness to the fact that decisions made as individuals and as a society have real, and often unforeseen consequences for the earth and the oceans. She was concerned about the growing relationship between industry, intellectual institutions, and the government. She was concerned about the bio-accumulation of pesticides in children, adults, and wildlife. She was concerned about the arrogance of man in trying to control nature. But most of all, she was concerned that the beauty of the earth of today and the richness of life that occupies it, would be gone before the next generation could explore its wonders.

The true testimony of Rachel Carson's visionary genius is the fact that her words, spoken to the Garden Club of America just two years before her death, are as true now as they were then: "These are large problems, and there is no easy solution. But the problems must be faced. As you listen to the present controversy about pesticides, I recommend that you ask yourself – who speaks? – and why?"

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J. B. Jackson

Abby Wiltse

It is place, permanent position in both the social and topographical sense, that gives us our identity.

The older I grow and the longer I look at landscapes and seek to understand them, the more convinced I am that their beauty is not simply an aspect, but their very essence and that that beauty derives from the human presence. The beauty that we see in the vernacular landscape is the image of our common humanity.

Landscape is history made visible.

J.B. Jackson

Jackson refers to himself as a cultural geographer, but it is misleading to think of him as belonging to any particular discipline. He is of that rare class, an innovator, an intellectual on his own terms, a gentleman scholar who invented his own field of study. His talent is tempered by an old world graciousness and modesty

Wilson and Groth 2003

Early Influences

Known by many names, J. B. Jackson, John Brinckerhoff Jackson, Brinckerhoff Jackson, "Brinck," Professor Jackson, Major Jackson, was raised in an aristocratic, educated, and well-traveled family. Jackson chose as his home, La Cienega, a small rural town in New Mexico steeped in the essence of the vernacular landscape that he loved and wrote about throughout his life. He lived a life of many cultural and geographical influences from Europe to the American Southwest, from the East Coast to the West Coast. Born in 1909 to wealthy American parents in Dinard, France, he was educated in several European and American boarding schools, while summers were spent riding horses on his Uncle Percy Jackson's New Mexico ranch. By his teenage years he spoke fluent French, German, and Spanish and gained his first understanding of landscape in the mountains and meadows of Switzerland. During this period he was introduced to the literature of Charles Dickens, which later inspired Jackson to write, "Whoever admires Dickens will eventually develop a deep sympathy for vernacular culture." These early experiences provided a colorful blend of landscapes and cultures that would later inspire his landscape philosophy and inform his writing.

Education

In the fall of 1928, Jackson was encouraged to attend the Experimental College of the University of Wisconsin in Madison because of his artistic abilities. Here he read Lewis Mumford's writings on American architecture and planning; Oswald Spengler's *Decline of the West* was also a great inspiration, where landscapes were a key to interpreting the local cultural history (Horowitz xii). In the fall of 1929, he transferred to Harvard, where he earned a dual-degree in history and literature, and developed a reverence for the Baroque, which he believed embodied the essence of the connection between humans and nature. He developed his career in landscape writing by editing and writing for the *Harvard Advocate*, the undergraduate literary magazine.

After his graduation from Harvard in 1932, he studied architecture for one year at MIT, worked as a newspaper reporter in New Bedford, Massachusetts, studied commercial drawing in Vienna, and ranched in New Mexico. He eventually bought a BMW motorcycle and from 1934-35 set out to travel and explore central Europe and the Baroque style. He wrote articles against Nazism and published them in *American Review* and *Harper's*, under the name "Brinckerhoff Jackson," culminating in his 1938 novel, *Saints in Summertime* (Groth).

Military Service

Jackson enlisted in the US army as a soldier in 1940, serving as a combat intelligence officer in France during World War II. This was when his interest in the landscape, coupled with patterns of human use and development, first surfaced (Wilson & Groth, 131). His task was to inform the Allied troops about the environmental conditions that lay ahead. To accomplish this, he learned about the local landscape from many sources: French publications on cultural geography, maps, and aerial photographs, postcards, guidebooks, insight from captured soldiers, and quick surveillance trips ahead of the military lines. Jackson's keen ability to interpret the landscape was a matter of survival (Willoughby, 2). West Point cadets would later read Jackson's reports as model documents of military intelligence and reconnaissance (Groth).

Landscape Magazine

After the war, these geographical military experiences inspired Jackson to see and interpret the American countryside with a fresh perspective. Discharged as Major Jackson, he returned to the United States in 1946, and drove across the country to run his uncle's New Mexico ranch. Shortly afterward, a horse accident put him in the hospital for a year to recover from several bone fractures. While in recovery he began writing the magazine *Landscape: Human Geography of the Southwest*, based on the French geography publications and targeted to the casual American reader.

"The subject matter ranged from disquisitions on ordinary houses, yards, farms, and farmsteads to notes on ecology and from the impact of automobile use, mobile homes, shopping centers, and rural and urban planning to philosophical arguments about the meaning of human space and arguments for and against (but usually against) preservation (Groth)."

By 1952 Jackson widened the magazine's scope, changing the subtitle to *Magazine of Human Geography*. He was the sole editor and publisher from 1951-1968, and wrote, illustrated, and designed the entire publication for the first two years under several pseudonyms, each of whom had different opinions and perspectives. The magazine caught on slowly, and eventually created "a school of thought out of a group of people." This network of environmental readers and writers— including Jean Gottman, Lawrence Halprin, Ansel Adams, Garrett Eckbo, Lewis Mumford, Christopher Tunnard, Kevin Lynch, and Paul Shepard— tried out their ideas in *Landscape* before going on to publish their own influential books (Horowitz xxvii). Lawrence Halprin said in a 1988 documentary:

"Those of us who were architects and landscape architects, we came back with a desire to change the world through design. But we had been working with it only on a physical level. And here all of a sudden was a statement about the fact that the physical world had more to it than what we could design into it. That in a sense, the world as it is had merit. And that we ought to look at it not with a theory, so much, but look at it to understand what it was about."

Throughout the 1960s Jackson, or Brinck, as he was known to close friends, began a teaching career at Berkeley and soon after at Harvard. He lectured about European and American landscape history to landscape architecture and environmental students. In 1970, his first book, *Landscapes*— a compilation of essays from the magazine— was published.

Philosophy: Nature + Culture

Jackson sought to understand and accept landscapes for what they are while emphasizing the importance of their human cultural components. Often in strict opposition with environmentalist and conservationist perspectives, he contended that the romantic approach to wilderness destroys the appropriate balance between nature and human beings, which is essential to both healthy urbanism and agrarianism. He preferred Jefferson's agrarian approach of "fostering democratic citizenry" to Thoreau's "romantic wilderness isolation."

Jackson often described his philosophy by what it was not: not nature, not beauty, and not history, instead insisting that "humans belong in the landscape," that "the purpose of landscape is to provide a place for living and working and leisure (Horowitz, xxix)," and that "landscape must be shaped by the present needs" (Ibid., xxx). He hopes for environmentalists to "overcome their fixation on wilderness," instead urging "well-meaning lovers of nature" to reconstruct cities and reinvigorate rural communities (Jackson, 91).

Work + Leisure

Jackson also had a strong belief in the merit of daily work. After retiring from teaching and lecturing in 1985, (at age 76) he did laboring jobs at construction sites, gas stations and gardens (Grimes). He observed that our streets were historically places of work and now are marketed as places for leisure and recreation. Architectural renderings for new streetscape proposals invariably include happy couples walking, or sitting at cafés while a children hold balloons, play with pets, jog, or ride bicycles. Never do they show a sweatshirt-clad deliveryman, a garbage truck, or a meter reader. Yet these are the systems that create and maintain our streets and public places. Increasingly, Jackson saw the importance of roads, not just as lines between two points but as a landscape in themselves, “the scene of work and leisure and social intercourse and excitement,” as we see in the title of a later essay, “Roads Belong in the Landscape” (Horowitz, xxix). In the documentary, Jackson describes the similarities between ancient roads within Chaco Canyon and our modern interstate system.

Establishment + Vernacular

In the documentary film, “J. B. Jackson and the Love of Everyday Places,” Jackson discusses “Establishment” and “Vernacular,” two different ways in which he measures the world. Establishment represents an aristocratic culture, stands for order, architecture, and creates the rules by which we live our lives. It divides and subdivides the United States into states, cities, and city lots while maintaining certain aesthetic qualities. Henry William Herbert, an Englishman whom Jackson wrote about in the article, “Beyond Wilderness,” personified the Establishment with his aristocratic country lifestyle “based on the possession and exploitation of ancestral land, and on field sports, particularly on fox hunting” (Jackson, 79). Whereas English style fox hunters valued camaraderie, customs, and dress, American farm and pioneer hunters honored only excellent marksmanship.

Vernacular culture, according to Jackson, is the “other” world, built by necessity with the materials at hand, on land used but not owned. This is the geography of everyday people and places. It seems that such a person would be critical of the Establishment, but what is interesting about Jackson, is that he was able to look upon all landscapes without judgment, but with curiosity. Both the Establishment and the Vernacular are elements of American culture, which deserve focused study. Maybe this was possible because he was able to experience both views of culture, from the perspective of an Ivy-league student and professor, and also as a small-town citizen. He was able to easily read landscapes, to relate them to these terms, to understand the story of human history and different cultures on a site, and even to project what forces might shape its future.

Art + Seeing

In addition to his prolific career as a writer, Jackson was also an artist who recorded landscapes through sketches and photographs, as other tools for seeing and understanding

places. Many of these were published in *Landscape* magazine. He always emphasized that vision was primarily important not for the appreciation of form, but for asking questions about people and place (Groth). Jackson does not ask us to agree with him, but asks only that we also look, and ask our own questions: why do things look the way they do? The answer matters less than the question and the curiosity which underlies it. The human geographer’s eye makes the whole world fascinating, for the landscape is a rich and beautiful book that is always open before us. We have but to learn to read it. Jackson learned to do this through an intuitive method, for which he was often criticized by academics. Yet as Horowitz explains, this freedom from academic training was exactly what allowed Jackson to see what others could not.

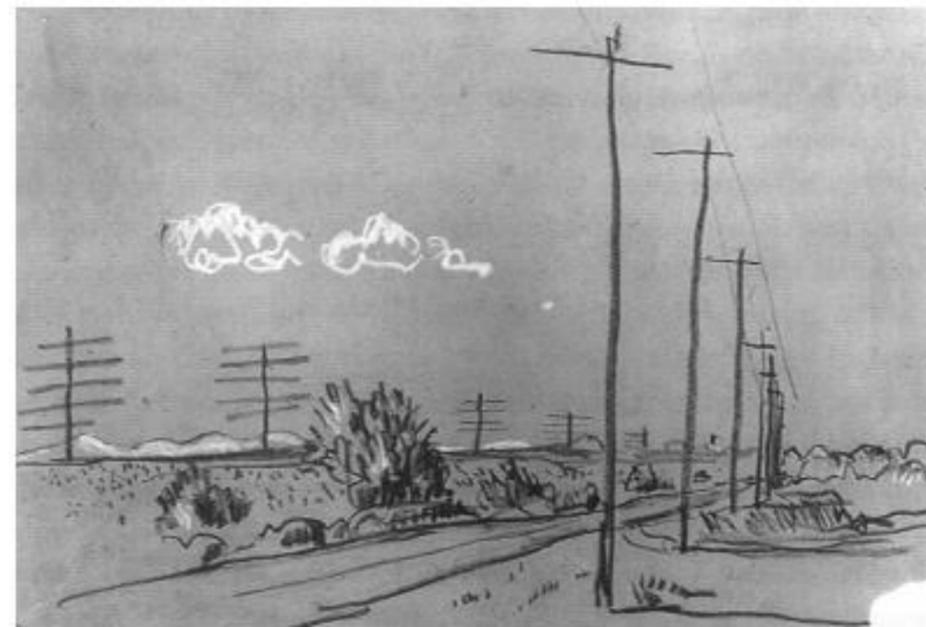
Legacy

Jackson has inspired generations of architects, photographers, writers, and planners to look with more clarity at the everyday landscape.

J. B. Jackson and the Love of Everyday Places

Michael Van Valkenburgh says of Jackson’s *Landscapes* that:

“[his] intelligence is equaled by his warmth and by the reverence he had for everyday places. I grew up on a farm, and my parents had a great love for the land—for the way the rational, farmed fields intersected with the equally important wild forest and meadows. It was reading Jackson that made me realize that my parents had taught me more than anyone else.” *Everyday America: Cultural Landscape Studies After J. B. Jackson*, a work



JB Jackson Sketch, Road with Telegraph Wires, 1947 (Horowitz, xix).

edited by Wilson and Groth, is a collection of writings by a diverse group of professionals that continues where Jackson left off: critically evaluating the origins, theories, and current state of cultural landscape studies.

Jackson was not only a great writer but also a great teacher, albeit one wary of the Academy. Students were inspired by his deep voice, hypnotic rhythm, lyrical nature, and articulate message beauty in the commonplace landscape. His lectures followed an unusual format: 45 minutes of talking followed by only 4-10 slides, which were not necessarily artful. The purpose was to encourage the student to form the images in their minds, to make them think. Professor Jackson would always end his lectures at Harvard by saying "You can't change a thing until you love it." His influence at Berkeley and Harvard remains powerful today because of the legacy of his former students, Paul Groth and John Stilgoe, who continue his teachings of cultural landscapes. On the west coast, at UC Berkeley, Paul Groth teaches landscape interpretation based around the theories of J. B. Jackson, while Stilgoe, a professor at Harvard, teaches his students how to mindfully observe the urban and suburban environments they inhabit.

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Ian McHarg: His Life and Ideas

Mark Teschauer

"The father of ecological planning" (McHarg 1996, 1993): a title that may describe the lifelong intellectual pursuit of a Scottish-born, American-naturalized man who strived to reintroduce ecology to landscape architecture and planning, but one that only superficially describes his character and personal motivations. Ian McHarg, a hard-working World War II veteran, devoted a lifetime to advocating for the reorientation of Western man's relationship to nature, believing that Western man needed to consider himself equal, not superior, to it. He strongly believed in his work, using his position of power to harshly criticize those who he felt were perpetuating this Western idea that man had a God-given right to "multiply and subdue the Earth" (Ibid., 140-1), and demonstrating that his methods were not only ecologically sensitive, but inexpensive as well. He was a twice-married family man, and father of four children, as well as a department head who mentored a generation of ecological planners and landscape architects.

This paper, based upon McHarg's autobiography *A Quest for Life* (1996), seeks to summarize and examine McHarg's lifetime of achievements, ideas, and character in the context of contemporary history. It follows a format similar to *A Quest for Life*, selectively describing aspects of McHarg's life, ideas, and overall character in as close to chronological order as possible, with respect to brevity, to examine what factors and traits led him to become the father of ecological planning.

Birth and Childhood

Ian Lennox McHarg was born on November 20, 1920 in Clydebank, Scotland (a small town outside of Glasgow) to John Lennox McHarg and Harriet Bain McHarg. John once intended to become a minister, from which background Ian states that his "religious attitudes to nature" (ibid., pg. 11) come, but became instead a shorthand writer for the Diesel Company, and later a traveling salesman during the Depression. His mother, a "celebrated beauty" in Glasgow (Ibid., 9), taught Ian to garden and fostered his artistic creativity early in life. Growing up in close proximity to the "mean, ugly city" of Glasgow ("a testament to man's inhumanity to man") during the Depression (Ibid., 15), Ian McHarg found respite in the countryside. At the age of sixteen, after feeling "such exaltation" and experiencing "God's [palpable] presence" (Ibid., 18), McHarg sought a religious explanation for his experience, and turned to the Bible for guidance. Instead of confirmation, McHarg found that the explanation provided in Genesis did not reflect his experience, but rather advocated for man to "multiply and subdue the earth" (Ibid., 19). His distaste for this explanation would

manifest itself later in his life as part of McHarg's explanation for man's disconnect from nature.

In high school, McHarg developed an interest in art, and spent summers on long walking trips. After being punished by his father for trying to join the Merchant Marines, McHarg visited a career counselor in Glasgow, who advised him to become a landscape architect. In order to pursue an apprenticeship, McHarg dropped out of high school, was admitted as a special student to the Glasgow College of Art and the West of Scotland Agricultural School, and began apprenticing under a landscape architect named Donald Wintergill, with whom he helped plan and design the grounds for the Empire Exhibition of 1938.

World War II

The next year, in 1939, McHarg enlisted in the Royal Engineers as a Sapper in the Fifty-Second Scottish Lowland Division, where he served until 1946. Recognizing his thin stature, he volunteered for duties that would help him receive promotion to a higher position. These included becoming a paratrooper, during which time he learned civil engineering. It was also during this time that he grew the moustache (originally to increase his apparent age) that he would sport for the rest of his life. During his military service, he traveled to North Africa, Italy, Greece, France, and the Balkans. In Italy, McHarg managed to escape a major attack on his ship, the HMS *Abdiel*. He suffered minor injuries, namely cuts from barnacles and shells after jumping from the deck onto and sliding down the *Abdiel's* hull, swimming "perhaps for five hours" (Ibid., 38) before making it to land safely. In Greece, after the war, he employed his landscape architecture skills to design a cemetery for British soldiers in Athens that overlooks the Phaleron Bay. By war's end, McHarg had risen from the rank of Sapper to Major, which provided him with the experience and credentials to apply to and enroll at Harvard University.

Harvard University

With an award from the Army Education Release Scheme Scholarship, McHarg enrolled in Harvard University in 1946 to pursue a Master's in Landscape Architecture, despite not having completed an undergraduate degree ("Bullshit Baffles Brains" and "When in doubt, charge" is how McHarg described his technique to overcome this (Ibid., 66)). At Harvard, he met his first wife, Pauline Crena de longh, a Dutch woman whose father (Daniel Crena de longh) was treasurer and director of both the World Bank's International Bank for Reconstruction and Development, and the International Monetary Fund.

Within the first few weeks of his studies, McHarg elected to also pursue a Master's in City Planning because he found the Landscape Architecture program did not "engage the mind, far less challenge it" (Ibid., 71). He did find that the planning program challenged him more, but felt disillusioned with the Graduate School of Design, due largely to the presence and influence of Walter Gropius and his cadre of Modernists. McHarg felt that the Landscape Architecture program "slighted" Frederick Law Olmsted's and Charles Eliot's contributions

to the field in favor of Modernism (Ibid., 72). The ideas of contemporary intellectuals like Lewis Mumford were excluded from the curriculum while those of modernism's champions, Gropius included, were promoted in both planning and architecture. Likewise, little consideration was given to natural science and the environment. For his thesis, McHarg collaborated with three architects to create the Central Redevelopment Plan for Providence, Rhode Island, which was well received in its 1950 presentation to the faculty and students of the Graduate School of Design.

Despite these academic experiences, McHarg cited the summer travel he undertook with his wife across the United States as his most educational experience. Funding support for this travel had been provided by the Scottish Department of Health at the request of Planning Department Chair G. Holmes Perkins. During their travels, McHarg and Pauline visited Grand Junction, Colorado, where they attended the Aspen Festival, as well as various National Parks. In San Francisco, he met architect Thomas Church and landscape architect Lawrence Halprin. Pauline became pregnant and was expecting by the trip's end as well.

Return to Scotland

As part of the stipulations for receiving a scholarship to attend Harvard, McHarg returned to Scotland to work as a civil servant in the planning division of the National Department of Health. However, en route to Scotland with Pauline, he fell ill with tuberculosis. As it was a deadly and contagious disease at the time, McHarg was sent to the Southfield Infirmary, which spent much time "maintaining hopeless patients on their way to death and brought no cheer, little care" (Ibid., 96). Because of his sickness and weakness, he could not take care of himself, write, or sit up (amongst other things), and resorted to "review [his] four years of graduate study at Harvard, day by day, lecture by lecture, and collect such grains of enduring perception into a hoard" (Ibid.). In doing so, he realized that someone with his interest in "designing with nature might well have benefited from instruction in the natural sciences" (Ibid., 97). After hearing about a Swiss sanatorium in the Alps for British paratroopers with tuberculosis, McHarg requested a transfer, and was soon admitted. For the next six months, he recovered from his tuberculosis in Leysin, where he was prescribed a full range of activities to perform, rather than remaining bedridden in Southfield. By 1951, he was healed enough to return to Edinburgh to resume his work.

McHarg's work did not bring him much fulfillment. Although having tuberculosis meant that he could never become a permanent civil servant and thus provided him with a certain amount of freedom, he felt that he worked in a bureaucratic environment that stifled and retarded progress and was not appreciative of criticism. He did enact change by requiring new public housing projects to have a landscape budget, with each project "never [exceeding] the cost of a packet of cigarettes per family per week" (Ibid., pg. 108). While in Edinburgh, he began his teaching career with a course on landscape architecture for architects studying at the Royal College of Art, and was soon teaching a similar class in Glasgow, where he discovered the writings of Patrick Geddes.

Life in Scotland for Pauline was not enjoyable; she did not like the weather or the cramped accommodations that, although in an enviable location, were not as amenable as she was accustomed to, due to McHarg's comparatively meager salary. After being denied by a Mr. McGuiness in 1954 to build a new town on the basis that "the bloody English" had not done so already (Ibid., 118), he wrote to G. Holmes Perkins, now Dean of the School of Fine Arts at the University of Pennsylvania, asking about opportunities in the United States. Holmes Perkins offered him an assistant professorship teaching city planning and developing the landscape architecture program. He soon left Scotland for Philadelphia with his family.

Early Years at the University of Pennsylvania

Charged with developing the new landscape architecture program, McHarg sought to increase the esteem and reputation of the profession by attracting the brightest students to Penn and ensuring that they were primarily architects. He achieved this by receiving a donation for scholarships from a Mrs. Laura Barnes, who had a passion for trees, a keen interest in landscape architecture, and delighted in the prospect of Penn founding a landscape architecture program. These scholarships attracted many top students from across the world with previous architectural experience. However, despite being in the "presence of the intellectual leadership of architecture and planning in the United States," there was still a "total disregard for the environment," – "a serious omission" (Ibid., 137).

McHarg sought to correct this in 1959 with a soon to be famous new course entitled "Man and Environment." Proving to be one of the most successful courses of his teaching career, McHarg invited major figures in all the relevant fields of study related to man's relationship with the environment: natural scientists, theologians, and ecologists lectured to the class about their expertise, providing insight into different ways for the students to understand their relationship with the environment. McHarg notes that, "as time when by... the theologians became embarrassed and... declined invitations to address the class" because the theologians "could find no supporting evidence in scripture" of the students' conservationist views (Ibid., 161).

McHarg's success led to a CBS television series entitled *The House We Live In* (1960-61), which McHarg hosted, and modeled after his "Man and Environment" course. He invited and interviewed notable figures including Paul Tillich, Erich Fromm, Harlow Shapley, Margaret Mead, and Sir Julian Huxley. It was through his "Man and Environment" course, and the interviews on *The House We Live In* that McHarg formulated many of his key ideas about ecological planning.

Design with Nature and the Development of Ecological Planning

In 1962, the Maryland Department of Highways proposed to build the Jones Falls Expressway through the Green Springs, Worthington, and Western Run valleys, just north of Baltimore, making residents aghast with the fear of the suburbanization of agricultural land. By 1964, McHarg received a grant from the Ford Foundation to hire natural scientists and ecologists

to the landscape architecture faculty. David Wallace, then executive director of the Greater Baltimore Committee and McHarg's colleague from Harvard, was commissioned to develop a plan to manage growth in the region. Wallace brought McHarg on board to develop what would become the *Plan for the Valleys*, a progressive growth management plan that gave serious consideration to the ecology of the area. By analyzing the underlying geology, soils, slopes, and vegetation, Wallace and McHarg arranged for suburban growth to occur in areas that would preserve prime agricultural land and water quality. Along with William Roberts and Thomas Todd, Wallace and McHarg formed a practice called Wallace McHarg Roberts & Todd, which would continue the practice of ecological planning professionally.

In 1966, McHarg applied a new method in his practice, that would be one of his lasting contributions to the discipline and profession of planning. He was asked to plan an ecologically sensitive alignment of Interstate-95 through central New Jersey. By layering transparent mylar drawings, with each layer representing an ecologically sensitive factor, on top of one another, one could find for the areas that were the lightest in color to align the route, which would theoretically represent the areas of least ecological sensitivity. When applied to I-95, a clear strip running through the area proved to be the best location to align the highway, and was selected as the preferred route. It proved to be a cost-effective method that would provide the foundation for the core concepts of analysis in Geographic Information Systems (GIS) and suitability analyses.

In 1964, McHarg received a grant from the Ford Foundation to bring natural scientists, ecologists, and anthropologists onto the landscape architecture faculty, helping McHarg to realize his dream of better integrating the natural sciences into landscape architecture and planning. The contributions of Olmsted and Eliot were being recognized in landscape architecture history courses. McHarg applied the students and faculty to a "landmark" ecological study (Ibid., 197) of the Potomac River basin as an exercise in regional planning, to determine suitable land uses for four regions of the basin. Although it had the support of United States Secretary of the Interior Stewart Udall, two West Virginia senators who rejected federal intervention in such matters thwarted the plan.

In 1966, McHarg took a one-year sabbatical to write his *opus magnum: Design with Nature*. Using ideas from his "Man and Environment" class, along with *The House we Live In*, and experiences from his teaching career, McHarg set down his major ideas about ecological planning and design. The book advocates for reforming the way planners and landscape architects relate their plans and designs with nature. Critical of the belief that Western man has long had an anthropocentric relationship with nature, as evidenced by the Biblical statement that man should multiply and subdue the Earth, McHarg advocated that we should conceive of ourselves as part of nature and have a more anthropomorphic, and mutually respectful relationship with it. As a result, plans and designs should work alongside ecological systems and processes. Critical of the landscape architecture practices of old, which imposed human order onto the environment, McHarg supported the methods and techniques of Olmsted, Sr., and Eliot, which worked *with* natural systems.

He further advocated for the techniques and multidisciplinary approach he utilized at Penn and in his own practice to create ecologically sensitive plans and designs.

Work at Penn and Wallace McHarg Roberts & Todd

With a grant from the National Institutes of Mental Health, McHarg also began incorporating social scientists into the Penn faculty in order to develop the field of human ecology and investigate planning for health. In 1970, McHarg helped organize the first celebration of Earth Day in Philadelphia. It was during this time that he began to directly (and harshly) criticize the people he felt were responsible for ecological degradation. In response to an angry letter from the president of United States Steel, McHarg called his company's pollution as "industrial excrement" (Ibid., 234). He also overtly told members of the Fortune 500 that their industries needed to be "toilet trained" and to stop their ecologically degrading practices (Ibid, 238).

Following the publication of *Design with Nature*, McHarg's firm, Wallace McHarg Roberts & Todd (WMRT), began receiving a large number of commissions. WMRT was contracted to design Abuja, the new federal capital of Nigeria, as well as an Ecological Study for the Twin-Cities Metropolitan Area. One of the major commissions was for the development of The Woodlands, a housing development just north of Houston, Texas (1971-74). The plan is notable for its use of ecological design in promoting natural drainage in an area susceptible to flooding as a result of poor drainage from fragipan close to the surface. By working with natural systems, McHarg devised a scheme that permitted the greatest amounts of surface water to percolate back into the water table, without increasing the risk of flooding.

In Medford Township, New Jersey, McHarg applied his principles to argue that municipal ordinances could be formulated on the basis that limiting development in certain key areas would promote the overall health, safety, and well-being of a municipality, such as limiting development in floodplains or planning in a way that avoided hazards such as subsidence, hurricane zones, and fire-prone forests. Applying the suitability analysis, McHarg and his team developed ordinances that not only regulate costly and damaging development, but to also encourage growth in desired locations. McHarg's team devised a new subdivision ordinance requiring developers to undergo ecological studies and an Environmental Impact Analysis, which helped encourage sensible development in the township.

In spite of McHarg's accomplishments, his co-workers, David Wallace in particular, were becoming annoyed at the level of attention McHarg was receiving relative to the amount of time he was working at the firm. He was employed part-time at one day a week during the academic year while the other partners were full-time. Ultimately, McHarg's decision to take on a commission from the grandson of the Shah of Iran (1973-75) for the environmental and cultural park Pardisan, led to the partnership's collapse. The park was designed as a zoo that exhibited fauna from around the world, and highlighted Iranian floral, faunal, and cultural diversity, incorporating the cultural histories of the country's many ethnic groups. But it was a time of political instability in Iran, with the Shah in imminent risk of being

overthrown. The project was placing the firm into debt- eventually leaving WMRT in the lurch for \$300,000 from the Iranian government, after the Shah was overthrown, and the project cancelled. In 1979, WMRT asked McHarg to leave and assume responsibility for indebting the firm, to both of which requests McHarg acquiesced. He lamented that this project, along with the death of colleague Narendra Juneja, and the departure of others from the firm, led to ecological planning "losing its leading practitioner," his "continuing regret" (Ibid., 296).

"A New Life"

In this period of loss and difficult transitions, McHarg lost his position at WMRT (now WRT), and then his wife Pauline, who died in 1974. The next year, he met his future wife, Carol Smyser, who was at the time a student of his (they married in 1977). Because of his relationship, he was often accused of favoritism though, in his view, he avoided giving her any level of favor. After their marriage, the two moved to the country to try their hand at self-sufficiency, raising their own pigs, chickens, ducks, sheep, and a large number of animals in a historic home as a means of "rescue, rehabilitation, and projected future" (Ibid., 305).

He continued teaching at Penn, also serving on the White House Task Force on Energy and Environment under President Carter, assisting the Taiwanese government in creating a system of national parks, and protecting them from development and business interests, and organizing a team of planners to examine the effects of the Three Mile Island accident on human and environmental health. In 1986, McHarg was asked to resign as chairman of the landscape architecture department at Penn, and used it as an opportunity to take a sabbatical, and become a visiting professor at the University of California-Berkeley. He replicated the "Man and Environment" course, updating the old syllabus and incorporating newer research, and experts with more advanced knowledge, to lecture about man's relationship with nature. He would later advocate for a Global Environmental Inventory of ecological and environmental data and have such data available through the United Nations Environment Programme.

In 1994, McHarg returned to Harvard as a visiting professor, and led a class on the first complete ecological analysis on Mount Desert Island in Maine. He chose Mount Desert Island in order to pay homage to Eliot, who McHarg later discovered had been a pioneer of ecological analysis, and had applied those techniques at Mount Desert Island, as well as revive the legacy of Eliot at Harvard and in the Boston metropolitan area. Utilizing ESRI software, the students compiled data and produced two reports: *Geology of Mount Desert Island* and *Vegetation of Mount Desert Island*. It was the first time that such a comprehensive list of ecological data had been gathered; no other professional office or governmental department had such a rich database. The project, as described by the dean and chairman of the Graduate School of, was an "incandescent success" (Ibid., 362).

In 1996, McHarg published his autobiography, *A Quest for Life*, summarizing his life and achievements. He chose the title *A Quest for Life* to describe his position that the future

of landscape architecture and planning should be oriented toward applying ecological methods in the “restoration of the land” (Ibid., 375), and toward the ideal that man should share the “evolutionary yearning of microorganisms, plants, animals, and the earth itself, a quest by and for life” (emphasis added) (Ibid., 6). In 1997, Ian McHarg was recognized by ESRI for his contributions to geography and cartographic methods leading to his conception of GIS (ESRI). He was also awarded a National Medal of Art from President Bush in 1990, the first landscape architect or planner to receive the award (McHarg 1996, 350).

Death and Legacy

On March 5, 2001, Ian McHarg passed away in Chester, Pennsylvania at the age of 80 from pulmonary disease. He had a lifelong habit of cigarette smoking, a habit which he only quit in 1992 (Ibid., 384). At the time of his passing, *Design with Nature* had sold over 250,000 copies, and McHarg had cemented himself as the father of ecological planning. Despite McHarg’s contributions to ecological planning, James Corner, current chair of the landscape architecture program at Penn, has stated that McHarg was no “soft, gentle, tree-hugging environmentalist,” but rather “tough, resilient, cunning, strong, outspoken, argumentative” (Corner, 2001). After all, he was not afraid to tell a group of Fortune 500 businessmen that their industries needed to be “toilet trained.” Corner, however, felt that McHarg was also “the most generous, gracious, caring man I ever knew.”

Niall Kirkwood, director of Harvard’s Center for Technology and Environment in 2001, stated that McHarg, even in his poor health, never stopped dreaming and thinking of the bigger picture. “The last thing he said to me, last April [2000] or so, was, ‘I want to do this big study, a geophysical inventory for the whole globe, the world.’ He was still dreaming far beyond his circumstances” (Revkin 2001). It is not only the legacy of his ideas and methods of ecological planning that inspire landscape architects and planners, but also his will to focus on a cause greater than himself that the current generation of landscape architects and planners should strive to realize and continue. It is only through that passion that change for the better can happen.

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Italo Calvino

Dimitra Theochari

One of Italy’s finest post-war writers, Italo Calvino, was the offspring of two traveling botanists, born in Santiago de Las Vegas, Cuba on October 15, 1923, when the Gulf of Mexico was just recovering from the 6th tropical storm of the year (Wikipedia: 1923), a few days after the founding of The Walt Disney Company by Roy and Walt Disney, Time Magazine’s first publication, in a world recovering from World War I and not yet thrown into the Great Depression. In the Europe, where Calvino’s origins lie, Picasso is designing the stage set for Jean Cocteau *Antigone*, 60,000 Italians are homeless after Mount Etna’s eruption, and the Treaty of Lausanne, defining the boundaries of modern Turkey, is signed in Switzerland by Greece, and Bulgaria, with Kemal Kemal Atatürk in the rising figure in Turkish Republic putting an end in the Ottoman Empire. Interestingly enough, that very same day, with Hitler in power of the Reich Government, the Communists attempt a putsch in Hamburg,

Calvino’s father, Mario, was born in San Remo, Italy; at the time of his son’s birth, he was a 47-year-old tropical agronomist and botanist who also taught agriculture and floriculture, and had immigrated to Mexico in 1909 to take up an important position with the Ministry of Agriculture (Wikipedia: Italo Calvino). In an autobiographical essay, Italo Calvino explained that his father “had been in his youth an anarchist, a follower of Kropotkin and then a Socialist Reformist.” In 1917, Mario left for Cuba to conduct scientific experiments, after living through the Mexican Revolution (Ibid.). Calvino’s mother, Eva Mameli, was a botanist, and university professor. “A native of Sassari in Sardinia and 11 years younger than her husband, she married while still a junior lecturer at Pavia University, Italy, several years earlier. Born into a secular family, Eva was a pacifist educated in the “religion of civic duty and science.” Calvino described his parents as being “very different in personality from one another,” suggesting perhaps deeper tensions lay behind a comfortable – albeit strict – middle-class upbringing, devoid of conflict. As an adolescent, he found it hard to relate to poverty, and the working-class (Calvino 2003, 132). In 1925, When Calvino was aged 2, his parents returned to Italy, and settled in San Remo on the Liguarian coast of the Italian Riviera; in later years they moved to Turin and Milan. Two years later, Calvino’s brother, Floriano, was born, who would later become a distinguished geologist.

During his childhood, and especially in his young teenage years, Calvino felt different than the rest of his classmates and friends. His parents were declared atheists, and demanded that their children be waived the requirement to take Roman Catholic Religious classes. In the Italian society of the 1930s, with its close relationship to the Pope, one can only imagine the effect of such a statement. Austere, anti-Fascist freethinkers, Eva and Mario refused

to give their sons any religious education. Many years later, Calvino said that this event did not harm him, but taught him his right to insist on being respected as an individual with his own habits, on retaining his beliefs and ideas, and being ready to isolate himself for the right cause and ideas, accepting the awkward feeling of the isolation. Thus Calvino learned from a young age to deal with the degree to which his personality, uniqueness or difference was exposed, and to tolerate different opinions.

"The family divided their time between the Villa Meridiana, an experimental floriculture station which also served as their home, and Mario's ancestral land at San Giovanni Battista. On this small working farm set in the hills behind San Remo, Mario pioneered in the cultivation of then exotic fruits such as avocado and grapefruit, eventually obtaining an entry in the *Dizionario biografico degli italiani* for his achievements. The vast forests and luxuriant fauna omnipresent in Calvino's early fiction such as *The Baron in the Trees* derives from this 'legacy'" (Ibid.). Calvino states in one of his interviews that San Remo always appeared in his books, because it was always in his mind, a phrase reminiscent of Mark Chagall's statement that he was always painting Vitebsk, his beloved hometown (Wikipedia: Marc Chagall). As a fan of Rudyard Kipling's *The Jungle Book* as a child, Calvino felt that his early interest in stories made him the "black sheep" of a family that held literature in less esteem than the sciences. Fascinated by American movies and cartoons, he was equally attracted to drawing, poetry, and theatre.

He attended the English nursery school St George's College, and later the Liceo Gian Domenico Cassini, where he met a brilliant student from Rome, Eugenio Scalfari, who went on to found the weekly magazine *L'Espresso* and *La Repubblica*, a major Italian newspaper. The two teenagers formed a lasting friendship, Calvino attributing his political awakening to their university discussions. Seated together "on a huge flat stone in the middle of a stream near our land" (Calvino 2003, 135), he and Scalfari founded the MUL (University Liberal Movement) (Wikipedia: Italo Calvino). His mother Eva kept him from joining the Fascist armed scouts only until June of 1940, when he was forced to join the assemblies and parades of the *Avanguardisti*, and to participate in the Italian occupation of the French Riviera.

In 1941, Calvino enrolled the University of Turin in the field of Agriculture, where his father had taught Agronomy in the past. He concealed his literary ambitions and enclosed himself in a "provincial shell," until 1943, when Benito Mussolini was already in power, and he transferred to the University of Florence. At the age of 20, he refused to join the army, went into hiding, and with his mother's encouragement, joined the Italian Resistance. "Using the battlename of "Santiago," Calvino joined the Garibaldi Brigades, a clandestine Communist group and, for twenty months, endured the fighting in the Maritime Alps, until the Liberation in 1945. As a result of his refusal to be a conscript, his parents were held hostage by the Nazis for an extended period at the Villa Meridiana (Ibid.). Calvino wrote of his mother's ordeal that "she was an example of tenacity and courage... behaving with dignity and firmness before the SS and the Fascist militia, and in her long detention as a hostage, not least when the blackshirts three times pretended to shoot my father in front

of her eyes. The historical events which mothers take part in acquire the greatness and invincibility of natural phenomena" (Calvino 2003, 142).

In 1945, Calvino returned to Turin after long hesitation between that city and Milan, abandoning his studies. A year later, he was initiated into the literary world by Elio Vittorini, who published his short story "Andato al comando" ("Gone to Headquarters," 1945), in *Il Politecnico*, a Turin weekly magazine associated with the University. Viewing civilian life as a continuation of the partisan struggle, he confirmed his membership in the Italian Communist Party (Calvino 2003, 143). After taking a degree in literature from the University of Turin in 1947, and graduating with a Master's thesis on Joseph Conrad, Calvino supported himself by contributing to a number of Communist papers, and by working on the editorial staff of the publishing house Einaudi, which he remained associated with for 35 years. He first became well known in Italy for editing Einaudi's monumental collection of Italian folk tales (*Libyrinth*). He then left Einaudi to work as a journalist for the official Communist daily, *L'Unità*, and the newborn Communist political magazine, *Rinascita*. During this period, Pavese and poet Alfonso Gatto were Calvino's closest friends and mentors (Calvino 2003, 224). In the same year, 1947, his first novel *Il sentiero dei nidi di ragno* (*The Path to the Nest of Spiders*) – written with valuable editorial advice from Pavese – won the Premio Riccione on publication. With sales topping 5000 copies, a surprise success in post-war Italy, the novel inaugurated Calvino's neorealist period. In a clairvoyant essay, Pavese praised the young writer as a "squirrel of the pen" who "climbed into the trees, more for fun than fear, to observe partisan life as a fable of the forest" (cited by Weiss, 39).

Later important moments of his life are: in 1948, he interviewed one of his literary idols, Ernest Hemingway, travelling with Natalia Ginzburg to his home in Stresa; in 1949 he published *Ultimo viene il corvo* (*The Crow Comes Last*), a collection of stories based on his wartime experiences; in 1950 he returned to Einaudi and developed into a "reader of texts"; in 1951 he worked as a correspondent of *L'Unita* in Russia, and while in Moscow he was informed of his father's death; in 1952 he won the Saint-Vincent Prize for journalism for his work during 1951. In 1952 Calvino wrote with Giorgio Bassani for *Botteghe Oscure*, and also worked for *Il Contemporaneo*, a Marxist weekly, before departing to visit New York, where he stayed for the following six months.

Over a seven-year period, Calvino wrote three realist novels, *The White Schooner* (1947–1949), *Youth in Turin* (1950–1951), and *The Queen's Necklace* (1952–54), but all were deemed defective. Later, while writing *I giovani del Po* (*Youth in Turin*) he realized that he was not interested in composing the novel anyone expected of him, but in writing a novel that he would like to read, and which distilled all the essence, and past experiences of his life; he considered that act of writing "natural to him" (Calvino *Our Ancestors*, vii). In 1954, Giulio Einaudi commissioned his *Fiabe Italiane* (1956; *Italian Folktales*) to answer the question, "Is there an Italian equivalent of the Brothers Grimm?" (Calvino 2003, 163-4) "For two years, Calvino collated tales found in 19th century collections across Italy, then translated 200 of the finest from various dialects into Italian. Key works he read at this time were Vladimir Propp's *Morphology of the Folktale* and *Historical Roots of Russian Fairy Tales*, stimulating

his own ideas on the origin, shape and function of the story” (Wikipedia). Calvino’s contemporaries were also interested in returning to tradition, discovering the folklore, and the vernacular; the texts and research of Aldo Rossi, and other Mediterranean architects and thinkers (like Dimitris Pikionis, and Hassan Fathy), who were at the time criticizing modernism, and seeking to reread the Mediterranean landscape to discover the “real”- the “indigenous”- the “natural”- the “vernacular.”

From 1955 to 1958, Calvino had an affair with Italian actress Elsa De Giorgi, a married, older woman. Excerpts of the hundreds of love letters Calvino wrote to her were published in the *Corriere della Sera* in 2004, causing some controversy (International Herald Tribune).

In 1957, deeply disappointed by events in Eastern Europe, and especially the “1956 Soviet invasion of Hungary,” Calvino left the Communist party; in his letter to *L’Unita* on August 7th he indicated that the reason for his resignation was related to his belief that communism should not be implemented without democracy. Ostracized by ICP party leader Palmiro Togliatti and his supporters after the publication of *Becalmed in the Antilles (La gran bonaccia delle Antille)*, a satirical allegory of the party’s immobilism, Calvino began writing *The Baron in the Trees* (Wikipedia). He continued to write periodically for the journals *Città aperta* and *Tempo presente*, the magazine *Passato e presente*, and the weekly *Italia Domani*. In 1969 he became co-editor of *Il Menabò* with Vittorini, writing about culture and literature in the industrial age. “Despite severe restrictions in the US against foreigners holding communist views,” Calvino was allowed to visit the United States, where he stayed six months from 1959 to 1960 (four of which he spent in New York), after an invitation by the Ford Foundation. Calvino was particularly impressed by the “New World”: “Naturally I visited the South and also California, but I always felt a New Yorker. My city is New York.” The letters he wrote to Einaudi describing his visit to the United States were first published as “American Diary 1959–1960” in Hermit, Paris in 2003” (Ibid.).

In 1962 Calvino met Argentinian translator Esther Judith Singer (“Chichita”), whom he married in 1964 in Havana, during a trip in which he visited his birthplace and was introduced to Ernesto “Che” Guevara. In 1966 he resigned from co-editing in *Il Menabò* after Vittorino’s death; this event deeply affected him, to the degree that he named that period an “intellectual depression”. At that moment of his life, at the age of 43, he realized that he had stopped being young, and entered a phase that could be considered as a middle age crisis or realization. On October 15th 1967, few days after Guevara’s assassination, Calvino wrote a tribute to him that was published in Cuba in 1968, and in Italy thirty years later (Ibid.). In the years that followed, his writing gradually diverged from the dominant neorealist style and assumed its own peculiar and distinctive voice. His major works include *Cosmicomics* (1968), *Invisible Cities* (1972), and *If on a winter’s night a traveler* (1979).

Calvino returned to his prior occupation at Einaudi, and he and his wife settled in Rome in via Monte Brianzo where their daughter, Giovanna, was born in 1965. In 1967, sensing the ambiance that brought on May ’68, Calvino moved with his family, setting up home in a villa in the Square de Châtillon. In 1968 after an invitation from Raymond Queneau,

he joined *Oulipo*, where he met Roland Barthes, Georges Perec, and Claude Lévi-Strauss. That same year, he turned down the Viareggio Prize for *Ti con zero* (Time and the Hunter) on the grounds that it was an award given by “institutions emptied of meaning” (Barenghi and Falcetto). He accepted, however, both the Asti Prize and the Feltrinelli Prize for his writing in 1970 and 1972. In the later years in Sorbonne and the University of Urbino he focused his studies on the works of Honoré de Balzac, Ludovico Ariosto, Dante, Ignacio de Loyola, Cervantes, Shakespeare, Cyrano de Bergerac, and Giacomo Leopardi. Between the years 1972–1973, Calvino published two short stories, “The Name, the Nose” and the Oulipo-inspired “The Burning of the Abominable House” in the Italian edition of *Playboy*. He became a regular contributor to the important Italian newspaper *Corriere della Sera*, spending his summer vacations in a house constructed in Roccamare near Castiglione della Pescaia, Tuscany (Wikipedia).

During his later years, Calvino became an avid film enthusiast and renowned lecturer, traveling widely to satisfy both pursuits. In 1975 Calvino was made an Honorary Member of the American Academy. Awarded the Austrian State Prize for European Literature in 1976, he visited Mexico, Japan, and the United States where he gave a series of lectures in several American towns. After his mother died in 1978, at the age of 92, Calvino sold Villa Meridiana, the family home in San Remo. Two years later, he moved to Rome, to Piazza Campo Marzio near the Pantheon, and began editing the work of Tommaso Landolfi for Rizzoli. Awarded the French Légion d’honneur in 1981, he also accepted the jury presidency of the 29th Venice Film Festival (Ibid.). During the summer of 1985, Calvino prepared a series of lectures to be delivered at Harvard University in the following fall. On 6 September, he was admitted to the ancient hospital of Santa Maria della Scala in Siena, where he died during the night between 18 and 19 September of a cerebral hemorrhage (Libyrinth; Wikipedia). His lecture notes were published posthumously in Italian in 1988 and in English as *Six Memos for the Next Millennium* in 1993.

During his life, Calvino notes that among the most important acquaintances he made were: Montale, Cesare Pavese, Elio Vittorino, Norberto Bobbio, and Natalia Ginzburg. Calvino was never a fan of modernism, since modernism addresses humans, their needs, and their understanding of space as similar. Modernism makes the assumption that all people will understand space in the same way. Calvino, probably because of his different idiosyncratic view of religion, insists that the differentiation of feelings, and beliefs is important, even the existence of imaginable cities (Ξένια Σαρατσιώτη). As will be discussed later, some of the cities approach ideas known from Leibnitz and the Relative Space, since space transforms relatively to the objects that construct the cities. In the city with no walls, water pipes define the edges of the buildings; Calvino’s ideas here are closer to Heidegger’s, when he states that objects are related to the notion of place, or topos.

The Architectural Significance of his work: Invisible Cities

Despite the fact that Calvino passed away at the relatively young age of 62, he enjoyed a life plentiful of experiences, mostly defined from his family and working environment. A series

of events left their trace in his young heart when he was a child, that when reading the *Invisible Cities*, we can understand his uniquely complex personality. Tracing these events back, we can use as a way into his mind. I will quickly summarize the chapters of *Invisible Cities* in order for the links with the following events to become more apparent.

In this novel, published in Italy in 1972 by Giulio Einaudi Editore, 55 types of cities are presented, divided in nine chapters. The first and last categories discuss 10 cities, while all the rest discuss only 5 cities each. Every chapter begins and ends with a short dialogue between Marco Polo and the Chinese Emperor, Kublai Khan, a dialogue that lays the foundation of the entire book. Calvino categorizes the cities in 11 groups:

- Cities and Memory
- Cities and Desire
- Cities and Traces
- Thin Cities
- Cities and Exchanges
- Cities and Eyes
- Cities and Name
- Cities and Dead
- Cities and Sky
- Continuous Cities
- Hidden Cities

A very important note on the book is the fact that in the book, Marco Polo and Kublai Khan do not speak the same language. When Polo is explaining the various cities, he uses objects from the city to tell the story. The implication is that that each character understands the other through their own interpretation of what they are saying. They literally are not speaking the same language, which leaves many decisions for the individual reader (Wikipedia: Invisible Cities). In sum, the book, because of its approach to the imaginative potentialities of cities, has been used by architects and artists to visualize how cities can be, their secret folds, where the human imagination is not necessarily limited by the laws of physics or the limitations of modern urban theory. It offers an alternative approach to thinking about cities, how they are formed and how they function (Ibid.).

How did Calvino become who he became to write this book though?

The first event that defined his thought happened in 1926, while Calvino in the age of 3 watched a group of fascists beating up a socialist. Considering his young age, we can understand the degree to which his young heart was traumatized.

The next event that played a role in defining Calvino, was without doubt the choice of his parents that he should demand to be waived the obligation to follow religious classes in school. As mentioned earlier, this fact made him understand that he is different, learn to accept difference around him, and taught him how to face and deal with isolation. That situation made him stronger in defending his rights and his habits.

As Calvino states in his book *Why Read the Classics?*, the poet Montale was the first important acquaintance of his life. Trying to imitate his work, Calvino composed poems and short novels. Montale was a poet that paid a lot of attention in the choice of words in order for them to give a very specific meaning in order to reassure that the meaning every time gives a unique experience. Influenced by that process, Calvino at that phase of his work chooses every word very wisely, and especially in his work *Invisible Cities* he chooses every word – description of a city in a very thorough and elegant manner. Consequently, the way every city is named provides the reader a very specific and precise understanding of what that city is, unique for every city. The process that he uses to distinguish these words relates to a number of characteristics of the landscape of the bourgeoisie.

The way Montale understands and discusses relationships between man and the world is inherent in the *Invisible Cities* especially in the categories of: “Thin Cities”, “Cities and the dead”, and “Cities and the Sky”. Montale’s ideas discuss the world as it was during the Second World War, full of instability and insecurity, on the verge of a change, or on the verge of a massive destruction. Montale never talks about the war directly, but only indirectly through the anxiety of the people, and the way they carry the dead inside them. Calvino loves these poems, and believes that they give you the illusion that they never finish, and that is very attractive for him. As a result, in his book *Invisible Cities*, Calvino talks about cities based on rotten foundation, cities that are abandoned, cities over the abyss like *Octavia* that only thread keeps it in place; or like *Thekla*, a city that is constantly built, re built and expanding, because if it stops it collapse and bring a massive destruction to people, or, last, like *Laudomia*, the Cities of the dead, that everything happens in the cities cemetery, full of soldiers and hooded people. What is certain, is that Calvino’s personal experiences during Second World War added to his love in Montale’s work, since Calvino himself faced many times imprisonment and fear of assassination or execution.

The next important person that defined Calvino was Cezare Pavese (they met in 1945) (Calvino *Why Read Classics?*, 308-312). Cezare Pavese’s work is written in a way that true meaning is hidden behind every word of the text, and doing this he creates a relationship between visible and invisible. In other words, in order for one to understand his texts, they have to dig deep inside and reach the second level where the true meaning lay; and it is then that the text transforms from a simple narrative to a novel. Calvino uses the same way of constructing meanings in the text, in a way that we can understand that there is a deeper meaning in the elaborate descriptions of the cities. His novel becomes a testimony, an architectural text that one can approach in many different ways, and dig in many different levels. Considering ethnology and Greco-Roman Mythology, the *Invisible Cities*, it is quite evident since the etymology of the names of most cities relates to Greek Antiquity or Latin Language, and a special note should be made on the category of “cities and name”. An example is the city *Leandra* that is inhabited by people and anthropomorphised gods, like the Gods of Olympus. Also, Pavese brings forward the question of reflection of the contemporary city, and Calvino expands this framework in the category of “Cities and Signs.”

One more element that relates Calvino and Paveze is the fact that they both invent a third person to start the narration of the story; Paveze uses Virgilius and Calvino Marco Polo and the Emperor. Through these figures, both Calvino and Paveze bring up discussions about social, ethnological, and political matters of those eras, and they achieve to promote their ideas without directly mentioning that it is their ideas.

In the later years of his life, after Second World War, when Cavino worked in Einaudi, he met a number of important figures that influenced his work. Francis Porge and Luis Borges are the most important one, while significant effect to him was made by the work of Raymond Queneau and Balzac.

Starting from Balzac, Calvino was introduced to his work through Cesaze Paveze. Paveze believed that Balzac understands the city as a nest of mystery, and curiosity is the major feeling of the inhabitant. This idea is used by Calvino when he presents the Big City, the city of the Chinese emperor which is a nest of mystery and is constituted by a number of smaller cities, each of which hides its own smaller secrets.

Calvino approached Raymond Queneau through a translated edition of "Blue flowers" that he was asked to compose. Calvino praised Queneau's work, and notes that the more he tries to dive into the meanings of his words, the more he realizes that many ideas escape him (Calvino *Why Read Classics?*, 286-307). That idea of vicious cycle was later used by Calvino when he was writing *Invisible Cities*. They both use spelling games of their language, Queneau using his deep knowledge of the French language, and Calvino in the way he names the different cities, suing his knowledge of Greek and Latin linguistic terms. This element becomes very unique in his language and distinctive characteristic of his work. Using this game, Calvino achieves to evolve the narrative from one city to the next one, without interrupting the thought of the characters, their discussion, and the evolution of the understanding of the reader.

Francis Ponge, who belonged to the Einaudi, was another influence to Calvino (Ibid., 270-6). Ponge had the unique ability to take a simple object and understand it beyond any cognitive process and describe it completely corrupted beyond any linguistic process. Doing this, Ponge achieves to redefine the object, and most importantly redefine the relationship between the object and its environment, bring forward the uniqueness of its object, its diversity, and its diversity in relationship to us. Ponge mainly achieves to do so using the relationship between trees and man, an element that Calvino borrows in the two final chapters of the book. For example, the city Olinde, develops in concentric circles like the bark of a tree.

The last person that influenced Calvino for this novel is Jorge Luis Borges. Calvino met him through Einaudi and his friend Elio Vittorini. Borges talks about the world as the image and likeness of the space of spirit, which is inhabited by the zodiac circle and ii is internally related with very strict geometry. Calvino incorporates this idea in the group of "Cities and Sky". The city Eudoxia, is a canonical ultimate geometrical city with austere motifs and are

being repeated. The city Versavea represents the city of spirit, and represents the eternal world of the man, with virtues and higher feelings. Last, the city Perinthia, is directly related to the zodiac circle, since astronomy was used for situating and developing the city. Calvino and Borges both use a time where simultaneously the idea of infinite number of contemporary worlds may be possible. Time is in reality multiple time (Ibid., 288-307).

To conclude, I would like to mention that Calvino's influences were both personal and related to literature. People he was associated with many times discussed an imaginable world, a world as if it was a dream (Ξένια Σαρατσιώτη). For this reason, this work is a very important text for architects, urban designers, planners, and landscape architects. The more time one invests in this text, the more they understand that it might not talk about arithmetical relationships between elements; however, it is evident that there is a clear mathematical framework behind it. Calvino was apparently very good at math; it is evident when relationships between inhabitants in cities are discussed, in the development of cities, in discussions about symmetry, about technological elements, and behind all these the human settlement and presence is hidden.

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Alice Waters and Chez Panisse: Revolutionizing the American Foodscape

Annie Palone

The pleasures of the table—that lovely old-fashioned phrase—depict food as an art form, as a delightful part of civilized life. In spite of food fads, fitness programs, and health concerns, we must never lose sight of a beautifully conceived meal.

Julia Child

Cultivators of the earth are the most valuable citizens. They are the most vigorous, the most independent, the most virtuous and they are tied to their country and wedded to its liberty and interests by the most lasting bands.

Thomas Jefferson, 1785

Alice Waters has had a world-changing impact on landscape, environmental planning, economy, and sustainability through her involvement in agriculture, cuisine, and social activism. The quiet revolution Waters started in a Berkeley bungalow in 1971—and the quest for delicious, vibrant food that inspired it—has gone global. But surprisingly, “there’s always been this interesting contradiction between the delicate little way Alice looks and how she really is.” Alice’s old friend Eleanor Bertino remembers,

There was something very turn-of-the-century-to-1930 about Alice’s appearance... she looked just like a Pre-Raphaelite angel. She had this long, wavy hair, and was very, very skinny. Barely five-two. But an iron will. Always (McNamee, 24).

That iron will and the manifold changes that it inspired are deep-rooted: fresh, local, colorful food, and gorgeous plating simply came to be expected. For today’s generation of “foodies,” it would be easy enough to miss the importance of Waters’ and Chez Panisse’s contributions, because the maxims on which they founded their ‘Delicious Revolution’ have been so completely embraced by the American culinary culture of the late twentieth and early twenty-first centuries. It would be too complicated to disentangle the web of Waters’ interconnections: who was inspired by whom, and when exactly, but what is certain is that Waters, with her ongoing dedication to social, culinary, and agricultural activism, has made her mark on the world of food. Without Waters there might be no Whole Foods markets, and none of the proliferation of farmers’ markets, “local organic” restaurants, free-range egg farmers, butchers advertising “grass-fed meat” and artisan *charcuterie*. Then again, without Alice, someone else might very well have stepped up to fill that void. “The well-publicized preference of contemporary chefs for buying locally, choosing organic

foods when possible, supporting regional farmers, and rejecting the stiff formalities of the traditional French restaurant has changed the tone of restaurants across the country” (Harris 2003, 55); this ‘preference’ began as a revolution at Chez Panisse. Whether or not the chefs and farmers involved in the new agro-economic cycle know her by name, and whether in the absence of Alice there might have been some other figurehead, the approach to *restaurateur*-ship pursued by Waters at Chez Panisse has inspired a gourmet revolution.

It is an odd and wonderful fact that northern California now boasts more small farms and orchards than it did in my childhood, and Alice Waters and other Bay Area cooks are the engines of this recent development. They have made it possible for cheesemakers, truck gardeners, growers of tender, non-market-variety stone fruits to earn a living from their passion (Grover 2003, 14).

With very good reason, Alice “really does believe that she can change the world, she can change individual people one by one, she can improve people’s lives” (McNamee, 261). Forty years—of Chez Panisse—later, the American Foodscape has been transformed by the revolution that Waters started in Berkeley.

The Chez Panisse Foundation’s website introduces her as “an American pioneer of a culinary philosophy...based on the finest and freshest seasonal ingredients that are produced sustainably and locally,” and “a passionate advocate for a food economy that is ‘good, clean, and fair’” (chezpanisse.com). Waters’ influence today reaches far beyond the restaurant’s home at 1517 Shattuck Avenue, in Berkeley, California. She has influenced the development of the ‘California Cuisine,’ the local/organic and Slow Food movements, and the new approach to sustainable, local, seasonally-appropriate cuisine that today dominates a not-insignificant sector of the global restaurant scene. Shoppers at today’s proliferation of farmers’ markets, artisan bakeries, and *charcuteries* reap the benefits of a revolution humbly sown at Chez Panisse in 1971, that has burgeoned across the intervening forty years, growing into produce aisles, backyard gardens, and kitchens across America—and the globe—bringing startlingly fresh, local, healthful food back to the plate. As for standing up to America’s ‘agro-industrial juggernaut,’ “Well, somebody had to do it,” says Waters (Thomas McNamee, 229). So where did this formidable taste and visionary energy come from?

The Formative Years

Alice Louise Waters was born on April 28, 1944 in suburban Chatham, New Jersey. Poor eyesight had prevented her father Pat from serving in World War II—so his contribution to the war effort was manifested in an abundant Victory Garden, enriching the family’s meals during war-time privation, and providing sensual memories of freshly picked strawberries and green beans that would follow Waters into her adult life. As her father rose through the Prudential Life Insurance Company, he moved his family from New Jersey, to Indiana, to Southern California. From Van Nuys High School Alice went to U.C. Santa Barbara, where she remembers being “in danger of becoming an irredeemable party girl” (McNamee,

10). Redemption came when Alice transferred during her sophomore year (with friend and sorority sister, Eleanor Bertino) to U.C. Berkeley. They arrived in January 1964, not to the “serene intellectual refuge” (10) they were anticipating, but onto a hyper-political scene where, “The Free Speech Movement erupted at our feet” (10). “And that changed everything. Changed my life forever” (11). Berkeley in that moment was a political hotbed: student protests were turning to riots and ending in violence. The assassination of President Kennedy, violence against the civil rights movement in the South, and the nuclear arms race had radicalized the campus and the city (11), and radiated outwards from Berkeley to other campuses and cities across the nation.

In February 1965, Alice arrived in France, for a semester’s study at the Sorbonne, and a journey that would change her life once again (McNamee, 10).

Our second day [in Paris]... we went down to the dining room for lunch, and we didn’t know what to order, so we just had the soup, because it was the cheapest thing. It was a *soupe des legumes*. It wasn’t puréed, it was just very finely chopped up, and it was so delicious. I felt like I had never eaten before... (12).

Falling in love with Paris through its markets and eateries awakened Alice. Her life had been and would be experienced “through the senses, always through the senses,” (8) and she was in love with the beautiful flavors of Paris. It “was a sensibility that was not part of my life, had never been,” (12)

“But I got the whole French aesthetic, from beginning to end. What those thick curtains looked like, what the fruit bowl looked like, how the cheese was presented, how it was put on the shelves, how the baguettes twisted. The shapes, the colors, the styles. Everything in Paris was magical to me.” (16)

When she returned from France, Waters “wanted hot baguettes in the mornings, and apricot jam, and *café au lait* in bowls, and I wanted a café to go hang out in, in the afternoon, and I wanted to wear French clothes” (Ibid.). But the cultural, culinary, aesthetic experience that Alice now craved was not yet to be found in Berkeley. Alice’s iron will and ‘never-say-die’ determination would lead to the creation of a home for the culinary experience that she so craved, so that “the cultural experience, that aesthetic, that paying attention to every little detail,” the life she wanted to live, could be lived in Berkeley (19).

Alice moved into an apartment with a well-appointed kitchen where she and her girlfriends tried to replicate their favorite dishes from France. “It was a very exciting time to be young and in Berkeley. The word *revolution* was heard constantly, and it meant not only the political uprising against war and racism but also a social and sexual revolution” (McNamee, 21). Alice created her own major at Berkeley, focusing on French cultural history between 1750-1850: studying the French Revolution “because it felt like the moment we were living in” (23). Politically inspired by the Free Speech Movement, Waters worked for the congressional campaign of Robert Scheer, a “radical Democrat,” working closely with the Berkeley Free

Press, where she met David Goines. Scheer was defeated, and Alice’s political career temporarily lost momentum. She moved in with Goines, and their apartment became an intellectual and culinary gathering spot (Reardon 1994, 209). Alice graduated from Cal in January 1967, and took a waitressing job at a ‘wannabe’-French restaurant nearby. But she felt that she was not learning anything. She wrote and Goines illustrated a series of recipes called “Alice’s Restaurant” (after Arlo Guthrie’s antiwar story-song), published in the alternative weekly *San Francisco Express Times*. And she dreamed about opening a restaurant: a casual, familial restaurant with delicious food and ample wine, and tables where friends could sit and chat all afternoon. “I believed that in order to experience food as good as I had had in France, I had to cook and serve it myself” (Reardon 1994, 1). But the restaurant was only a dream: “...she had no money, didn’t know how to raise it, and had no idea how to run a business. Until she could figure all that out, she was going to have to find something else to do” (32). In what would become very much a pattern throughout Alice’s life, the right person came along with the right suggestion at the right time: a Montessori-trained friend suggested that Alice might love teaching. Which she did: “Montessori went straight to my heart, because it’s all about encountering the world through the senses. That’s how kids learn best” (32). Alice went to London in August 1968 to pursue the “best” Montessori training in the world, returning to visit Paris, friends in the French countryside, and exploring Turkey while she was abroad.

She returned to Berkeley in the late summer of 1969, and began to teach. She and David drifted apart, and Alice met Tom Luddy, soon-to-be director of the renowned Pacific Film Archive. He introduced her to the films of Marcel Pagnol, and, “Alice just cried and cried, cried her heart out she was so moved” (McNamee, 39). The three films, *Marius*, *Fanny*, and *César*, revolve around a little bar-café on the Old Port of Marseille: “The generosity, the sheer goodness, of [the character] Panisse struck a deep chord in Alice, and the easy familiarity, trust, and benevolence shared by the waterfront community [reawakened] her old conviction that a restaurant could exemplify those values” (39). By the end of 1970, the dream of the restaurant seemed certain to become a reality. Alice wrote later that she had chosen “Chez Panisse,”

“to evoke the sunny good feelings of another world that contained so much that was incomplete or missing in our own—the simple wholesome good food of Provence, the atmosphere of tolerant camaraderie and great lifelong friendships, and a respect both for the old folks and their pleasures and for the young and their passion” (40).

Assembling friends and supporters, most of whom had “high qualifications for jobs other than the ones they would actually be doing” (47), Alice’s dream was to become a reality. She hired a Berkeley student, and fellow Francophile, Victoria Wise to be the first chef, and her friend Lindsey Shere volunteered to be the pastry chef. Alice would run the front of house. Not one of them had any idea what they were getting themselves into.

Alice's Restaurant, Opening Night: August 28, 1971

Six years after her fateful first trip to Paris, Alice opened the little bungalow on Shattuck Street, at the age of 27, to present Chez Panisse's first dinner. Not one of the staff had professional experience in the running of a restaurant. They were idealists and food-lovers who shared "communitarian values" (296) and an interest in creating a homey backdrop for fabulously fresh and innovative food. (Any sense of pragmatic financial responsibility would take years to catch up with their idealism, and the restaurant ran mostly in the red until well beyond its twentieth birthday.)

From the beginning, Alice and her partners tried to do things the way they would like them done at a dinner party at home, with generosity and attention to detail... The fixed dinner menu consists of three to four courses. The menu, which changes every night, is designed to be appropriate to the season and composed to feature the finest sustainably-sourced, organic, and seasonal ingredients including meat, fish, and poultry (chezpanisse.com).

Alice's Montessori training meant an emphasis on experiencing how every little aspect of the restaurant *felt*, both to customers and employees. Trained by Alice's learn-by-doing ethos made the staff into a collection of acculturated food-lovers. "Every single person who works here, including the dishwashers, loves to eat. Go to the Berkeley farmers' market on a weekend, and you see everyone from the restaurant shopping. And these people don't make a lot of money, but they all have dinner parties... It's a common view of life, I think" (McNamee, 60-61). You have to "get it" to work at Chez Panisse, and "getting it" is a very elusive quality (204). Those friends of the restaurant with connections to the worlds of art, society, and politics, brought their friends and clients to eat. Great filmmakers like Howard Hawks, Douglas Sirk, Satyajit Ray, Akira Kurosawa, Roberto Rossellini, and up-and-coming stars like Francis Ford Coppola and George Lucas visited the restaurant in its early days, as guests of Tom Luddy (McNamee, 60), lending the young restaurant their glitz and glamour.

The first enthusiastic review came in May 1972, with Chez Panisse described in three dense pages by the Bay Area's leading restaurant authority, "as a vibrantly alive, ongoing experiment, not always meeting with unqualified success, but never anything less than stimulating and often positively exhilarating" (McNamee, 68). But Alice and her chefs were still not guaranteed access to the quality of ingredients they wanted. This demand for fresh, local, high-quality ingredients led to the "hunter-gatherer culture" of the early seventies, which Waters described in a 1989 essay titled *The Farm-Restaurant Connection*:

"Not only did we prowl the supermarkets, the stores and stalls of Chinatown, and such specialty shops as Berkeley then possessed, but we also literally foraged. We gathered watercress from streams, picked nasturtiums and fennel from roadsides, and gathered blackberries from the Santa Fe tracks in Berkeley. We took herbs from the gardens of friends. We also relied on friends with rural connections. The mother of one of our cooks planted *fraises des bois* for us, and [pastry chef] Lindsey [Shere] got her father to grow the perfect fruit she wanted" (McNamee, 59).

In October 1975 *Gourmet* magazine published another rave review. Alice says she knew they had arrived, and was terrified. "One of my dearest friends sent us a funeral wreath," she remembers (111). Great reviews brought no-so-great new customers, whose names filled the reservation book for months (replacing the local, regular crowd with the empty tables of ten to twenty no-shows a night), and bringing in hoards of doubtful, demanding, and judgmental customers. Through it all, the highs and lows, the staff who came and went, the celebrated opening of the upstairs Café in 1980, and the fire that closed it back down, almost condemning the building in 1982 (168-9), Alice's determination and the efficient skill of her team have kept the restaurant successful. "People meeting Alice for the first time would be struck by her shyness, her uncertainty, her unfinished sentences, the childlike tone her voice often fell into. Her familiars, however, knew that behind Alice's diffidence lay an indomitable will" (55). That will has driven Waters, and Chez Panisse, from its chaotic first dinner in 1971, to last summer's fortieth birthday party. Over those forty years, the reach and fame of the restaurant have grown both locally and globally. Alice's background in political activism, developed in the early days of the Free Speech Movement, has spread its reach from local, organic food, to a rethinking of American agriculture and education; from sit-in's at Cal in the sixties, to speaking engagements and global recognition. Chez Panisse "sparked an American food revolution that exploded in the 1980s. [Waters'] efforts have been widely recognized and rewarded. In 1992, the James Beard Foundation named Waters the Best Chef in America and identified Chez Panisse as the nation's Best Restaurant" (Smith 2009, 262). Although Chez Panisse has seemed on the brink of closure at many times throughout its history, the perseverance and determination of the *famille Panisse* have kept the doors open, and the message loudly proclaimed. "The Chez Panisse ideal... French techniques pepped up with jazzy improvisation, bright-flavored and utterly fresh California ingredients, purity of flavor, simplicity of presentation, seasonality" (McNamee, 90) has come full cycle, from seed to flower to fruit, and back again, supporting and inspiring thousands of small, organic farms along the way.

Influencing a Delicious Revolution

As Chez Panisse matured, becoming a touchstone of American cuisine, Waters found willing partners in her mission of promoting local, fresh, seasonal ingredients. She joined fine cooking with community activism" (Smith 2009, 261).

Alice's (and husband Stephen Singer's) daughter Fanny was born in the summer of 1983, and while motherhood took Alice out of the kitchen at Chez Panisse, it deepened her concerns about the world in which her daughter would grow up. "It all started with Fanny" (McNamee, 185). Waters' campaign for fresh local food, organically produced at the scale of family farms, aims to teach "a new way of focusing on how our understanding of food and the choices we make as consumers affect the people who grow food and the land on which it's grown" (Harris 2003, 57). She likes to call this new approach a *Delicious Revolution*, and today has her eye on a bigger prize than changing the way a few restaurant kitchens are run. From the Martin Luther King Public School in Berkeley, to the cafeterias of Yale University, to reimagining the food at the American Academy in Rome, Waters

has manifested the 'change she wants to see in the world' through political networking, beneficent donors, and her own iron will. Waters believes that the experience of food, of dining, of growing and harvesting fruits and vegetables, is tantamount to the development of the values of generosity, companionship, nourishment, and growth (McNamee, 220) for which the restaurant stands, and she has tirelessly campaigned to bring these values and the way of interacting with the environment that carries them, into American schools.

Waters' introduction to the eighth Chez Panisse cookbook: "begins the same way as all the others: I throw open the window, start to flail my arms, and scream: "Pay attention to what you're eating!" And then I calm down a little and try to explain why this matters so much to me" (Waters 2002, xv). While Alice has rarely occupied the traditional role of Chef at Chez Panisse, she has always been the restaurant's ultimate arbiter of taste and aesthetics: "There are 119 people on the staff of Chez Panisse, and not one of them, ever, argues with Alice's palate" (McNamee, 338). A reviewer of the *Fruits* cookbook wrote that:

"The fine flavors of northern California's local fruits shine from the pages of Waters' book. I read the recipes, and I can smell the rosemary hedges lining Berkeley gardens, see the Mission fig trees bowed to the ground with black dusty fruit each August, taste the full, acidless juice of thin-skinned Meyer lemons. These simple recipes depend on what industrial agriculture cannot offer—what is local and specific, the quality that used to be known as *genius loci*" (Grover 2003, 14).

This 'spirit of the place,' often called a food's or wine's *terroir*, denotes the special characteristics that geography, geology, and climate bestow on the products grown there. Chez Panisse very much represents the social, political, culinary, and agricultural flavors of its Berkeley home, while promoting a sustainable future for agriculture through the Edible Schoolyard Project, The Chez Panisse Foundation, and Slow Food International.

It is not commonly known that biodiversity on traditional farms is often higher than that found in national parks, wildlife refuges, and the other reserves that are usually thought of as the "arks" on which rare species are saved. Industrial agriculture, on the other hand, with its vast acreage of monocrops and exclusion of virtually all other life from the fields, is one of the most powerful destroyers of biological diversity (McNamee, 314-5).

Perhaps without knowing it, Waters has been the inspiration for the provision of millions of acres of habitat for flora and fauna, which come hand-in-hand with small organic family farms. In her pursuit of the "delicious" Alice has made the protection and propagation of biodiversity, sustainability, and chemical-free produce top priorities. In a 2004 speech to the "Terra Madre" Slow Food International gathering, at which Prince Charles was also a speaker (his speech centered on proud localism—see End Notes), Alice voiced her integrated theory of a Delicious Revolution:

"I believe that the destiny of humankind in the twenty-first century will depend most of all on how people choose to nourish themselves. And if we can educate the senses, and break

down the wall of ignorance between farmers and eaters, I am convinced—because I have seen it with my own eyes time and again—people will inevitably choose the sustainable way, which is always the most delicious alternative" (McNamee, 346).

Never one to be told 'no,' Waters has continued her radical shake-up of the culinary world. In 1996 her commitment to education led to the creation of The Edible Schoolyard Project at Berkeley's MLK Jr. Middle School, with a "one-acre garden, an adjacent kitchen-classroom, and an "eco-gastronomic" curriculum." (chezpanisse.com) The curriculum involves the school's thousand students in all aspects of the food cycle, which "instills the knowledge and values we need to build a humane and sustainable future." The program integrates gardening, cooking, and sharing school lunch into the core academic curriculum (chezpanisse.com). According to her personal assistant, Christina Salas-Porrás, by the mid-nineties,

"[Alice] was starting to realize that she wanted to take food out of the food context and take it more into the social and cultural context... And maybe that meant doing a show on the Food Network that she would have never considered doing before, but [she] did it because it reached a bigger audience or a different audience, [so she wasn't] always preaching to the converted..." (McNamee, 277).

This move to 'preach beyond the choir' has been met with success; Alice's online biography cites the following accomplishments (amongst others, unlisted):

Inductee, California Hall of Fame, 2008
Co-recipient, with Kofi Annan, Global Environmental Citizen Award, 2008
Member, American Academy of Arts and Sciences, 2007
Lifetime Achievement Award, Restaurant magazine's World's 50 Best Restaurants, 2007
Founder, Sustainable Food Program at the American Academy in Rome, 2006
Force for Nature Award, Natural Resources Defense Council, 2004
Best Restaurant in America, Gourmet magazine, 2001
Founder, Yale Sustainable Food Project, Berkeley College, Yale University, New Haven, CT, 2003
Vice President, Slow Food International, Bra, Italy, 2003

Petite but powerful, flirtatious, creative, driven, scatter-brained, iron-willed, and sometimes manipulative, Alice Waters has made a major mark on American environmentalism through Chez Panisse and its Delicious Revolution.

"And through it [all] there is Alice with her tenacious philosophy of the Delicious Revolution and its insistence on sustainability, biodiversity, traditional farming, and conservation; her support for and participation in the Slow Food movement; and her sponsorship of the Edible Schoolyard in Berkeley and similar programs" (Ferrary 2007, 99).

Conclusion

In her quiet, iron-willed way Alice Waters has enriched the earth and culture that sustains us, adding to its bounty with compost and activism, tilling it with a quiet demand for fresh, organic, and delicious fruits, vegetables, herbs, free-ranging chickens, and golden-yolked eggs. She has encouraged local farmers to sustain this production on biodiverse farms, has fed 'the people,' a President and a Prince, and has been hailed time and again as the best in the business. Her Montessori training inspired her to bring her influence into schools, creating Edible Schoolyards, fresh curricula, and healthy eating from California public schools, to Yale cafeterias, to the American Academy in Rome.

Waters is a force to be reckoned with—she has harvested global media attention for her activism and *restaurateur*-ship—and however inadvertently, she has transformed America's agricultural and culinary landscapes for the better. The vision of sustainability that emphasizes the foods that we choose to put into our bodies has come a long way: the London 2012 Olympics sustainability guide has this to recommend about a sustainable, healthy future:

Advances in public health mean that some of the greatest health benefits that we can achieve are those that are within our own control: eating well, engaging in physical activity, and living in a healthy environment are among the most important things we can do to improve our quality of life, our well-being and our happiness (Sustainability | London 2012).

Waters' delicious revolution has gone global.

Slow Food "is traditional food. It is also local—and local cuisine is one of the most important ways we identify with the place and region where we live. It is the same with the buildings in our towns, cities, and villages. Well-designed places and buildings relate to the locality and landscape and that put people before cars enhance a sense of community and rootedness. All these things are connected. We no more want to live in anonymous concrete blocks that are just like anywhere else in the world than we want to eat anonymous junk food which can be bought anywhere

From HRH Prince Charles of Wales' speech to Terra Madre, 2004 (McNamee, 346-7).

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Civilization for Apocalypse: Derrick Jensen on the Destruction of Our Planet

Eliza Bober

Apocalypse

When Derrick Jensen developed his theory of the end of civilization he saw something wrong with the world and the environmentalist movement. Environmentalists were reduced to fighting small, almost meaningless, battles. Sometimes the fight was just to save one tree (Jensen 2006b). People worshipped economic growth as the ultimate goal and ignored the fact that infinite growth is a mathematical impossibility on a planet with finite resources. The carrying capacity of the world had been exceeded, partially because of our dependence on oil (Jensen 2008). Creeks once full of Salmon sat lifeless in the Pacific Northwest (Jensen 2006a). The Aldabra Snail was about to become the first species to go extinct due to the effects of global warming (Jensen, Keith, and McBay 2011). Most importantly, violence existed everywhere: violence against other humans, violence against the earth, and violence against our own bodies.

All these events had one thing in common: they were the direct result of the dominance of civilization on our planet. This war against nature, both physical and internal, was killing the planet and nothing short of a revolution could stop it. Yet people continued to live their lives as if the war did not exist, and they continue it still. Deforestation and extinction rates have increased. The world population continues to soar and with it a dependence on unsustainable energy sources. Civilization had brought on an apocalypse.

What is most important is that this apocalypse is not only inevitable, it is also good. An apocalypse which will bring down civilization is also one which will save the planet from further destruction, allowing the earth with its flora and fauna (and surviving humans) to continue on living in perpetuity. Only one question remains unanswered: should we help with the destruction of civilization?

Civilization

The Merriam-Webster dictionary online defines civilization as:

- 1a : a relatively high level of cultural and technological development; specifically the stage of cultural development at which writing and the keeping of written records is attained
- b : the culture characteristic of a particular time or place
- 2: the process of becoming civilized
- 3a : refinement of thought, manners, or taste
- b : a situation of urban comfort

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This definition is an interesting one in view of the apocalypse civilization has brought about. First, it presumes that there is something good about writing and technology. Second, it implies a superiority of a particular culture since not all cultures can co-exist with technological developments. Third, it makes a reference to 'refinement of thought', as if all thought should eventually lead to one single goal. Civilization, it seems, is a good thing for which we must strive, even if it means an imposition of a particular order of thought and the exclusion of cultures that do not comply.

Jensen looked at similar definitions when contemplating the collapse of civilizations, and found them sloppy, lofty, and self-serving. His interpretation states that writers of dictionaries come from civilizations and cannot help but use definitions as small bits of propaganda that place their way of living on top and justify the forceful imposition of "this way of being on all others" (2006a). His interpretation is supported by the fact that the first use of the word civilization dates back to 1772, a year in which colonialism further spread in the new world and Poland was partitioned by the more 'civilized' powers of Prussia, Russia, and Austria (Mariam-Webster 2012). The excuse of civilization has been used since to justify the taking of land, resources, and the livelihoods of other cultures. It has also been used to justify murder, genocide, and war on both cultures and nature.

Jensen includes a different definition of civilization, one of a culture that both leads to and emerges from the growth of cities. Cities are further defined to mean "people living more or less permanently in one place in densities high enough to require the routine importation of food and other necessities of life" (2006a).

Carrying Capacity

The idea of civilization as existing solely in opposition to nature rests on the idea that a civilization cannot support itself without constantly importing goods from other areas. Take as an example any city in the United States. No city can currently support its own population without importing food, building materials, industrial materials, or energy from somewhere outside their land base (Rees 1992). Currently Phoenix, Arizona could sustain a human population of under one hundred without external resources (Jensen 2006a). So, what is the effect of the millions living there? At our current consumption rates, we would need several earths to satisfy the food and energy needs of our population. However, the carrying capacity of the earth, or population of a species that can indefinitely be supported by a habitat without permanently damaging the ecosystem upon which it depends, has already been altered (Rees 1992). The forests and plains that today seem to sustain population of millions once could only sustain thousands. The apparent increase in the capacity of the land accomplishes two things. First, it makes people blind to the fundamental truth that is the earth's finite carrying capacity. Second, it works to permanently reduce the carrying capacity of the region (Jensen 2006a). One example of this dilemma is Crescent City, California. Once the home of the Tolowa tribe who lived in small villages and subsisted on the salmon, clams, deer, and berries of the region, Crescent City supported the population of a few thousand people. With the erection of the buildings,

roads, and dams necessary for civilization to flourish in the area, the salmon, clams, deer, and berries have all be eradicated. If Crescent City was to cease its importation of goods, not only would the current population be decimated, but even the pre-civilized population of a couple thousand people would not be able to survive in the area (Jensen 2006a). Our current life style and our need to import goods into our cities has decreased the ability of the earth to support even a pre-industrial culture.

Ghost Slaves

The need to import is what leads to violence and destruction and the dependence on some form of slavery. Slavery, for both Jensen and several philosophers before him, extends not just to the use of other humans as labor but to the use of other dead or living beings for energy. In today's world that includes the use of wood, coal, and oil since all are biologically dead (Jensen 2006). As a result we live in a world where our energy needs are met by what William R. Cotton calls 'ghost slaves.' Each ghost slave equals the 2,000-3,000 kilocalories used by the average human a day. As a result, each person uses about 10 ghost slaves per year (Jensen 2006).

These ghost-slaves have a lasting impact on both cultures and on nature. They also have a direct impact on the apocalypse brought about by civilization. Our culture relies mostly on the importation of ghost-slaves in the form of oil reserves. This means that in order for our civilization to survive we need to fight wars for our oil reserves, such as the multiple U.S. invasions of Iraq (Jensen 2006). It also means that when reserves of oil run out or start to take more energy to produce than they contain our civilization will collapse.

This collapse, according to some estimates, may already be happening. According to Jan Lundberg, founder of the Fossil Fuels Policy Action Institute, oil production in the lower 48 states peaked in the 1970's and world oil production will peak within the next decade. What is more concerning is that petroleum has invaded every aspect of our society: from transportation to food to medicine (Jensen 2008). When it runs out, or when oil prices become so expensive that an oil-based economy is no longer feasible, we will see a collapse not only of our car-culture, but also of our food production (petroleum is used in everything from fertilizers, to bags, to food transport) and medicine (both medications and much of medical equipment contain some form of petroleum). In other words, our reliance on ghost slave energy will inevitably cause an apocalypse.

Personal Change

The problems of our civilization killing the natural world can be seen by many. Al Gore's *An Inconvenient Truth* has helped raise awareness of global warming and climate change and he has advocated personal and individual solutions to the problems. Both this movie and the EPA promote personal consumption choices as part of green living, such as buying energy saving appliances, using efficient light bulbs, and properly inflating tires (EPA 2012; Jensen 2009). This emphasis on personal choices is misleading since it places the

responsibility for the destruction of the environment on individuals and not on civilization as a whole.

Jensen describes the problem of looking at personal consumption as a solution to the problems of water, energy, and waste in our civilization. Our water resources are the first to come under attack, and people are told to use energy efficient toilets and shower heads in order to reduce their water consumption. Yet ninety percent of water used by civilization is consumed by agriculture and industry, and even municipal golf courses use as much water as human beings. To Jensen this is an example of one resource, water, being stolen from humanity by the powerful actors in civilization. A similar story can be told about energy and waste, the majority of which are not under control of individual human beings, but under the control of industry, government, and the military. The individual choices would not put a dent in the overall system. By one estimate, if every person in the U.S. took every step suggested by *An Inconvenient Truth* the result would be a 22 percent reduction in U.S. carbon emissions. Scientists, however, believe we need at least a seventy-five percent reduction in global carbon emissions to thwart climate change (Jensen 2009).

In addition to the ineffectiveness of the personal approach for mitigating the ensuing apocalypse, the belief in personal consumption as a step toward political change has several detrimental effects. First, it assumes that humans inevitably harm the land they live on, and ignores the fact that humanity can make real changes that restore previously hurting ecosystems. Second, this approach assigns blame to individuals instead of civilization, laying the burden of a solution on those who can least effect change. Third, it accepts the conversion of citizens to consumers, limiting resistance from assembly, voting, and petition to simply buying or not buying (Jensen 2009). Furthermore, a consumerist culture is inherently based on the "consumption of nonrenewable resources and the hyper-exploitation of renewable resources," which can only contribute to the murder of our planet (Jensen 2011). This does not mean that simple lives are not important. What it means is that maintaining a car to use less gas will not help nature, the earth, or civilization.

Hopelessness

Part of the reason we have accepted personal behavior changes as solutions, even though they are clearly not capable of healing the wounds caused by civilization is that we are faced with a dilemma. Every choice before us is a negative-sum endeavor. We can choose to live our lives ignoring the peril we are in and as if our current lifestyle has no consequences. We might even be able to accumulate some wealth in our lifetime and live lives that our culture considers successful. If a few hundred species die, then we accept that as an acceptable tradeoff. The loss of this choice is the loss of our humanity and our empathy with the rest of the world. We lose because our lifestyle and notion of civilization are killing the planet we depend on. We can violently oppose the current system, losing comforts and luxuries such as running water and electricity. These changes, although important for the survival of the earth in the long run, have unpleasant social and political consequences. To stand up to an established power that is accustomed to exploiting others' land can be

deadly as well as terrifying. The result is a hopelessness that makes small, ineffective personal choices seem like the only solution to save a dying planet (Jensen 2006b).

Jensen argues that helplessness is the best thing that can happen to an individual facing this problem. Choosing personal solutions will not make a difference. Having hope that something new, a piece of technology, or a benevolent dictator, will change the world will not make a difference. But knowing that there is no hope, that we are at the brink of an apocalypse is a piece of knowledge that can lead to action. A dearth of hope makes us believe there is nothing we can do, that we have no control. Without the sanctuary of hope we have the responsibility to drive change or at the very least to prepare what will be left of civilization to survive in this broken world (Jensen 2006b).

Endgame

The ways in which civilization is killing the world are too numerous to mention. The extinction of over 200 species on a daily basis is one. The dwindling of natural habitat is another. The fact that over 90 percent of large ocean fish are now gone is a third. Toxic chemicals are found in every stream in the U.S. and in populations around the globe not intimately intertwined with industry. The examples go on. Worst of all, we know all this is happening, and yet we do nothing to end it (Jensen 2006a).

For civilization to end, we do not have to take any steps. It is clear that we will slowly annihilate our food sources, or we will pollute the air we breathe until the civilized disease of cancer kills us all, or we will kill the algae and flora which produce our oxygen and civilization will die a slow agonizing death through asphyxiation. Civilization does not need help falling. But would it not be better to make it fall faster, to save as much existing habitat as possible, to stop the reduction of the earth's carrying capacity? We know there are steps we can take to help the earth. Taking down a dam would help the Salmon. Banning all plastics would reduce the toxins we put into the earth and each other's bodies. Taking out all cell towers would help the Honeybees. Yet these actions are not allowed within our system of government (Jensen 2006a).

The consequences to standing up to those who hold power in our civilization, those who are slowly destroying it along with the planet, are very serious. The question is, are they more serious than the consequences of doing nothing?

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Carl Steinitz: A Framework for Theory, A Process for Change

Abby Wiltse

Dr. Carl Steinitz, a professor of Landscape Architecture and Planning at Harvard University, teaches "The Visual Landscape: Analysis and Management and Theories and Methods of Landscape Planning". His *curriculum vitae* states that his "research is devoted to improving the methods by which planners and designers organize and analyze information about large land areas and how they make major design decisions." "Steinitz trained as an architect and planner, but became known as an early evangelist of Geographic Information Systems (GIS), and his ongoing work concerns the design of environments, often urban, and the use of GIS to describe possible development trajectories (Lewis 2010)."

In his 1990 article, "A Framework for Theory Applicable to the Education of Landscape Architects," he outlines three types of learning that I have personally experienced in my own education and professional career. The "building of competence in changing or conserving the landscape" (BLA), "the building of confidence in doing so" (professional experience), and lastly "the building of the theoretical constructs that underlie the above two" (MLA). Theory has proven to be the most complex learning experience of the three, and Steinitz agrees, saying "Landscape architecture necessarily involves several areas of theory, all of which influence design. These include ecological theory, aesthetic theory, historical theory, perceptual theory, ideological theory, design process theory, the theory that underlies construction and plant selection, and the legal theory that underlies professional practice (Steinitz 1990)." These often compete with each other for attention and allegiance, for example "aesthetic vs. ecological," and "form vs. function." Steinitz believes we should foster an integrative approach, cease our narrow definitions of theory, and examine ourselves more broadly.

I appreciate that Steinitz uses "framework" instead of "design process" to describe his theory. While the method is procedural by nature, it works systematically as a broad educational tool while still encouraging individualization. There are *many* different approaches that work. Design is both an art requiring judgment and a science. There are always tradeoffs, but ultimately the designer makes a personal choice.

Substantive Theories, Procedural Theories, Spatial Concepts

In Ahern's paper, "Theories, methods and strategies for sustainable landscape planning," he reiterates Ndubisi's argument that there are two basic types of theory in landscape planning: substantive and procedural. Substantive theories, (prospect and refuge,

central place theory, transactive, and participative theory) are descriptive and support an understanding of landscape as interface between nature and culture. "They articulate the ideology, purpose and principles of sustainable landscape planning (Ahern 2006)." Procedural theories, on the other hand, "offer recommendations for putting substantive theory into practice (Ahern 2006)." One of Ahern's examples of a sustainable landscape planning model, Steinitz's methodological framework organizes information to address landscape planning problems across disciplines and scales.

Spatial concepts (i.e. green heart, network, ring city, grid) are not theories, but guides that can "inspire and communicate the essence of a plan or planning strategy (Ahern 2006)." They are helpful tools to structure and inspire planning processes, and especially for public participation. Steinitz's framework "is based largely on landscape-ecological theory and concepts, as understood and applied through spatial assessments and spatial concepts (Ahern 2006)."

Steinitz's Framework Method for Landscape Planning

Steinitz's framework for landscape planning, published in 1990, but developed throughout his career, is a conceptual procedural framework that is presented as a series of questions. The questions are intended to guide a spatial design process where each level has an associated GIS model to visualize the information from representation to process, evaluation, change, impact and decision. The process reverses and repeats itself over time, scale, and across disciplines allowing for a complex study. Along the way, the designer is asked to ponder meaningful questions, like "How is change to be measured?," and "What is the language of representation?" Interestingly, the framework can be entered from any point in the process. For example, an evaluation of an existing plan, such as Central Park, exhibits the process in a historical context.

This deceptively simple flowchart diagram (see figure on next page) is worked through at least three times in any landscape planning exercise. First, one works down the framework to define the context and scope of the research questions. One then works back upwards to specify the project methodology. Then, with a deep understanding of the project, one works back down in a study to carry the project towards implementation. Steinitz states that a "no" at any level in the framework demands changes in previous phases. Analysis of a landscape question should continue until a positive "yes" outcome is achieved, however, a "do not proceed" conclusion may also be a positive outcome, depending on the question (Steinitz 1990). In practice the flowchart may not be as orderly as the diagram depicts.

Asking the right questions is the first step in getting the right answers: (1) **Representation:** How should the state of the landscape be described in terms of content, boundaries, space and time? This question is answered by representation models, the data upon which the study relies. (2) **Process:** How does the landscape work? What are the functional and structural relationships among its elements? This question is answered by process models that provide information for the several assessments that are the content for the study. (3)

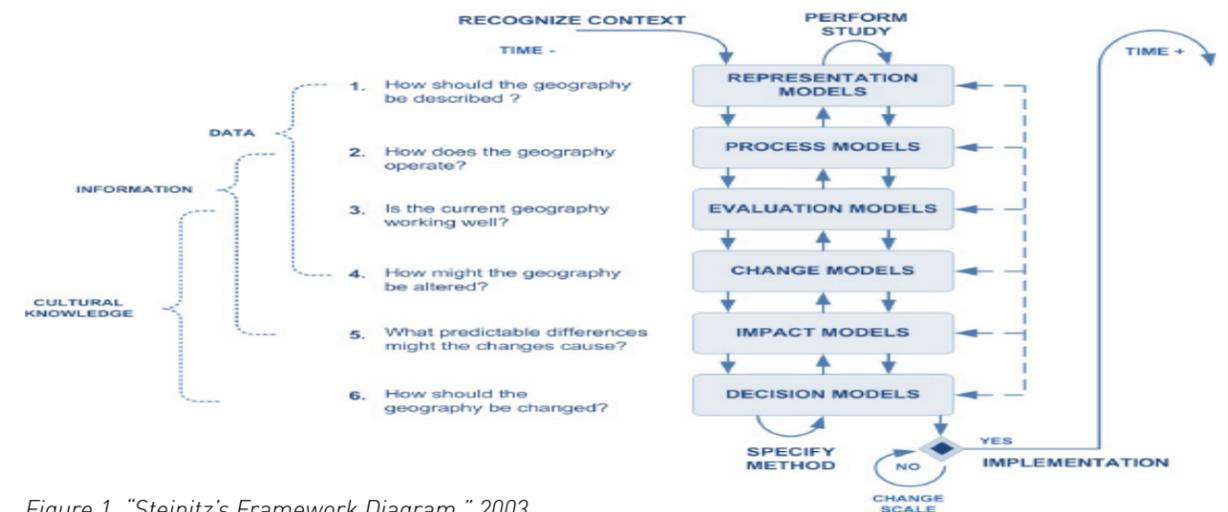


Figure 1. "Steinitz's Framework Diagram." 2003.

Evaluation: How does one judge whether the current state of the landscape is working well? The metrics of judgment include: beauty, habitat diversity, cost, nutrient flow, public health or user satisfaction. This question is answered by evaluation models, which are dependent on the cultural knowledge of the decision-making stakeholders. (4) **Change:** By what policies and actions might the current representation of the landscape be altered (whether conserving or changing the landscape), where, and when? This question is answered by the change models that will be tested in the research. At least two important types of change should be considered: how the landscape might be changed by current trends, leading to *projection models*; and how it might be changed by implementable design action, leading to *intervention models*. (5) **Impact:** What predictable differences might the changes cause? This question is answered by impact models, which are information produced by the process models used to simulate change. (6) **Decision:** How is the decision to change (or conserve) the landscape to be made? How is a comparative evaluation to be made among the alternative courses of action? This question is answered by decision models, which, like the evaluation models, are dependent on the cultural knowledge of the stakeholders and responsible decision-makers (Steinitz 1990).

An important aspect of the framework involves working through the levels in reverse order. "To decide to make a change (or not), one needs to know how to evaluate alternatives (VI). To be able to evaluate alternatives, one needs to know their comparative impacts (V). To be able to simulate change, one needs to know what changes to simulate (IV). To be able to consider changes to test (if any), one needs to evaluate how well the current situation is performing (III). To be able to evaluate the situation, one needs to understand how it works (II). And in order to understand how it works, one needs representational schemata to describe its current state (I) (Steinitz 1990)."

Application of Framework Method for Landscape Planning

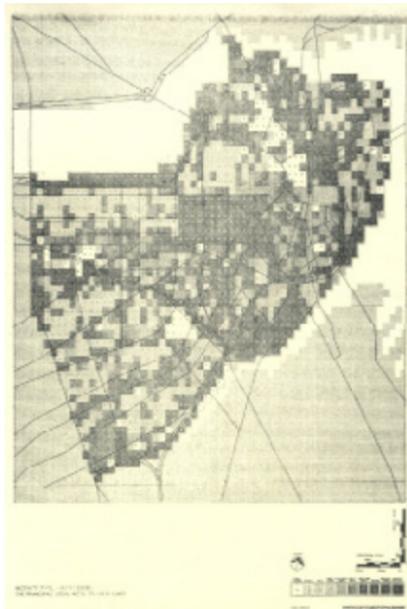
Mapping the landscape in GIS can vary from simple (slopes, vegetation, hydrology patterns) to complex where these layers merge and overlap to reveal unique conditions. What is interesting about Steinitz's model is how public perception of the landscape and expert and public feedback are built into the framework and models. This results a deeper sensitivity to the nature of 'place'.

Steinitz began looking at these deeper issues of the perception of place with the earliest GIS modeling predecessor, symap, in the 1960's. The map to the left, which he made as a city and regional planning student at MIT is interestingly titled, "The Principal Local Activity of a Place." It's simple and elegant spatial representation reveals Boston and it's micro locales not only as a spatial land use areas, but as dynamic shifting places where people interact with the environment in different ways. When we think of modern mapping exercises as "spatial analysis," I believe we may have lost some of the heart of mapping in the layers and layers of available data (and in the hours hidden in computer labs). "Subsequent advances

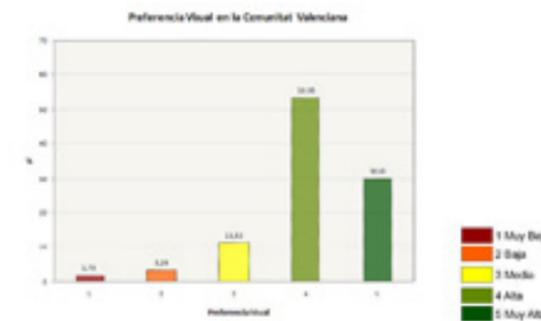
in GIS formalized the discourse of 'space' and spatial analysis, after all GIS does fundamentally hinge on the Euclidian system of representation, and as such the vast, expansive idea of space sits much better than a nuanced, specific, local concept such as place. It would be easy to disregard Steinitz's map and say that of course it simply assesses land use in Boston by a grid of systematically defined areas, but that designation of 'place' – purposeful or not- adds another layer of interpretation (Lewis 2010)." This framework begins to merge theory with method, into something more philosophy than design process.

In a more recent project, Steinitz worked with local faculty and graduate students, according to the framework, to create a conservation plan for different types of open space in Valencia, Spain. Referred to as the Valencian Visual Landscape Assessment, the five month study was conducted in response to a concern that the Valencian metropolitan region was becoming "increasingly ugly" due to uncontrolled urban growth. An initial GIS analysis **(1-representation)** identified land uses and sub-regions that students photographed **(2-process)** to document different visual conditions of each sub-region. Characteristic photos of each area were evaluated by a diverse selection of residents **(3-evaluation)** in a visual preference survey. The

collected data was matched and mapped to the regions they represented, resulting in a series of models depicting the "ugly," the "beautiful," and the "in between" areas of the region. The study participants were also asked, " which six pictures represent your area today?" and "which six pictures represent what you would like your area to be like in twenty years **(4-change)?**" This data was compiled into a series of maps (see figure 4d) **(5-impact)**.



"The Principal Local Activity of a Place." An early 1960's GIS representation by Steinitz.



The study has contributed in large part to "the definition of the Valencian Landscape Policy, and in some of the most important programs to be included in the Valencian Landscape Regional Plan **(6-impact)** (Steinitz 2009)."

Conclusion

"If there is a frontier in sustainable planning, I believe it lies in the development of an adaptive approach to planning in which plans are made with the best knowledge available, but with explicit acknowledgment of uncertainty, followed by monitoring and re-evaluation of plans in order to close the loop, and to 'learn by doing' (Ahern 2006)." Adaptive is a key word here, and Steinitz himself states that the steps work in both directions, often to the advantage of the designer. It can be applied to many different decision making situations. Although this process was created to use with GIS mapping, I feel it can apply to other methods of landscape representation. Steinitz recognizes that the framework can and will change to fit each individual problem. Theory and environments are both subject to change.



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The Theory and Environmental Perspectives of Regionalism and the Regional Plan Association of America

Mark Teschauer

From 1923 to 1933, the Regional Planning Association of America (RPAA) advanced and developed its theory of regionalism that greatly influenced planning practice not only in the United States but in Europe as well. An interdisciplinary organization of progressive intellectuals, the RPAA sought to realize a utopian vision of "[replacing] the existing centralized and profit-oriented metropolitan society with a decentralized and more socialized one made up of environmentally balanced regions" (Sussman 1976), utilizing Ebenezer Howard's Garden City as the model. To realize this goal, RPAA membership included no more than twenty-five major figures from many disciplines, including architecture, planning, real estate development, forestry conservation, housing and social reform advocacy, and economics. Parsons (1994) identifies certain key members of the RPAA, including architect and public housing advocate Clarence Stein, conservationist Benton MacKaye, urban theorist Lewis Mumford, real estate developer Alexander Bing, architect Henry Wright, and to a lesser extent social and housing reform advocate Catherine Bauer Wurster and consumer economist Stuart Chase. Their legacy includes the planned communities of Radburn, NJ; Sunnyside Heights in New York, NY; Chatham Village in Pittsburgh, PA; the Appalachian Trail; and the (incomplete) application of their ideas in New Deal projects like the Tennessee Valley Authority, the Greenbelt Town Program, and the Rural Electrification Administration.

The intent of this paper is to examine the underlying theory of the RPAA's regionalism, with specific attention given to how regionalist theory aimed to bring society back into a proper relationship with the natural environment, and by so doing addressing the negative social and economic externalities resulting from the "centralized and profit-oriented metropolitan society." The paper will then examine three projects of the RPAA: the Appalachian Trail, the *Report of the New York State Commission of Housing and Regional Planning*, and Radburn, NJ, in order to illustrate the practical application of the theory, along with the difficulty RPAA members had in realizing their vision.

Theory

Regionalist theory is grounded in Ebenezer Howard's Garden City model of planning, which advocated for the construction of new satellite communities on the periphery of large cities that provided a better balance between city and country life for a region's residents. The regionalists felt that the industrial and commercial city, or the metropolis, concentrated industry and population too much, resulting in inner city slum conditions

that did not provide the working class with healthy and safe housing conditions. With increasing concentrations of industry, the aspects that made traditional urban life enjoyable were slowly being turned over to industrial districts that were slowly dominating inner city communities. This increase in industry and commerce also resulted in what Lewis Mumford called the Second and Third Migrations of population to the cities, which not only increased population densities to levels that the regionalists found to result in slum conditions, but it also depopulated the rural regions to their detriment. With the rise of new technologies, however, Mumford anticipated what he called the Fourth Migration, or simply the suburbanization of the metropolis. Technology, like the automobile, permitted flexibility in transportation and opportunities to access places in the region that were otherwise inaccessible to the railroad, resulting in opportunities for suburbanization and deconcentration of the negative externalities of the current urban condition.

However, Mumford and the regionalists realized that if left unchecked, the growth from the fourth migration would simply result in what MacKaye called "road slums" (Sussman 1976), or areas of commercial blight alongside roads leading out of the major cities that would simply consume the surrounding countryside without concern to man's relationship to the environment or to the social and housing issues surrounding slum conditions. These areas would simply become a growth of the centralized and profit-oriented metropolitan society that the regionalists sought to reform. As a result, the regionalists sought to provide a solution that would not only better manage this regional growth, but enable this growth to achieve simultaneous goals of rural economic development, improved housing and social conditions for workers in both central cities and in the region, and create a better relationship between rural and urbanized areas.

As a result, the Garden City provided a suitable model for planning the fourth migration (the title of Sussman's (1976) book, *Planning the Fourth Migration*). By deconcentrating and relocating the inner city population and industry to self-contained satellite cities with definite boundaries, surrounded by agriculture and open space in permanent conservation, social and housing conditions would improve since there would be reduced concentration of industry and workers in inner cities. These workers would have greater access to the open space areas in these satellite cities, which would also promote a stronger connection to a region's natural identity, that they could use for recreational purposes along with economic development (such as forestry), if sustainably managed. Cities would not have to build skyscrapers to support land use demands, which would allow scale-sensitive urban design and the preservation of a region's cultural identity through its architectural vernacular. Even though the regionalists were opposed to the negative externalities that the technology of the metropolis brought, they were not opposed to technological progress, and felt that advancements in technology, such as the automobile and rural electrification, could bring about economic benefits for towns and villages that had little access to previous economic opportunity. The automobile promised increased access to markets for a town's goods and services to be sold, and rural electrification ensured that these towns could have an energy source to make them more competitive in the market. Both of these also held the promise of permitting industry to locate closer to the source of its raw inputs, benefitting

both the villages and towns with job opportunities and the industries with reduced costs of transporting inputs. Additionally, the conservation of open space allowed for agricultural uses and the sustainable management of natural resources, like forests, for economic purposes. The new communities, however, had to be intentionally planned and properly managed in order to provide a proper balance between the benefits of technology and their potential to degrade a locale's quality of life via sprawl and the road slums that greatly displeased MacKaye (Sussman 1976).

From this, one can draw generalizations about the regionalist perspective on the environment. Firstly, the regionalists recognized the social value of conserving open space. By preserving open space and de-concentrating population into satellite cities, accessibility to open space increased and residents could more easily enjoy recreation, or "re-creation of the spirit" (Parsons 1994). This increased accessibility would theoretically increase regional identity and promote a cultural regionalism that is more authentic and less materialistic than metropolitan-ism.

Secondly, the regionalists saw the economic value of the conservation of open space. The conserved open space surrounding the satellite cities could be utilized for agricultural and sustainably managed natural resource extraction. By utilizing conserved open space for recreational opportunities, rural residents could develop industries that would support recreational activities, as to be seen in MacKaye's plan for the Appalachian Trail.

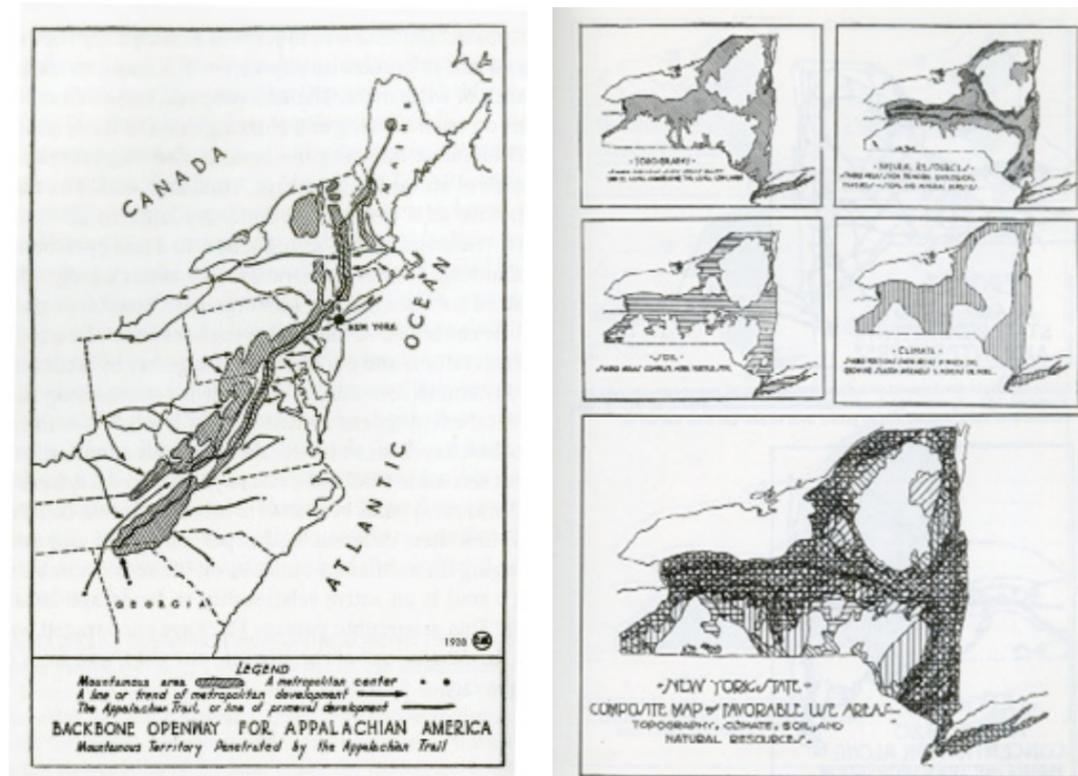
Finally, the regionalists saw the environmental value of the Garden City design. Since Garden Cities would be deliberately planned rather than be a product of market-driven sprawl and growth, these cities could "be soundly developed" and best "utilize, rather than to nullify or destroy, its natural advantages" (Sussman 1976). Because these cities could be deliberately planned, the regionalists saw this as a means of "setting aside ecologically significant lands, preserving and redeveloping regional agriculture, and creating 'greenways' and trailways in and around cities" (Luccarelli 1995).

The Appalachian Trail

In the years preceding founding of the Regional Planning Association of America, the core members were loosely affiliated with each other through the American Institute of Architects (AIA) and its journal (JAIA). Benton MacKaye, a conservationist who was then with the US Department of Labor, sought to utilize agriculture and forestry cooperatives as a means of creating postwar employment opportunities for veterans returning from World War I. He felt that these farming cooperatives needed to be located in close proximity to city markets, which spurred his interest in planning and the ability of conserved open space as an economic development tool. In 1921, he approached Charles Whitaker, then editor of the JAIA and key figure in organizing the original members of the RPAA to promote housing reform, and proposed his concept of the Appalachian Trail, which Whitaker subsequently embraced. MacKaye sought to preserve the Appalachian Mountains as a means of

protecting them from encroaching urban development, create recreation opportunities for people to escape the city, and highlight the value of rural life to city dwellers.

The trail would consist of shelters spaced a day's hike apart from one another, along with self-sufficient "food and farm camp" communities located in the valleys adjoining the trail, where city escapees could work the farm and gain an appreciation for rural life. The areas surrounding the trail could also be used for forestry and, when sustainably managed in small-scale operations, provide economic opportunities for the residents of Appalachia. Although MacKaye's idea for the trail did not pan out the way he hoped, his thinking on the economic and social value of conservation of open space greatly influenced the RPAA philosophy after its initial formation. MacKaye also hoped to utilize the Appalachian Trail project as a means of demonstrating the spiritual aspects of nature, along with the importance of making nature accessible to all people and in promoting awareness of the wilderness (Luccarelli 1995). By also conceiving of a region in terms of its economy, he hoped to reestablish a positive and mutually beneficial relationship between the city and its hinterland and to protect nature from the destructive patterns of "industrial civilization."



Left: Map illustrating MacKaye's plan for the Appalachian Trail (Luccarelli 1995, 90).

Right: Suitability analysis for determining areas of growth and areas of conservation (Luccarelli 1995, 185 and 187), postdating Charles Eliot's method and predating McHarg's method.

Report of the New York State Commission of Housing and Regional Planning

The *Report of the New York State Commission of Housing and Regional Planning*, perhaps the most ambitious attempt by the RPAA to perform regional planning, was prepared by Henry Wright and Clarence Stein in 1926 for Governor Al Smith. The image on the cover sheet of this paper illustrates the grand attempt by Wright and Stein to promote RPAA's ideals on a statewide level. Utilizing Mumford's conception of the different types of migrations, they organized the plan in a manner that historically analyzed the development of New York State through its history, namely to highlight the increase of population in the major cities along the Erie Canal and the Hudson River Valley, at the expense of the "disappearance of local industry" and the "decrease of rural population" (Sussman 1976). They saw the motorcar and opportunities for electric power in rural areas as a means of promoting repopulation of the hinterlands and for promoting economic development therein. Wright and Stein justified the need for a plan to "improve the conditions of life rather than to promote opportunities for profit" and for the need of decentralization in New York's urban areas.

Additionally, they applied MacKaye's understanding of the importance of conservation of open space to determine the location of critical areas of preservation as well as critical areas to promote population growth. It is interesting to note that Wright and Stein utilized Eliot's (and later McHarg's) overlay technique to perform a suitability analysis on these issues, as demonstrated in Figure 2 on the next page, potentially highlighting either Wright and Stein's ignorance of Eliot's technique and their ingenuity to reinvent the wheel, or their appreciation for Eliot's contributions to the landscape architecture and planning professions, which is understandable given the RPAA's preference for the region over the metropolis.

Despite its visionary approach, the plan ultimately did not find an audience for its approval. Luccarelli (1995) states that most planners of the era "saw [the era of the megametropolis] as a natural development or as the consequence of an economic structure that could not be altered." Planners were ultimately more concerned with ordering the metropolis and had little concern for planning on a scale as big as a state. Still, it serves as a model for statewide growth management planning that states like Oregon and New Jersey would later embrace.

Radburn, New Jersey

One of the last great legacies of the RPAA was the design and development of Radburn, NJ in 1929. The brainchild of Stein and Wright, Alexander Bing, the real estate developer, ran the City Housing Corporation, an organization that supplied much of the funding for the development of Radburn. Located in suburban New Jersey, Radburn could never serve as the prototypical model for the RPAA's garden city, but Stein and Wright, utilizing the neighborhood unit principle from Clarence Perry, applied many of the RPAA principles to design and develop "A Town for the Motor Age" (Sussman 1976). Radburn was originally

planned as a series of these neighborhood units, or an orientation of residences around a common area or common community amenity, such as an elementary school. However, Stein and Wright also sought to accommodate the automobile in order to conform to their ideal that new technologies could be successfully incorporated into the new developments of the future. Narrow cul-de-sac residence roads provided access to the rear of houses for parking, allowing residences to instead face the common green. Pedestrian walkways were also placed inside the common green areas and pedestrian underpasses were provided under major roadways so people would never have to deal with traffic. However, they were unable to develop units of affordable housing, thus not totally realizing their vision, plus the Depression dried up funding sources and halted the total realization of the plan. However, it still serves as one of the best examples of their application of the regionalist garden



Image of a Cul-de-Sac and a community green in Radburn, NJ.
Photos courtesy of the author.

city ideals in an actual development, and provided the inspiration for the future planned-unit development as well as future developments such as Cumbernauld, Scotland, and Reston, VA, and The Woodlands, TX (Parsons 1994) (see Figure 3 on next page for images).

Conclusion

Through the Appalachian Trail, the Report of the New York State Commission of Housing and Regional Planning, and Radburn, NJ, the Regional Planning Association sought to pragmatically implement their utopian vision of addressing the ills of urban life. Although figures like Jane Jacobs have provided criticism of their ideology and planners have placed blame on the RPAA for promoting suburban policies, this paper has demonstrated that the RPAA's ideology ultimately did not reflect the environmentally degrading, auto-centric sprawling development that is prevalent in the United States today. In fact, they sought to realize a vision of regionalism that promoted the well being of all members of society through carefully planned decentralization into Garden City-like communities that increased access to and protected sensitive environmental resources. The planning profession

is indebted to the collaboration of these progressive intellectuals for their ingenious, interdisciplinary approach to solving society's problems. Major regional planners of today, including Peter Calthorpe, owe their intellectual heritage to the RPAA's groundbreaking ideas (Lucarelli 1995), and planning history should remember the RPAA not for providing the ideas that would later be altered to form American suburban development, but for their efforts in realizing a grand vision that aims to promote the overall well being of society.

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The Legibility and Language of Landscape: Kevin Lynch's *Image of the City* and Anne Whiston Spirn's *Language of Landscape*

Annie Palone

Kevin Lynch's *Image of the City* has influenced thinking across the fields of urban design, planning, architecture, engineering and landscape architecture since its publication in 1960. Through his visionary five-year study of the formal elements that comprise cities (and other environments), Lynch laid out a theoretical framework that analyzes how elements interact to create meaningful, legible or "imageable" places. The concept of "place legibility"—"the ease with which people understand the layout of a place" (CSISS)—enabled Lynch, and those following in his footsteps, to isolate the features of a city by applying a scientific analysis to understand what makes cityscapes vibrant or attractive to people. Lynch was educated at Yale University, Rensselaer Polytechnic Institute, Frank Lloyd Wright's Taliesin Studio and at the Massachusetts Institute of Technology (MIT), where he would teach from 1948–1978. During the span of his career, he published many influential essays and seven books, but few texts in the design discipline have been as important as *Image of the City*. More than fifty years later, this text continues to be mandatory reading for professional designers of cities, landscapes and built environments. Among the many influenced by Lynch's work is Anne Whiston Spirn, a professor of Landscape Architecture and Planning at the University of Pennsylvania from 1986–2000 and at MIT from 2000 to the present (MIT Architecture). Spirn's website introduces her as an "Author, Photographer, Landscape Architect and Teacher." She has directed the West Philadelphia Landscape Project since 1987, published dozens of photographs and essays and two discipline-changing books: *The Granite Garden* (1984) and *The Language of Landscape* (1998), exerting her influence on students and readers across the globe (MIT Architecture).

In her description of *Image of the City*, Spirn writes that:

"Lynch was concerned with identifying, wayfinding, and memory, his goal to define the elements people use to form mental images of a place by which they then find their way. He used these elements to assess and design the "legibility" or "imageability" of a place, to understand how well people could grasp and remember an image of the whole" (Spirn 1998).

Spirn's *Language of Landscape* expands upon and deepens Lynch's work, incorporating lessons on environmental assessment from her mentor Ian McHarg, the poetry of T.S. Eliot, the landscape designs of Frederick Law Olmsted, the "land as architecture" ethos of Frank Lloyd Wright (Spirn 1968), the lesser known works of Australian architect Glenn Murcutt, Danish Landscape Architect C. Th. Sørensen and many others, proposing that landscape is a language, with nouns, verbs and modifiers working together within a complex grammar

to create meanings that have become invisible to many 'readers' of contemporary landscape context. She proposes to reveal these hidden meanings by teaching us to 'read' the *Language of Landscape* once more.

In 1960 Lynch theorized that cities are legible texts that use a series of distinctive elements to create meanings that may be obscured or made visible by the clarity with which they are assembled, writing that: "Environmental images are the result of a two-way process between the observer and his environment. The environment suggests distinctions and relations, and the observer... selects, organizes, and endows with meaning what he sees" (6). This understanding of the relationship between observer and observed is implicit in Spirn's work. She delves more deeply into poetry and detail than Lynch, developing a complex metaphor of landscape as language, influenced by the work of scholars and designers "that range across thousands of years and five continents" (Yale University Press).

The Image of the City

The Image of the City lays out a framework within which urban planners can analyze the component parts of cities—paths, edges, districts, nodes and landmarks—empowering them to assess the degree to which a city's residents are able to find meaning and structure within the places they visit, work and dwell. Lynch's framework allows designers to engage with these elements systematically, to design places (cities) within clear organizational scaffolds, empowering designers to make the legibility of places a priority.

"For Lynch, the city is first and foremost a human habitat, and he judged "good city form" by how well it sustains human life. Lynch stressed the importance of how people perceive the city, proceeding from human perception to understanding the sense of place. He explored the role that natural features play in enhancing the identity, legibility, coherence, and immediacy of urban form from the scale of the street to that of the region" (Spirn 2011).

Lynch's work challenges designers to engage the scale of the city as a whole, and beyond to the region: "It is the thesis of these pages that a large city environment *can* have sensuous form. To design such a form is rarely attempted today: the entire problem is either neglected or relegated to the piecemeal application of architectural or site-planning principles" (Lynch 1960). Today, the influence of *Image of the City* is evident in the prevalence of planners and designers working at the city scale; landscape architects are increasingly called upon to help bridge the gap between architecture and urban planning, to create the legible, "imageable" districts and cities that Lynch proposed. His theory of elements that make meaningful cities has become an inextricable trope in Landscape Architecture: because of Lynch's insight that "people adjust to their surroundings and extract structure and identity out of the material at hand" (Lynch 1960), designers can create places rich with meaning, gleaned from the objects and images by which we are surrounded every day.

Perception & Legibility

Lynch understood that cityscapes, like landscapes, are constantly changing and evolving—not always according to city regulations, or plans, but organically, piecemeal, one block or backyard at a time. In the landscape, nothing is static; because of this Lynch saw that a framework for the analysis of place that would organize a viewer's perception was necessary:

"An environmental image may be analyzed into three components: identity, structure, and meaning. It is useful to abstract these for analysis, if it is remembered that in reality they always appear together. A workable image requires first the identification of an object, which implies its distinction from other things, its recognition as a separable entity. This is called identity... Second, the image must include the spatial or pattern relation of the object to the observer and to other objects. Finally, this object must have some meaning for the observer, whether practical or emotional" (Lynch 1960).

Lynch's framework for analyzing city forms combines these three components with the five elements discussed below, in order to elucidate the imageability of cities. In an office interview, questions were posed to sample groups of citizens to understand how they see or imagine their homes: first, "in order to test the hypothesis of imageability; second, to gain some rough approximation to the public images of the three cities concerned... and third, to develop a short-cut method for eliciting the public image in any given city" (Lynch 1960). Interviewees were asked: 1) to describe their impression of their city, whatever first comes to mind; 2) to make a quick map of the central city "just as if you were making a rapid description of the city to a stranger, covering all the main features...just a rough sketch" (Lynch 1960) (these "mental maps" have become a regular feature of geographic and ethnographic site work); 3) to give directions for a trip they regularly take: "going from home to where you work" (Ibid), describing the sites and scenes along the route, including any emotions they might associate with particular places; 4) to list which elements of the city are most distinctive; and 5) to locate one site on their map, to describe any feelings they have about that site and to identify features that would help them to locate themselves if brought there blindfolded. Interviews were conducted with sample groups in three cities: Boston, Jersey City and Los Angeles; the responses informed and honed Lynch's theory, which is accompanied by sample maps and illustrative diagrams of the three cities (Lynch 1960).

Elements of City Form

In addition to the interviews conducted, "trained observers" of landscapes went to the three sites and mapped the features they believed were most relevant visually and experientially. The result of these field studies and the comparison between 'expert' and 'layperson' responses resulted in the framework published in *Image of the City*. "The contents of city images so far studied, which are referable to physical forms, can conveniently be classified into five types of elements: paths, edges, districts, nodes, and landmarks" (Lynch 1960).

In reality, none of the five elements exist in isolation: "Districts are structured with nodes, defined by edges, penetrated by paths, and sprinkled with landmarks. Elements regularly overlap and pierce one another" (Lynch 1960).

Paths are the channels along which people, vehicles and water move: "Paths with clear and well-known origins and destinations had stronger identities, helped tie the city together, and gave the observer a sense of his bearings whenever he crossed them..." (Lynch 1960) Spirn echoes the importance of path, adding a mythic / temporal dimension with an Australian Aborigine example: "The continent... is laced with...ancient paths, visible only to those who know the songs that describe the way, that tell of the relationships among rocks, water, animals, and humans, and that link present time with the forming of the world during the Dreamtime" (Spirn 1998). For most people they are the predominant feature of the city (Lynch 1960).

Edges are other linear elements that are not considered as paths, "the boundaries between two phases, linear breaks in continuity" (Lynch 1960). Shores, railroad banks, walls, the edges of development are examples. "They are usually...the boundaries between two kinds of areas. They act as lateral references" (Lynch 1960). Edges may be continuous or fragmentary (Ibid).

Districts are sections of the city with two-dimensional extent, "which the observer mentally enters "inside of," and which are recognizable as having some common, identifying character" (Ibid). "The physical characteristics that determine districts are thematic continuities which may consist of an endless variety of components: texture, space, form, detail, symbol, building type, use, activity, inhabitants, degree of maintenance, topography" (Lynch 1960).

Nodes are "points, the strategic spots" of a city that observers can enter, and to and from which they can travel. They may be intersections, junctions or concentrations (Ibid) and are the "focus and epitome of a district" (Lynch 1960). "Because decisions must be made at junctions, people heighten their attention at such places and perceive nearby elements with more than normal clarity" (Lynch 1960).

Landmarks "are another type of point-reference" (Lynch 1960), but observers cannot enter into them; they are external references and may be local or distant, "which may vary widely in scale" (Lynch 1960). "They are frequently used clues of identity and even of structure, and seem to be increasingly relied upon as a journey becomes more and more familiar" (Lynch 1960). Skyscrapers, 'golden towers,' mountains or distant hills may be landmarks. "Anomalies reveal variations in context otherwise hidden, disguised, unrecognized..." (Spirn 1998).

Together, these five elements make up the fabric of the city but are separated for analytical clarity in Lynch's model. In the city: "Landscape features may coexist, juxtaposed, and yet be unrelated, anomalies of material or form out of context, shaped by a different context

from the one that predominates” (Spirn 1998). These elements are further modified by a set of “Form Qualities”—singularity, form simplicity, continuity, dominance, clarity of joint, directional differentiation, visual scope, motion awareness, time series, names and meanings—which together contribute to the sense of the whole (Lynch 1960). These ten formal qualities highlight the overlaps, interrelationships and ambiguities at the intersections of different types of elements. They add context, meaning and detail to the observer’s reading of meaning in the city.

Designing the City

Ultimately, Lynch prescribes educating the viewer, so that the well-designed city his theory imagines can be successfully recognized and described:

“The final objective... is not the physical shape itself but the quality of an image in the mind. Thus it will be equally useful to improve this image by training the observer, by teaching him to look at his city, to observe its manifold forms and how they mesh with one another” (Lynch 1960).

In the same way—albeit expressed with different words—Spirn’s dweller becomes a “reader” of the city and its landscape context, better understanding the structure and meaning of the city from within the metaphoric structure of her *Language of Landscape*.

The Language of Landscape

In three hundred densely poetic pages, Anne Whiston Spirn writes about her theory of landscape as language—of leaves as nouns, flowing as verbs—through anecdotes, site analyses, photographs and allusions to architecture, landscape and the esoteric poetry of T.S. Eliot. Spirn includes Eliot in her “pantheon” of heroes (Spirn 1998), revealing both her interest in Eliot’s esoteric, multifaceted and wildly allusive poems and the depth of her own scholarship and experience. Coupled with the poetry of her writing and *Language of Landscape*’s emphases on language and literacy, Spirn’s deep interest in the power of poetry and language—the lens through which her book explores landscape— is made explicit on a series of nuanced levels. A comparison of Lynch’s early work—seminal as it is—with this matured text by Spirn is somewhat unfair, particularly given how much influence his work has had on her view of landscape. Nonetheless, Spirn’s experience, scholarship and perception of landscape as language shed new light on the analytical framework which Lynch published in 1960.

“The language of landscape is our native language,” Spirn asserts, “Landscape was the original dwelling... Everyone carries that legacy in body and mind” (1998). The grammatical structure of Spirn’s theory is epitomized in the following quote, which ‘reads’ the words, modifiers and phrases of Maya Lin’s Vietnam Veterans Memorial in Washington, D.C.:

“the wall itself is like a noun phrase, moving along the path a verb phrase. Wall and movement are modified: the wall by the material, stone, as by an adjective; moving, by

path’s descending and rising, as by an adverb. Like any landscape text, the memorial is composed of many such phrases, both subordinate and coordinate (the stones are subordinate to the wall, but coordinate to each other and to the mortar). Like all landscapes it is a complex composition; qualities of embeddedness are shared by all landscapes and all other languages—verbal, graphic, mathematical, or musical” (Spirn 1998).

Maya Lin’s monumental black stone wall is cut into the ground of the National Mall in Washington, D.C., its reflective surface engraved with the names of casualties of war. Visiting the memorial is an evocative experience, nuanced by the changing topography of the path, by the slow pace of visitors’ movement along the wall, by the personalization and pathos brought in by mementos, the quality of the stone reflects the shadowy images of visitors, holding them enthralled. For Spirn, the memorial becomes a work of landscape poetry, a ‘complex composition’ of many phrases and layers of meaning, which succeeds by upsetting the trope of massive, white national monuments raised high above the surrounding ground, and becoming more meaningful through its skillful juxtaposition of context and content.

Likening the dynamic context of landscapes to weaving—by linking the etymological root of *context* to its Latin root “*contextere*,” to weave—Spirn introduces landscape complexity, content and context as warp and weft (Spirn 1998). Context is the frame within which meaningful variation is possible. “Through context, materials acquire meaning” (Ibid). The poetry of landscape, its warp and weft often obscured by the built architecture and inexperienced observers of cities, might be read by Spirn as *lacunae*: lost lines, unread by city planners and urban designers, whose primary focus has been on streets, grids, highways and architectural landmarks. The resuscitation of these lost fragments may be achieved in part by McHargian analysis, “the systematic application of a set of rules derived from ecological science” (Spirn 1998). In order to bring these lost / hidden lines back into view and thus reveal the meaning of sink holes, floodplains and the abandoned buildings that cluster in the riparian corridors of buried and forgotten creeks, Spirn is an advocate of landscape education. Ethnologist Keith Basso cites N. Scott Momaday’s observation that “men and women learn to *appropriate* their landscapes, to think and act “with” them as well as about and upon them, and to weave them with spoken words into the very foundations of social life” (1996). But this observation is particular to Native American cultures, whose survival was historically linked closely to the ability to cogently read landscape context.

Lynch’s *Image of the City* highlights the architectural aspects of cities that are most important and apparent to urban designers, but there is a danger to designers and city-dwellers in failing to see the underlying warp, weft and weave of landscape context. And, “Shaping the context in which landscape is shaped is an act of design” (Spirn 1998). A city designed without reference to its topography, floodplains, geology, etc. is doomed to the failures Spirn observes in Boston’s Dudley Street neighborhood and Philadelphia’s Mill Creek—by failing to understand and respond to landscape context, poverty, abandonment, destruction and hidden waterways, designers or builders can undermine the fabric of the society and city. Lynch notes that interviewees’ descriptions were often made as if they

were a response to contrast, use contrast, relative age, or comparisons of cleanliness or landscaping. Elements and attributes became remarkable *in terms of their setting in the whole* (Lynch 1960; *emphasis added*).

Setting and context are the keys to understanding our surroundings. Spirn's fundamental argument is that we must all learn to read the language of landscape to "cultivate the power of landscape as if our life depends on it. For it does" (Spirn 1998). In the West Philadelphia neighborhood where she has worked for over thirty years, Spirn has seen the transformation of landscape and society. "With her students, she has created visions and places with the community to recover its grammar in order to heal and restore the neighborhood" (Steiner 2002). By bringing the buried Mill Creek back into view—through educational programs, better-informed city planning and public outreach—the neighborhood has made over its self-image. From "The Bottom," a name echoing with the hopelessness of poverty, abandonment, flooding and neglect, to "The Bottoms," a riparian corridor revealed, with community parks, gardens, a street-tree nursery and urban forest, the Mill Creek Art Folk Park and a Mini-Golf course that models the neighborhood's history and future; the residents of Mill Creek have learned to read landscape and in the process to reinvent the creativity and liveliness of a once destitute neighborhood (Spirn 1998).

"Nature, art, the past, and functionality inform the authorship of landscapes...Anne Spirn, the author, weaves ecology with creativity, precedent with function. Furthermore, through her work in West Philadelphia, Spirn, the landscape architect, has helped a community reconnect with its natural history" (Steiner 2002).

Her 'landscape as language' theory goes deeper than community service or place-making, asserting that "Humans' survival as a species depends upon adapting ourselves and our landscapes":

"...in new, life-sustaining ways, shaping contexts that acknowledge connections to air, earth, water, life, and to each other, and that help us feel and understand these connections, landscapes that are functional, sustainable, meaningful, and artful... [All] can learn to read landscape, to understand those readings, and to speak new wisdom into life in city, suburb, and countryside" (Spirn 1998).

Conclusion

Lynch's influence on Spirn is unmistakable, but attempting to unravel the many other influences on *Language of Landscape*—from architecture and urban design to poetry and poetics—is too great a task for the scope of this essay. Suffice it to say that as authors, teachers, scholars and theorists, both Lynch and Spirn have changed the way we talk about landscape, both of them advocating for better educated designers and dwellers: "A highly developed art of urban design is linked to the creation of a critical and attentive audience. If art and audience grow together, then our cities will be a source of daily enjoyment to millions of their inhabitants" (Lynch 1960). The contributions of these two works, separated by nearly

forty years, show the trajectory of thinking about landscape, while serving as barometers for the socio-cultural interests of the day. Lynch's book takes on spatial psychology, trying to understand the way that people make meaning out of their environments, within a social science framework that was very important in the 1950s and 60s. Spirn's book brings poetry back into the dialogue, incorporating places, stories and voices from five continents, and encompassing the global culture of the turn of the 21st century. Both books will continue to inspire future generations of place-makers for decades to come, whether we agree implicitly with every point made, or agree to respectfully disagree. Landscape is after all a highly contentious notion, made more so by the distance between the disciplines it draws from: "agriculture (gardening, horticulture, forestry), engineering, architecture and fine arts, science (ecology), each based upon disparate ideas about the relationships of human to nonhuman" (Spirn 1998). More works like these will help to bring agreement to the "Tensions and contradictions in landscape architecture" that "stem from the intellectual biases and unresolved conflicts" between Landscape Architecture's diverse stakeholders.

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Rural by Design: Analysis of Theory

John Rigdon

Rural by Design is a town planning strategy focused on maintaining small town character while preserving the environment. This paper will first look at the creation of the theory and its historical predecessors. Next, the theoretical underpinnings will be outlined with an emphasis on some of the more notable aspects. Finally, the theory will be analyzed in terms of its strengths and weaknesses.

History of Theory

Randall Arendt is a British-trained landscape architect and city planner. During the 1980s and 1990s he developed the theory of Rural by Design. Early in his career, Arendt was heavily influenced by the work of Ian McHarg. McHarg's book, *Design with Nature*, left a significant mark on Rural by Design. In particular, the development of a strategy to inventory natural resources influenced Arendt's theory. This method is first explained in by McHarg in *Design with Nature*. Arendt used this method to categorize and prioritize natural resources in order to guide development to land with less 'important' natural uses. (Milder 2007) Today, this method would be referred to as a suitability analysis. Within this framework, Arendt posited the idea of "Conservation Development." He saw this as a remedy to the ills of popular development patterns in the 1980s, which were still following the tract-housing, suburban model of post-WWII America.

Additionally, Rural by Design is heavily influenced by technological improvements in mapping and visualization. Arendt consistently advocates for the use of aerial photography to better understand and place the built environment. (Arendt 1997) This is another historical descendent of the work of Ian McHarg. Aerial photography is Arendt's adaptation of the mapping and overlay techniques used in McHarg's ecological planning model. Additionally, Arendt borrowed the transect technique to conceptualize desired urban forms. Transect drawings of buildings, streetscape, and environmental features are used throughout Rural by Design.

Before writing "Rural by design," Arendt first worked on the idea of Conservation Development as a method to preserve the natural environment. Conservation development protects the local ecosystems and cause minimal interference with local species. With this framework in mind, Arendt began to develop a new theory through his interest in the character of small-town America. (Arendt 1996) This comes to the forefront in his 1994 book, "Rural by Design." The first chapter of this guidebook is about the common

qualities of small towns and these characteristics guide the theory that follows. (Arendt 1994) The focus on small town character separates the new theory of Rural by Design from conservation development.

The influences of ecological planning, visualization technologies and small-town character represent the historical framework for Arendt's theory. Rural by Design combines these ideas into a practicable set of guidelines. These guidelines will be discussed in the following section.

Rural by Design

Rural by Design is the culmination of Arendt's earlier work, which focused on the idea of Conservation Development. This town planning strategy combines the ideas of Conservation Development, scale of the built environment, and preservation of small-town character. These central components of the theory will be discussed in the following paragraphs.

The principles of conservation development are the backbone of Rural by Design. Conservation Development seeks to protect a variety of ecological resources and services such as: biodiversity, productive farmland, ecosystem services, natural beauty, and historic and cultural resources. (Milder 2007) This idea also stresses the importance of developing strategies to combat the environmental ills of suburban and exurban development, primarily the loss of biodiversity and destruction of ecosystems. (Milder 2007) In Rural by Design, Arendt narrows the focus of conservation to a few key elements: open space, responsible sewage disposal, greenways and buffers, retaining productive farmland, hazard mitigation, and growth management. (Arendt 1994)

Each of Arendt's Conservation Development ideas could be expanded into a distinct paper. However, productive farmland will be the focus of this paper. Arendt discusses the way that the current "post-interstate landscape" has transformed private farmland into suburban sprawl. Communities that were once productive farmland now rely on food that is shipped from thousands of miles away. The solution that Rural by Design proposes is the creation of "metropolitan agriculture" or "metro-farms." (Arendt 1994) These small-scale farms will serve the local community with fresh products while being insulated from the global effects of fuel and transport costs. Rural by Design stresses the use of zoning and inter-governmental coordination in order to prevent possible conflicts between

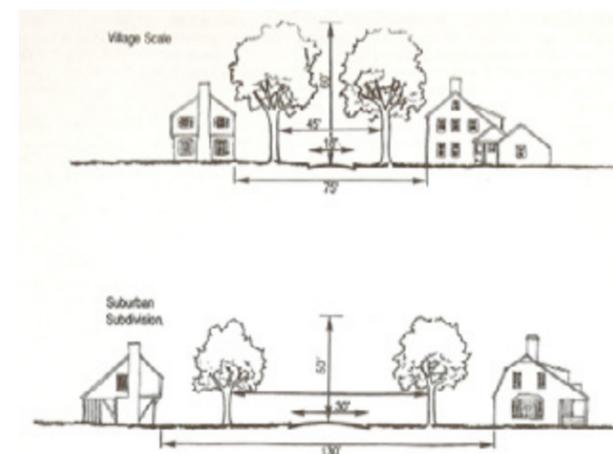


Figure 1: The difference in street scale between traditional villages and suburban subdivisions.

the farms and the communities. Two of the most important prescriptions are the uses of transfers of development rights (TDR) and purchases of development rights (PDR). These methods allow communities to prevent (or limit) development on land that is favorable for agriculture without taking away property rights. (Arendt 1994) Overall, the strategy for farm land reflects the importance that Rural by Design places on making environmentally sustainable communities. Preservation of ecosystems, watersheds, and biodiversity are also given similarly detailed treatment in the theory.

The idea of scale is critical to Rural by Design. Creating an appropriate scale for the built environment is one of the most important aspects that Arendt writes about. This builds on past theory that stresses the importance of how physical relationships subtly affect the perception of streetscapes and neighborhoods. (Greenbie 1981) Past work establishes the most comfortable ratio between street width and the height of surrounding structures to be approximately 3:1. It also sets up the idea of the "outdoor room", a pedestrian friendly streetscape with attention paid to human scale. Arendt goes on to explain that a 3:1 ratio or better can be found in many of America's most beloved "Main Street" locations. Figure 1 displays the differences between conventional suburban streets and "outdoor rooms" found by Arendt in traditional villages. Rural by Design promotes human-scaled streets through the use of maximum setbacks. (Arendt 1994) This planning tool involves using building codes to prevent homes from locating at the back of the lot. Maximum setbacks keep homes and businesses fronting the street, preserving the "outdoor room" feeling for pedestrians.

Scale is also important to the overall layout of communities. In particular, the scale of open space compared to private lots is critical to Rural by Design. Arendt develops the



Figure 2: Clustered building in "Rural by Design"

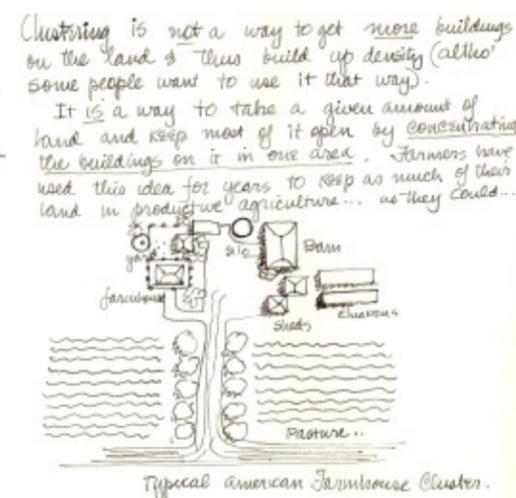


Figure 3: Clustered homes idea for Sea Ranch

idea of a move backwards in time towards the clustering of homes in patterns similar to the traditional farm (Figure 2). (Arendt 1994) Interestingly, this development pattern is very similar to the planning efforts of landscape architect Lawrence Halprin (Figure 3). It mirrors his vision for the clustering of homes at Sea Ranch. (Halprin 2011) Arendt does not directly address this influence; however the ideas are uncanny in similarity.

Additionally, Arendt's theory emphasizes changes in the design of subdivision streets. He advocates for the single-loaded street, which places private lots on one side of the street rather than both. It allows for the other side to have public amenities such as greenways, open space, and farm land instead. (Arendt 1994) This concept ties into the issue property lot sizing and layout. Rural by Design seeks to fight some common misconceptions about lot size and privacy. The theory advocates for better site choice and landscape buffering as opposed to larger lot size. Rural by Design uses lot sizes that are less than one acre, yet achieves the privacy and town density of two-three acre lots in conventional suburbs. These interventions can create privacy while preserving green space, productive farmland, and community character. (Arendt 1997) (Arendt 1994)

Visualization technologies are another noteworthy aspect of Rural by Design. In particular, Arendt's theory focuses on the use of visualization strategies that offer a bird's eye view. As Arendt says:

"The significance of the bird's-eye perspective drawings that have appeared in all my books is twofold. Their principle value lies in their ability to convey to laypersons what a particular site looks like in its natural or current state and how that would change after employing... alternative design approaches. The second reason...is because I feel it is important to design developments partly from an avian viewpoint." (Arendt 1999)

This method is frequently used in a format where the existing land is shown on one image, the land with a conventional development on the next, and finally the land developed with Rural by Design principles. The three image approach highlights contrasts in appearance and greenness of the land that are striking to the viewer. Rural by Design also focuses on using visualization to make the ideas accessible to rural community planners. The images show the positive and negative impacts of land-use decisions in a comprehensible format. The hope with this strategy is that outcomes can be more easily weighed when presented in clearly. Additionally, the bird's eye view is used to remind the reader of a connection to nature while making decisions. (Arendt 1999) (Arendt 1994)

Tying modern life to tradition and history is of paramount importance to Rural by Design. This is expressed in how the theory creates a template for intentionally small, rural communities, and it is also an interesting way that the theory diverts from some contemporary theories. Arendt does not feel compelled to push for increased density and centralization in all communities, as he is comfortable with the idea that there are many communities that should be small. He wants to preserve small town character while improving the ecology of the community. (Arendt 1996) This idea draws heavily on his

experience in rural towns. The theory looks to take the best aspects of the small town experience and transfer them to a replicable set of guidelines.

Arendt sees the small town as the best example of desirable community development. Most important is the sense of community in small towns. Walking distance to many social institutions such as schools, churches, and playgrounds create opportunities for casual socializing and form ties within the community. He takes this a step further writing that these interactions create a more civic-minded population. Rural by Design seeks to capitalize on this and create mutual responsibility and shared ownership of the community. Furthermore, Arendt believes that small towns are ideal due to the opportunities they present and the availability of open space. Small towns also have natural edges and green buffers that allow for health and sporting benefits that are less common in large cities. Finally, he stresses the advantages of compact form and incremental, slow growth. Evolution takes place at a slower speed allowing for deliberative and inclusive decision-making. This process increases community involvement and responsibility in decisions. (Arendt 1999) (Arendt 1994) Overall, Rural by Design stresses that these three elements set the small town apart as the ideal community development scale.

Analysis of Theory

After discussing some of the most important elements of Rural by Design, this section will discuss the strengths and weaknesses of the theory. This section will also bring to bear the fact that Rural by Design is an ideal theoretical framework for the small town planner.

Rural by Design offers many form-based solutions to community development. However, it is less restrictive than approaches such as New Urbanism. The theory is designed to be adapted towards a particular community, region, or local building tradition. Arendt wants to build communities that work within the cultural and environmental fabric of the land. This is an important strength when selling the idea to a community. New Urbanist projects often stand out or feel like they are branded through their design, while Rural by Design achieves the same form-based objectives without the orthodoxy of overly prescriptive building design.

Perhaps the most important strength of Rural by Design as a theory is how clearly it outlines a process for implementation. Arendt does an amazing job of deriving theoretical frameworks for changing land use patterns. These theories shine in Parts I and II of his book on the theory. (Arendt 1994) However, he goes a step further and includes a detailed section on implementation techniques. This section outlines each key aspect of theory, and provides specific strategies tailored towards real-world implementation.

The example of farmland preservation discussed in the theory section is useful for describing implementation as well. He discusses implementation through the clustering of homes (Figure 6 on following page) on a small scale. For larger scale development, he encourages the use of urban growth boundaries (UGB). This has been successfully

used to preserve farmland in Oregon. (Arendt 1994) He also outlines the importance of "truly comprehensive plans" (Arendt 1994) that includes a future land use map to guide development. Additionally, he suggests the use of PDRs and TDRs to encourage land development in areas that are less suitable for agriculture. Overall, this example displays the depth of thought that Arendt put into implementation of his theory.

Furthermore, Rural by Design is highly accessible. Theory can often be esoteric and obtuse to the general public. This is not the case with Rural by Design. The theory is clearly explained and very legible to the lay-person. Arendt achieves this by relating the ideas to the familiar context of small-town America. He does not begin by discussing property setbacks, development rights, and public policy, but instead with a narrative about what makes small-towns so livable. This section titled "Character of Towns" is clearly written and free of jargon. It establishes a solid foundation so that the book is able to become more involved and technical in later sections. This approach reflects the way that the theory is to be used as well. His implementation strategies offer similar levels of education and inclusiveness. This sets Rural by Design apart from more esoteric or technical theoretical frameworks.

The only notable weakness of Arendt's theory is the critique that it encourages continued sprawl and Greenfield development. The model is tailored towards the creation of small suburban towns from the ground up. This approach allows for complete control over the built environment and full implementation of his ideas. However, the approach also continues the current patterns of sprawl and leap-frog development. To some this is seen as a stop-gap or better alternative without truly addressing the issue of suburban sprawl. Arendt would likely respond to this critique by saying that there is not one appropriate size for all cities. Some places are not suited for high-density infill. Additionally, larger communities are less ecologically preserved. The rural landscape offers the opportunity for preservation of ecosystems. Arendt would also likely counter this argument by discussing the possible self-sufficiency of these rural towns that larger cities do not have. In a post-oil future these towns will be better suited to feed themselves than larger cities.

Overall, the strengths of Rural by Design outweigh the weaknesses. It is less design-prescriptive than contemporary theories, it outlines a clear process for implementation, and it is highly accessible and legible. The critique that it continues patterns of urban sprawl depends on how well the theory is implemented. This critique may also be proven wrong as communities have to move away from fossil fuel consumption.

Conclusions

Rural by Design is a well-developed and practicable way to improve the quality of small town America. The theory is prescriptive, legible, and flexible to different situations. Arendt pulls in the work of past giants in city planning and works with their proven techniques. He also addresses the issue of small towns. These are frequently ignored in planning education, yet many planners will work in this context. Additionally, Arendt uses the theory

as a reminder of the inherent issues with following the status quo in planning. He believes firmly in Aldo Leopold's advice to "think at right angles to one's profession." (Arendt 1994) With all of the focus on technology and increased urbanization in modern planning, Rural by Design looks back. In summary, it is a well thought out combination of effective strategies and policies that can be applied by the rural planner en masse to a new community or individually as needed.

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The Language(s) of Landscape

Travis Glenn

In her book, *The Language of Landscape* (1998), Anne Whiston Spirn advances the theory that landscape, and subsequently landscape architecture, functions as a visual, experiential language, complete with tangible, built correlates to the vocabulary and grammar found in spoken languages. Drawing on her extensive experience as a professor of landscape architecture, community designer, personal experiences of the built environment, and time as a professional landscape architect, *The Language of Landscape* builds its central argument by establishing the capacity for intentional meaning in landscape through specific examples, followed by a discussion of identifiable, repeatable components of a landscape vocabulary, and finishes with several examples of landscape equivalents to literary parts of speech. All throughout her essay on landscape theory, Spirn draws from her knowledge of several disciplines (key amongst them architectural history, art history, and ecological science) to provide illustrations, and justifications, of her stance on not only the capacity for eloquent articulation, but also the inherent power, in the language of landscape. Through the course of the arguments presented, the central thesis of the work shifts slightly, ultimately the argument grows beyond the notion of a single universal language of landscape, though the ramifications and potential presented by this understanding are not fully explored.

A graduate of the undergraduate art history program at Radcliffe with a master of landscape architecture degree from the University of Pennsylvania, Spirn is a native of Connecticut, but moved to Cincinnati, Ohio at a young age (Spirn 1998; annewhistonspirn.com). While in high school, she spent a year in Denmark as an American Field Service exchange student, forming a close relationship with her host family, which led to experiences that continue to shape her views on the natural and built environment (Spirn 1998). Later travel, throughout the United States but also to Australia and Japan, has added to her initial curiosity about the world around her, and provided her with the rich well of experiences she draws from to inform her writing (Spirn 1998). Spirn taught first at Harvard, has also been Chair of the Department of Landscape Architecture and Regional Planning at the University of Pennsylvania, and is most recently a senior professor of landscape architecture and planning at the Massachusetts Institute of Technology (annewhistonspirn.com). In each of these positions, Spirn has been "devoted to promoting life-sustaining communities: places that are functional, sustainable, meaningful, and artful, places that help people feel and understand the relationship of the natural and built worlds", as evidenced by her work with the award winning West Philadelphia Landscape Project, a community design initiative working with low income groups in West Philadelphia to promote landscape literacy and responsible development (annewhistonspirn.com).

In addition to her community work and academic positions, Spirn is the author of three books. The first, *The Granite Garden: Urban Nature and Human Design*, written in 1984, is a commentary on the presence of nature in cities and the potential inherent in the cooperation, rather than competition, between the built and natural elements of an urban setting (annewhistonspirn.com). Her latest work, *Daring to Look* (2008), documents the Depression era photography of Dorothy Lange and the persistent echo of those images in American society (annewhistonspirn.com). *The Language of Landscape*, her second book, was published during her time at the University of Pennsylvania (as co-Director of Urban Studies) and most closely approximates a personal manifesto on her stance regarding the capacity of design to mediate between built and natural worlds through what she terms the 'language of landscape' (Spirn 1998). As she would later state, "We humans are part of the natural world, our bodies, minds, and habitats shaped by the physical, chemical, and biological processes that sustain the Earth", processes that she argues can be understood, expressed, and shared through the language of landscape (annewhistonspirn.com).

Spirn begins the book with a prologue that highlights two experiences with reading landscapes that have proven to be seminal in the development of her theory of a landscape language (Spirn 1998). The vivid imagery of the last flowering of the yellowwood and the collapse of the sewer system burying the creek in West Philadelphia serve to dramatically illustrate the costs of landscape illiteracy, and set up the argument for not only the existence of the language of landscape but the importance of (near) universal fluency with its dialects. In the first of the three sections following the prologue, Spirn states, and then substantiates her principle thesis, namely that landscape has a language and that it has equal standing with other languages ("verbal, mathematical, graphic") in human experience (Spirn 1998). As she goes on to explain, for her,

The language of landscape can be spoken, written, read, and imagined. Speaking and reading landscape are by-products of living - of moving, mating, eating - and strategies of survival - creating refuge, providing prospect, growing food. To read and write landscape is to learn and teach: to know the world, to express ideas and to influence others. Landscape, as language, makes thought tangible and imagination possible. Through it humans share experience with future generations, just as ancestors inscribed their values and beliefs in the landscapes they left as a legacy, "a treasure deposited by the practice of speech", a rich lode of literature: natural and cultural histories, landscape of purpose, poetry, power, and prayer (Spirn 1998).

This powerful statement sets the stage for the set of examples Spirn provides, arguing first for the consequence and meaning of language through an etymological exploration of the root of the word landscape (to establish its phenomenological link with the act of being) and the use of examples across human history, ranging from biblical Israel, Italian renaissance and the Australian outback (Spirn 1998). These serve to establish the meaning of landscapes as transmitters of cultural values and shared narratives. Spirn also highlights the consequences of failing to understand this language, stating:

". . . most people read landscape shallowly or narrowly and tell it stupidly or inadequately. Oblivious to dialogue and story line, they misread or miss meaning entirely, blind to connections among intimately related phenomena, oblivious to poetry, then fail to act or act wrongly. Absent, false or partial readings lead to inarticulate expression: landscape silence, gibberish, incoherent rambling, dysfunctional, fragmented dialogues, broken story lines. The consequences are dumb, dire, tragic." (Spirn 1998)

These two quotes frame the introduction to Spirn's notion of the language of landscape, revealing her conviction in its immense potential for vastly differing affects on the built and natural environments, depending on the fluency of both the landscape 'designer' and user. The reality, however, often falls somewhere between these two extremes, as is revealed in her extended anecdote of the heathland park at Kongenshus in Denmark, whose "polemical landscape layered with complex, paradoxical meanings" is "So very Danish", according to her friends and family (Spirn 1998). Unfortunately, this hints at one of the more difficult components of Spirn's argument, one that quietly crops up in other explanatory references but is dealt with only indirectly, mainly that without a thorough understanding of Jutland's history, and the ability to read Danish, it is most likely that all of this subtle landscape nuance would be lost on an outside observer, with the resulting confusion possibly undermining the claims to universal application of a single landscape language implicit in the earlier statements (Spirn 1998).

At the end of the first section of the book, the argument finds clearer ground in the development of categories of "landscape genres" (Spirn 1998). Here, the six genres characterized by Spirn, including landscapes of worship (temple of Ise, Japan), memory (Vietnam Veterans Memorial, Washington DC), play (Parc Andre Citroen, Paris), movement and meeting (Seattle Freeway Park, Halprin's original), production and waste (Middleton Place, South Carolina), and home and community (Aspen Farms, West Philadelphia), are used to describe 'archetypal activities like movement, play, or worship that share patterns of function and form from culture to culture yet are adapted to a certain people, a certain place, a certain period' (Spirn 1998). Here, again, though the characterizations of landscape type are successfully argued to have near universal adaptation, there is only the oblique reference to the idiosyncratic nature of landscape expression with no direct discussion of the ramification of these specific cultural adaptations.

The second section of the book begins with an explanation of the component parts of landscape composition, examining the use of 'nouns', 'verbs', 'adjectives', and 'adverbs' in the application of landscape language (Spirn 1998). Initially establishing concrete comparisons, "flowing, like a verb", "water and path, like nouns", and "like adjectives or adverbs, their qualities of wetness or breadth extend meaning", the text then moves to more abstract components of landscape language, which are argued to function without perfect corollaries in verbal language but perhaps rather as composite phrases of understood words and tenses (Spirn 1998). Four particular composites are identified, 'process' as a set of actions and patterns of events, 'matter' and material as the tactile component of landscape shaped by processes (both intended and unintended), 'form' as a result of

processes acting on material, where designers utilize compositional techniques to bend the inherent structure of the material to the design's purpose, and finally 'performance space' to describe the means and needs of human activity within the formed landscape. These four elements often combine and overlap, intersecting at different crossroads of cultural meaning (how would the meaning of the Vietnam Veterans Memorial change if it were white, Spirn asks), though it is less clear how these idiomatic expressions can be utilized to form one landscape *lingua franca*.

As a case study in evaluating the way in which these elements can overlap in different contexts, and to set up the important synthetic argument in the next chapter, Spirn then provides an in depth analysis of the evolving structures and design laboratories that were Frank Lloyd Wright's Taliesin North and Taliesin West (Spirn 1998). In the design and construction of Taliesin North (1911-1959), Wright utilized the forms and materials of Wisconsin's Driftless Area, in Wright's words "efflorescence, richness, ease" almost "vegetation that grows all over so abundantly (that it) is a form of mold that comes upon the more accurate elements", to make a designed landscape where visitors would be "too delighted with the problem" of where the exact line between built and natural lay to be concerned about the answer (Spirn 1998).

Taliesin West (1937-1959), too, benefited from Wright's ability to integrate the built and the natural, uniting structure and the larger landscape (Spirn 1998). In the desert of central Arizona, the material was rock and sand, sun and xeric vegetation, while the forms were derived from eons of weathering and mountain ranges, wind and heat, all of which Wright worked with to construct "a complex lattice, a structure of spine and grids" designed to respond to changing demands on the site. However, in both Taliesins, as responsive as Wright's designs were to the form and material of their context, even to the point of successfully integrating the needs of changing performance spaces over time, he did not fully account for the processes of his environs, leading to leaky roofs in Wisconsin and occasional flash floods across the floors in Arizona (Spirn 1998).

Spirn provides this analysis of Wright's design approach, synthesizing these four complex landscape phrases and highlighting the apparent oversights, as a segue to the important last two chapters of the second section of the book. Here the discussion turns to what Spirn describes as 'deep context', the woven "pattern of events (processes), materials, forms and space" specific to a particular place. Context "is a place where processes happen, a setting of dynamic relationships, not a collection of static features" (Spirn 1998). Again drawing from her extensive travel experiences, Spirn provides a compelling, rich portrait of the 'deep context' of Japan's historical and contemporary landscapes to illustrate the significance of context to landscape language (Spirn 1998). Here, as later in the section, the detailed descriptions of the integration between form, material, process, and space that shaped and continue to shape the landscape of Japan argue strongly for the significance of cultural differences in how landscapes are read (Spirn 1998).

In the most direct instance of the link between all of the elements of landscape language, Spirn explains the evolution of the Japanese measurement system, from the size of a tatami floor mat, two of which make a tsubo, 300 hundred of which make a tan, which is an area of land needed to produce a year's supply of rice for a family of four - from a grain of rice to the organization of vast agricultural landscapes (Spirn 1998). The challenge here is that the outside observer would need to know the caloric value of rice, the average dietary needs of the Japanese, the average family size, the value of rice husks as woven material, and the words to describe all of these in order to observe the connections independently. As eloquent as the landscape speaks, in this instance it requires knowledge of a different verbal language and a shared cultural sensitivity to be rendered intelligible. To different degrees and in different ways, the same holds for foreign visitors to the other examples provided by Spirn of deep context (the landscapes of Denver, the Netherlands, Mill Creek).

Spirn describes landscape context as "complex, dynamic, woven of many strands, in multiple dimensions", where "to speak in context is to distinguish deep and lasting contexts from those that are superficial and fleeting; it is to respond to the rhythms and histories of each and to project those contexts into the future". The component of language Spirn evokes to guide this 'contextual expression' is grammar. The place of grammar in the language of landscape is expanded upon in the sixth chapter, the end of the second section, but also as a component of the third section where "multiple, overlapping grammars" simultaneously coexisting are in some instances formalized into dialects (Spirn 1998). This blending of identified phrases, into grammar(s), into dialects presents the greatest challenge to the central thesis presented earlier, in that it may be that here in place of "the language of landscape (that) can be spoken, written, read, and imagined" it must be the *languages* of landscape.

The Encyclopedia Britannica defines language as a:

"system of conventional spoken or written symbols used by people in a shared culture to communicate with each other. A language both reflects and affects a culture's way of thinking, and changes in a culture influence the development of its language. Related languages become more differentiated when their speakers are isolated from each other."

When the argument that linguistic elements and extended cultural narratives are legible in landscape design, as mediated and interpreted through cultural context and shared experiences and defined by the specific biophysical systems present in a site (such as the difference between Taliesin North and Taliesin West, or Japan and the Australian Outback) is compared to this formal definition of language characteristics, the similarities become more convincing.

Spirn's repeated, and valuable, warning that the inability to correctly read landscape, whether it is a mistake of grammar or vocabulary, can have devastating effects only gains additional urgency when viewed as the gulf between languages and not just shifts

in pronunciation. So, too, is there added value in the insistence of familiarity with 'deep context' prior to initiating designs in a new culture - Portuguese may aid with Spanish to a degree (due to a similarity of context, both in the literal linguistic as romance and the language linguistic as Mediterranean climates), however it would be of little value in the lush jungles of southeast Asia (as indeed is evidenced by old colonial buildings in Malaysia and India). Not just incoherence may result from the inability to speak a different landscape's language, but "the consequences (may be) dumb, dire, tragic". An additional topic for later exploration in the application of landscape languages would be the current hegemony of English as the world language (verbal) and an investigation for evidence of a similar dominance in English as a world landscape language (the ubiquity of the mowed front lawn may be the first clue).

If the jump is made from a language of landscape to languages of landscape at the end of the book's second section, the interpretation, and application, of the third is clarified and focused. The return to intimate narratives of direct experience with individual landscape experiments in the Netherlands, Australia and the United States is no longer required to generate universal meaning or understanding, but rather each description is freed to represent particular expressions of the landscape genres earlier identified, remaining indicative of 'archetypal activities like movement, play, or worship that share patterns of function and form from culture to culture yet are adapted to a certain people, a certain place, a certain period' (Spirn 1998). Additionally, the examples of landscape equivalents to figures of speech, literary tropes and rhetorical devices can remain as idiosyncratic expressions of their respective languages 'deep context' rather than striving for a single meaning in all circumstances.

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Terry Tempest Williams and Bio-Regionalism: Co-Evolutionary Thought, Re-inhabitation, and the Musings of Laconic Literature

Billy Fleming

In the past seven years, Great Salt Lake has advanced and retreated. The Bear River Migratory Bird Refuge, devastated by flood, now begins to heal. Volunteers are beginning to reconstruct the marshes just as I am trying to reconstruct my life....I open my journals and feathers fall from their pages, sand cracks their spines, and sprigs of sage pressed between passages heighten my sense of smell - and I remember the country I come from and how it informs my life.

Terry Tempest Williams, July 4, 1990

Terry Tempest Williams (TTW) has been many things to many people since her emotional literary eruption, *The Refuge*, lapped over the walls of her soul and ran through her fingertips onto the book's pages. Naturalists have clung to her detailed treatment of the Great Salt Lake's intransigence in the face of human intervention. Eco-feminists point to her own obdurateness in the face of patriarchal Mormonism as evidence of TTW's place in their movement. Even environmental determinists invoke her study of ecological change and military weapon testing in the Mountain West in staking their claim to her work.

Though each of these subsets within the larger environmental movement has a rightful claim to her work, it is the bio-regionalists who have the greatest standing to invoke TTW's writing. Certain themes can be gleaned from *The Refuge* as a means for bolstering the theory of naturalism, but they fail to account for TTW's attention to spirituality. They also fail to address TTW's struggle with the notion that while everything *could* be left to rise from natural properties alone, this is not always possible or desirable (McGinnis 1999). Eco-feminists also tend to focus on her later work, as *The Refuge* often toggles between reluctant acceptance of and rebellion from the gender inequality issues of her faith (Williams, 1991). Gaps in theory also materialize with environmental determinism when attempting to reconcile TTW's own personal development as a result of burying her innocence (Mother) and her haven (Mimi) (Williams 1991).

This triptych of theory forms a porous understanding of TTW's writing, and it is in the words that infiltrate, permeate this surface that bio-regionalists lay claim to her work. Before departing on the journey to explore TTW as a bio-regionalist, it is important to pass two markers along the way: (1) How does one define bio-regionalism and why is it important or

distinguishable from the aforementioned subsets of environmentalism? (2) How have other contemporary writers been described as bio-regionalists? As these markers are passed, the sojourn into TTW's bio-regionalist soul finds its footing.

Accidental Bio-Regionalism Buell's Theoretical Exploration

Building upon the work of new regionalism and the notion of re-inhabitation, bio-regionalism distinguishes itself as a theory by recognizing the co-evolutionary relationship between human and non-human (or perhaps even biotic and abiotic) communities within a territory defined by ecological boundaries, not jurisdictional demarcations. These units are typically watersheds, constellations of watersheds, or other topographic features that are regional in scale (Kirkpatrick 1985). While new regionalism places primacy on this scale of thought's application for planning, the subset of:

"Bio-regionalism seeks to make human community more self-consciously eco-centric than it has been in modern times, but in such a way as to incorporate, not disallow anthropocentric concerns." (Buell 2001)

The bio-regionalists' notion of symbiosis between man and nature is bolstered by Buell's attention to re-inhabitation. Together, they form a two-pronged approach to bio-regionalism.

Renewal, or what may be termed by contemporary theorists as regenerative design, is the organizing principle of Buell's conception of re-inhabitation. Premised on the notion that everyone has been wounded by some form of diaspora from nature, re-inhabitation compels people to *relearn* what it means to be native to a place in order to successfully renew the ecological and socio-cultural denudation that placelessness has wrought (Buell 2001). True success can only be achieved through personal and individual efforts to unwrap and tap the inner expressions, experiences, and senses that comprise a culture's conscious sense of place (Buell 2001). It is with the dual prongs of bio-regionalism that Buell goes on to explore the writings of two contemporary authors who became accidental bio-regionalists.

Dequincey, Joyce, and the Accidental Musings of Bio-Regionalism

Though Buell categorizes Joyce as a "Romantic Urbanist", the undertone of bio-regionalism throughout his work provides the backdrop upon which the portrait William Carlos Williams as bio-regionalist is later displayed. Coupled with the works of Dequincey, Joyce's writings portend Buell's discourse on bio-regionalism by subtly harkening back to the dual-prongs of human-nature symbiosis and regenerative re-inhabitation. This cohort is treated distinctly from Williams due to their fascination with urbanity's relationship with nature, rather than a true bio-region's natural and synthetic systems. But this does not necessarily remove their work from the realm of bio-regionalism, and it certainly does not relegate their work to ancillary or irrelevant status.

In describing his first impressions upon arrival in London, Dequincey writes that "you are no longer noticed; nobody sees you, nobody hears you, nobody regards you; you do not even regard yourself" when describing the overwhelming, phantasmagoric experience of life in a world-city (Buell 2001). But this is not unlike the desolation and solace found in the exurban, rural, and "blank" landscapes that were more familiar to TTW. Are you noticed, seen, heard, or regarded in a landscape with few or no co-inhabitants? She ponders this dilemma when recalling the government's plans for the West Desert she called home:

"A blank spot on the map translates into empty space devoid of people, a wasteland perfect for nervegas, wet-eye bombs, and toxic waste. The army believes that the Great Salt Lake is an ideal place to experiment with biological warfare. An official from the Atomic Energy Commission had one comment regarding the desert: it is a good place to throw used razor blades." (Williams 1991)

Dequincey's perspective is mollified from that of an overwhelmed, solitary visitor in London to some semblance of an integral component within the composite soul of England "comprised not only of other people, but also of...the entirety of life-forms and inanimate objects in the environmental surround" (Buell 2001).

Joyce also receives attention from Buell for the waves his writings generated in the field of Romantic Urbanism, heightened in many ways by the forceful undertow of bio-regionalism. The preservationist-only ethos of preceding environmental writings are discarded by Joyce, whose character (Bloom) distinguishes himself through a desire to establish a connection or relationship with the environment, rather than protect it from encroachment at all costs (Buell 2001). This recognition of the city's desire to mimic natural processes leads Joyce to posit that the ideal city would in fact be the ephemeral city; the perpetual oeuvre of the inhabitants, themselves mobile and mobilized *for* this oeuvre (Buell 2001). Much as a disturbed field or woodland would experience the three stages of succession, so too must Joyce's ideal city.

This postulation provides valuable insight into the bio-regionalist perspective on urban development, though Joyce's lack of geographic delineation in describing this "urban succession" leaves readers to conduct a balancing act for evaluating his utility in the discourse on bio-regionalism: on one hand, his lack of geographical delineation may belie his belief that geo-political boundaries are meaningless in the attempt to plan with nature; however, this omission may also be indicative of inattention to city and regional development, and is perhaps meant to be taken axiomatically (in other words, city must mean only elements within the defined city limits). Bio-regionalist would be wise to claim the former.

The Reasserted Landscape of Bio-Regionalism: William Carlos Williams

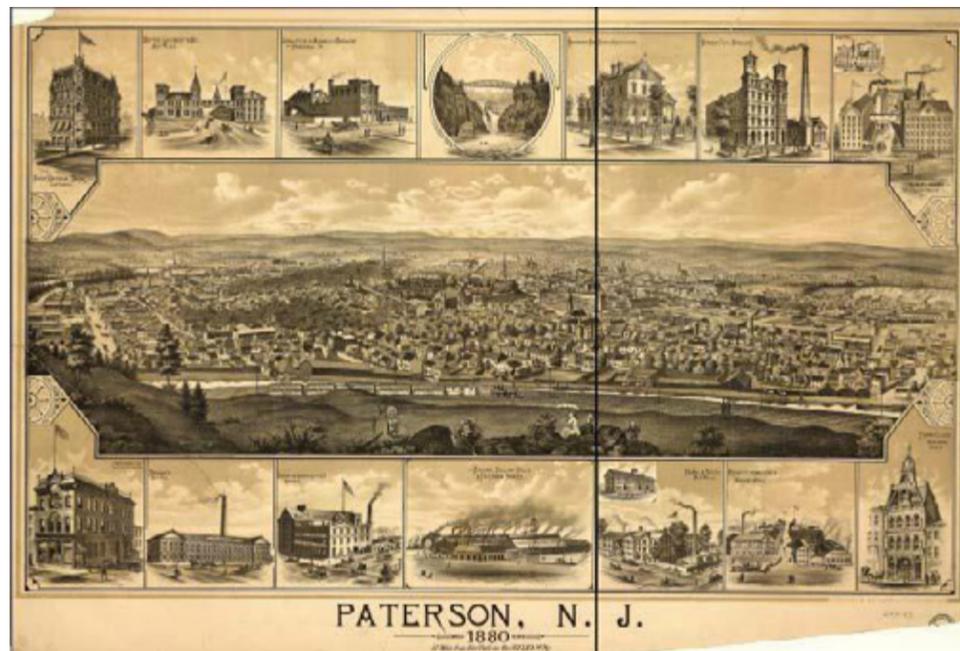
With Buell's exploration of Williams, the notion of undertone is shed and the bell of bio-regionalism is rung with a burst of clarity normally reserved for the alcoholic emerging

momentarily from a stupor. Williams begins his masterwork, *Paterson*, with a dyad that TTW and others would borrow in their subsequent bio-regionalist musings: the assignment of genders to the landscape (female) and the city (male); these disparate landscapes are then linked via the river that traverses each. This common thread of fluidity comprises the fulcrum upon which Williams's poem is balanced (Buell 2001).

He then embarks upon the narrative of Paterson, NJ's transitional landscape, which has seen nature re-assert itself in the bleakest of conditions:

"There are weeds growing up through the car, the sycamore offsetting the cinder-laden yard; all creating an anti-pastoral pastoral...whoever created this view must have anaesthetized themselves beforehand." (Buell 2001)

It is his perception of the instability of place, particularly in Paterson, that imbues his understanding of re-inhabitation as the foundation for approaching environmental systems. His understanding of, and affinity for, the subject matter in *Paterson* highlights a familiar tension for bio-regionalists, and one that is repeated by TTW in *The Refuge*. Much of what distinguishes *Paterson* is the constant breakdown in narrative wrought by Williams's peppering of lamentation – both for himself and for the place he studies – in a quixotic nature that portends the pain this work must have inflicted on the author: creating a poem faithful to this particular place, but within which love and disdain are inexorably linked (Buell 2001).



Historic Paterson, made relevant by Williams' work (Source: Library of Congress)

Throughout *Paterson*, Williams approaches the plight of his beloved city through the dual prongs of bio-regionalism.

"He has, to a remarkable extent, anticipated the bio-regionalist premise that, counter to modern perceptions, even urban areas sprang into existence...depending upon environmental circumstances that lie just below the level of our awareness" (Buell 2001).

He also presciently wrote that "landscape does not end where cities begin"; it is merely an important addition to the ever-expanding catalogue of natural or naturalized habitats (Buell 2001). Williams also preceded or complimented new and mega-regionalists like Mumford and Gottman through his view of the city as just a component of the regional ecosystem in lieu of the prevailing dichotomy of city-country or metropolis-hinterland permeating his generation's discourse (Buell 2001). His fear that the primacy of one (city or country) would denude the other prompted Williams to caution against Paterson's path towards assimilation into "the vast urbanoid wasteland stretching from Camden to Jersey City" (Buell 2001). These dual prongs – co-evolutionary balance and re-inhabitation – entrench Williams and the Reasserted landscape of *Paterson* in the realm of bio-regionalism.

Terry Tempest Williams, Bio-Regionalist

In describing her home – perhaps the only landscape she truly *knew* – TTW opens *The Refuge* by noting her connection with the:

"Great Salt Lake: a wilderness adjacent to a city; a shifting shoreline that plays havoc with highways; islands too stark, too remote to inhabit; water in the desert that no one can drink. It is the liquid lie of the West" (Williams 1991).

There are no cities of lasting focus for TTW; no notion of primacy for man or nature. Rather, a simple understanding is struck that emanates throughout *The Refuge*: the Bear River's watershed and Salt Lake City (as well as other cities and towns) are inexorably linked. The problems facing one cannot be assuaged without care for the implications of intervention on the other; and the arrogant assumptions made in the name of urbanization or progress that the city must take primacy over the watershed's overall well-being is irreversibly deleterious to both the city and country, the metropolis and hinterland over time.

The Shared Refuge of the Bear River Migratory Bird Refuge

"I knelt down and scooped up a handful [of water]. Microscopic animals and a myriad of larvae drained from my hands. Within seconds, the marsh in microcosm slipped through my fingers. I was not prepared for the loneliness that followed." (Williams 1991)

For TTW, *The Refuge* is dually significant. Ecologically, it is the resting place for the Bear River's Watershed. It uses and is used by the urban areas along its fringe. It *depends* upon their runoff for replenishment; replenishment of its water supply, wildlife habitat,



The Refuge at Floodstage [Source: Flickr]

and the ephemeral rivulets that convey its inflow and discharge. It is *relied* upon by places like Salt Lake City to absorb ever-increasing storm-water runoff they generate (both in terms of velocity and volume). But this relationship is geographically delimited, and it not readily apparent to inhabitants of either place (Refuge or Salt Lake City). This only further separates the impact of development on the bio-region from residents in the urbane regions of Utah.

Spiritually, TTW values *The Refuge* for its ability to capture the runoff from her own life. It is where she seeks solace from and begins to shed the overwhelming grief of losing her Mother; it is her quantum of introspection, where the particulate matter of her life is freed from suspension and allowed to infiltrate the depths of her soul. It is her *personal* connection to the basin that allows her to embark upon a bio-regionalists' journey through the landscape, which she only fully states in the final pages of her work, writing that "Refuge is not a place outside of myself. Like the lone heron who walks the shores of Great Salt Lake, I am adapting as the world is adapting" (Williams 1991).

The Accidental Bio-Regionalism of Terry Tempest Williams

Despite the multiplicity of themes in *The Refuge*, TTW's bio-regionalist voice pervades as demonstrably as DeQuincey, Joyce, and Williams did for Buell. The dual-prongs – co-evolution of humans and ecosystems and re-inhabitation through regenerative design – are invoked throughout her work. Her exploration of the co-evolutionary prong begins at a young age, when a young TTW muses over the provenance of her Refuge, writing that "I thought the marsh had been made in the spirit world first and on earth second; I never made

the connection that God and Congress were in cahoots" (Williams 1991). As she matures, TTW experiences the dramatic shifts in the Great Salt Lake as a barometer running parallel to the change in her own life. Her keen discussion of the normative behavior for the bio-region juxtaposed with the disparate reality that encroaching development has wrought on the basin speaks to her appreciation for the symbiosis prong espoused by contemporary bio-regionalists.

"It's not the harsh winter or yearly spillover that threatens Utah's wetland birds and animals. It is the lack of land. In the normal cycle of a rising Great Salt Lake, the birds would simply move up. New habitat would be found. New habitat would be created. They don't have those options today, as they find themselves flush against freeways and a rapidly expanding airport. Refugees" (Williams 1991).

Not only does she recognize the need for balance, she laments the actions of those who act otherwise. Her encounter with "Metaphor" – a synthetic tree in the West Desert – belied her disdain for those who viewed her home, her bio-region as a blank slate; a place devoid of meaning or culture simply waiting to be "improved" by an outsider. This architectural attempt at disrupting the "monotony" of the desert demonstrates a lack of contextual understanding that was unthinkable to a bio-regionalist like TTW. To her, this "Metaphor" is monotony, representative of all the similar works in similar landscapes across the globe. The nuanced undulations of the dunes are lost. The ebb and flow of the rivers, creeks, and draws are overshadowed. All that remains in their place is a way-finding device for a place no longer worth finding (Williams 1991).

TTW struggles throughout *The Refuge* with the notion of re-inhabitation. Spiritually, she attempts to re-inhabit her soul, her very innocence throughout the narrative. Part and parcel to bio-regionalism, however, she also seeks to spur a re-inhabitation of the Bird Refuge, which has long been the crutch upon which the weight of her world rests. As the Great Salt Lake rises to levels reminiscent of old Lake Bonneville, and as her mother grapples a dwindling survival rate due to her metastasized cancer, TTW posits: "Nothing is familiar to me anymore. I just returned home from the hospital, having had a small cyst removed from my right breast... My scars portend my lineage. I look at my Mother and I see myself. Is cancer my path too?" (Williams 1991).

Each re-inhabitation – spiritual and ecological – is dependent upon the other for success, just as the co-evolutionary prong of bio-regionalism calls for symbiosis between the urban and environmental components of a given bio-region.

Her desperation to ameliorate the barriers to re-inhabitation is palpable. As her mother inches towards her fate, so too does the Great Salt Lake and the denudation of TTW's ecological and spiritual refuge. In a moment of hopelessness, she recalls that:

"A deep sadness washes over me for all that has been lost...I am not adjusting. I keep dreaming the Refuge back to what I have known...I blow on these images like the last

burning embers on a winter's night. There is no one to blame, nothing to fight...Only a simple natural phenomenon." (Williams 1991)

Change – be it in the lake's water level or in the composition of TTW's family – is not inherently bad. But the external effects – nuclear weapons testing (Mother) and the impervious nature of urbanization (Refuge) – that caused each shift to be experienced in such a devastatingly negative manner are not easily undone. The barriers to re-inhabitation within TTW's bio-region are far less tractable than those ascribed to the prong of co-evolutionary thought. These barriers, over time, risk creating a truly blank spot on the map. TTW recognizes this, writing that "I think of my family stories...how much I need them now, how much I will need them later. It has been said that when an individual dies, whole worlds die with them" (Williams 1991). If this is true, a generation of diaspora from the basin may be all that is needed for the bio-region's erasure from contemporary thought. Its stories and traditions lost; its relationship with the urbanity of the bio-region irrevocably altered. It is a zero-sum game of metropolis versus hinterland where universal denudation is the only feasible outcome.

Conclusions

TTW's affinity for The Refuge is the counterweight to the crushing weight of grief and despair wrought by her family's battles with cancer. It is her eternal paradox; it grounds her, permits her to grieve, grow, and shirk the burdens placed upon her. But it also represents the site of her family's exposure to the radiation that precipitated their cancerous plight. Because of this, she needs The Refuge; because of its blankness (at least in the eyes of the Atomic Energy Commission), she is exposed to the grief that portends this need.

Her cousin Lynne, who also battles cancer in *The Refuge*, says that "what I do know is that I resent so much being asked of the women and so little of the men" (Williams 1991). Recall William Carlos Williams's dyad of the bio-region's components: male cities and female landscapes. TTW's family is this unbalanced dyad in microcosm. The women of her family, and the landscape she loves, are brushed aside in the name of military weaponry and urban progress. Thirty-six birds reveal thirty-six vignettes of this plight in *The Refuge*. But, according to TTW:

"All is not lost. The birds have simply moved on [to Malheur National Wildlife Refuge in southeastern Oregon]. They give me the courage to do the same" (Williams 1991).

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The Planner as Fulcrum: Facilitative Fatalism, the Discourse of Development, and Third-Law Urbanism

Billy Fleming

We must be the doctor who sees the marks of death in a community that believes itself well and does not want to be told otherwise.

Aldo Leopold

I believe the design and planning disciplines...should play a more prominent position in our culture. To fulfill this promise, these programs need to pursue a more ecologically and socially responsible path.

Frederick Steiner

The gravitational center of planning has shifted dramatically, and some might say violently, towards the realm of participatory democracy in recent years. Referred to as direct democracy, e-democracy, or participatory planning, this fascination with populism in planning has become a recurring theme at national conference sessions, within graduate curricula, and in newly formed professional credentials like the National Charrette Institute. Bolstered by the advent and proliferation of high-speed internet, heightened scrutiny towards public officials, and the altruistic notion that a “government for the people, by the people” can take no other form, public input is now at the top of most project’s priorities (Duany 2009). In normative models of sustainable development, a fourth “E” – engagement – has become embedded as well. If the late 20th century belonged to the McHargian method, it appears that the early 21st is being reclaimed by participatory planners.

Some have argued this is a natural progression for the landscape planner, to fulfill their role as a facilitator; an unbiased, technocratic assistant beholden to the whims of populism (Duany 2009). Duany describes this role as “if a number of persons are not in some way angry at the planner, then no principles have been presented; the planner has been merely a secretary to the mob, and the plan will be weak to the point of being useless” (Duany, 2009).

Others have argued that a more proactive approach is actually outside the realm of any landscape planner’s responsibility. To impress one’s values or ideas upon a place is precisely why the profession is viewed so skeptically in so many circles (McHarg 2006, 86-87).

PART III: Crafting Critical Theories in Environmental Planning

This callow view of landscape planners as little more than glorified secretaries undermines the very notion of education, expertise, and ingenuity in producing more sustainable cities. Timidity by planners in the impression of values or principles precipitated affordable housing crises in Mount Laurel, the rejection of federal funding for High-Speed Rail in Florida and Ohio, and systematic undermining of regional governance institutions. In the face of unprecedented political intransigence, re-framing an issue becomes an exercise in self-delusion and futility. This awkward embrace of direct democracy has created a profession in constant search of abdication; of neutrality in lieu of ecological or societal values; of bureaucratic self-immolation rather than innovation. This is a profession trending towards irrelevance.

Compounding the issues wrought by a blind adherence to popular opinion is the hyper-critical tenor imbued in the planning academy's perspective on the role of elected officials. Almost inexorable from any policy analysis or proposal permeating the pages of the *Journal of the American Planning Association* or the *Journal of Planning Education and Research* are two reoccurring themes: (1) the policy or intervention proposed would require a politically impossible context for success, or (2) the policy analyzed would have been more if it were not for the hapless, unprincipled elected official who diluted its most virtuous components. But if these planners believe they would have acted differently – and produced a more favorable outcome – then why are so few interested in serving in similar capacities? Where are the agents of change willing to shed the comfort of their studio for pressures of public service?

Politicians will ultimately shape the built environment as much, if not more, than any landscape planner, yet so few within the profession are willing to leave their bureaucratic comforts or immutable tenure. This is understandable, but it implores: where is this generation's Gifford Pinchot or Ian McHarg? Have landscape planners accepted – begrudgingly or willingly – an ancillary role in shaping the world around them? Why has

the profession embraced producing plans that often collect more dust than support? Research and practice in this vein tends to fall into the “so what” classification, and answers the quintessential question of “who will notice if I am wrong or right” with a resounding “no one; and it's likely no one would care even if they did” (Flyvbjerg 361, 2002). If no one cares about the products of the profession, what is its purpose? Is it actually contributing to the society it purports to serve? Have we become facilitative fatalists?



The Planner's Triangle

This is not the role planners *should* play in the discourse that drives the vast majority of the profession's work: the public realm. The notion of facilitative fatalism implies a level of objectivity only possible in a vacuum of erudition of the ecological processes, socio-economic structures, and the interrelatedness of the systems impacted by growth. Locals may understand Spurr's "deep structure" of place better than a transplanted landscape planner, but those broad strokes are not sufficient in and of themselves. The devil is indeed in the details and the facilitative fatalist is not always prepared to interject themselves in the political turbulence.

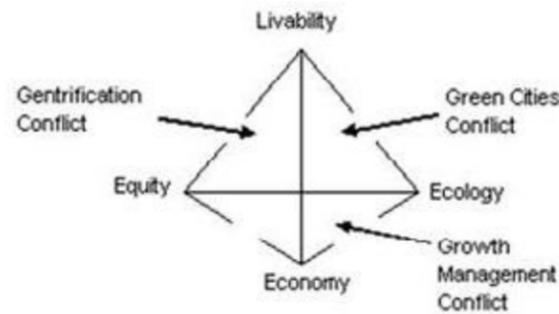
Landscape planners should instead consider themselves the fulcrum of the discourse on development. In this role, the landscape planner works to balance the competing forces of the "public", which are often more nefarious than the term implies. This creates a sliding scale of value for civic engagement that takes the planner from facilitator to political actor, and everywhere in-between. Before delving into what this imbues for the profession, it is useful to recount a pair of models that attempt to describe the *products* of planning rather than the *role* of planners in the design process.

Assuaging Tensions: The Planner's Triangle

Premised on the notion that planning as profession has become as fragmented as the metropolitan regions it engages with, the Planner's Triangle is a tool for assuaging the tensions that develop between the disparate points of economy, environment, and equity. It rejects the notion that planners operate within a singular component of sustainable development and are somehow beholden to only one of these interests. Instead, Campbell argues that planners actually operate as some point along the theoretical lines that connect these three points (Campbell 2-4, 1999).

"In this model, the planner must reconcile...three conflicting interests: to grow the economy, distribute this growth fairly, and in the process prevent ecosystem degradation" (Campbell 5, 1999).

Though the model is useful in identifying and providing tools for ameliorating the various tensions that plague planners, it appears overly acquiescent to the political pressures impacting the profession. To "prevent ecosystem degradation" says nothing of regenerative or restorative design, and places the landscape planner in the position of minimizing damage rather than remedying past misdeeds. "To grow the economy" also fails to address the notion of qualitative growth or the powers that often benefit from unfettered development progress; it is the short path to growth for growth's sake. Campbell's singular semblance of a forceful imperative resides in his statement that landscape planners should "distribute growth fairly". This, however, implies a simplicity that is not possible in states like Texas, where inclusionary zoning is outlawed and a landscape planner's ability to redistribute the benefits and burdens of development is limited. Tepidity tends to define the Planner's Triangle, placing it perilously close to the "so-what" classification of research elucidated by Flyvbjerg.



The Prism of Sustainable Development

Platitudinous Postulations: The Prism of Sustainable Development

A geometric and theoretical outgrowth of the Planner's Triangle, the Prism of Sustainable Development adds a fourth element – and third dimension – to the equation in the form of “livability” (Godschalk need this info). From this, a series of conflicts arise which are intended to influence the behavior or approach of landscape planners. Other than this fourth element, it is identical to Campbell's model in both structure and utility.

This prism epitomizes the “so-what” classification espoused and warned against by Flyvbjerg. What sort of value or meaning does this model hold to anyone outside a small, esoteric circle of like-minded academics? How does one define the term livability, and who has decided it deserves greater weight in the discourse on sustainable development than any other point? Though this concept saturated the pages of the *Journal of the American Planning Association*, it is difficult any further utility. Limitations for these two models – and the fact that their explanatory power is limited only to the evaluation of the process of planning – have left a considerable gap in the field regarding how planners should view their role in the design process. If landscape planners do not understand their role in this discourse of development, how can they possibly hope to shape the inevitable fruits of their labor? This question is best addressed by first recalling the third law of thermodynamics: for each reaction there is an equal and opposite reaction.

The Planner as Fulcrum The Unbalanced Discourse of Development

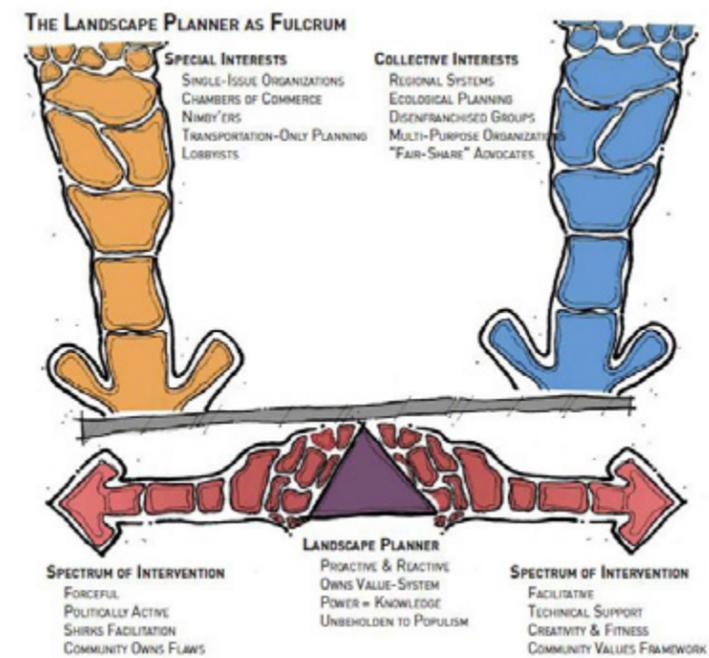
“The conflict between preservation and change is McHarg's most persistent inconsistency, and it highlights the contradictory position of landscape architecture as a profession. As agents of change, landscape architects are inevitably entangled in this conflict” (Spirn 2000, 99).

By shirking the role of facilitative fatalist in the discourse of development, a landscape planner can fill the normative chasm left in the wake of Campbell's and Godschalk's models. This approach is multi-dimensional, and is focused on the role that landscape planners should have in shaping the products of the public process. While acknowledging that the public is rather astute, it implores planners to consider the values they place on sustainable development in a more authoritative manner and to fill the framework of a place's deep structure with the creativity that defines the profession.

A fulcrum is inherently engaged in the delicate act of balance. As the fulcrum of this

discourse of development, planners must work to balance the competing interests (single or special versus collective or public), the power struggles the politically connected and the politically disenfranchised, and the interrelated systems that comprise sustainable development. This requires a constant and contextual shifting along the continuum that spans these disparate influences. As one force exerts undue influence or weight, it is the role of the landscape planner to push back, not to facilitate the undermining of their ecological principles to assuage an army of single-issue proponents thinly veiled as the public interest.

This implies a series of new – or at least long-forgotten – roles for the landscape planner ranging from the “activist planner” (Krumholz 2009, 168-171) to the much-maligned elected official. Though direct democracy is valuable, there are limits to populism, particularly in communities where the dominant sentiment is exclusionary or wrought by environmental unconscious (Buell 2001, 84-88). Here, the landscape planner cannot hope to assuage what may be bigoted or ill-conceived concerns by simply “re-framing” the issue. This timid approach produced pockmarks on the profession like *City of Cuyahoga Falls v. Buckeye Community Hope Foundation* (2003) and *Southern Burlington County NAACP v. Township of Mt. Laurel* (1983), both of which involved bigoted communities hell-bent on preserving a predominantly white, affluent population at any cost. Rather than re-framing an issue in the hope that a community will amend or come to terms with its flaws, the fulcrum planner pursues a more pre-emptive path, guided by a layering of their own ecological principles and the community's deep structure of place. In an era where money equals speech, it is an approach to better deal with inevitably unbalanced discourse of development.



The Landscape Planner as Fulcrum

Competing Interests for the Windfall of Future Development

Almost inexorably, new development creates “winners” and “losers” through shifting land values, the dispersal or concentration of pollution and poverty, and public investments. A noble, albeit naïve proposition for sorting out these effects came in the form of “ballot-box zoning” beginning in the 1970s (Callies et al 473, need year here). This misguided attempt at participatory planning assumed that all public opinion was of equal value, that elections or referendums were the purest form of democracy (despite all that is now known about how such campaigns are clandestinely financed), and that popular opinion

should be considered prophecy. This places the planner at the nexus of irrelevance as the ultimate facilitative fatalist.

However, the landscape planner acting as a fulcrum would instead see themselves and their prescription for intervention as a counterweight along a sliding scale equivalent to the forces driving the discourse of development. Their location along this continuum of influence is meant to level the field on which this dialogue occurs. By approaching the process from this perspective, the landscape planner can also preemptively shift the discourse in an effort to circumvent vehemently selfish, singularly-minded interests.

At their most polarized, landscape planners must work to counter the influence of special interests, overly zealous politicians and activists, and the proclivity to view development in economic-only terms. As the notion of ecosystem services transitions from obscurity to hegemony, this is particularly important for ecologists assigning monetary value to natural processes. These special interests can take the form of chambers of commerce, exclusionary zoning proponents in benign-sounding groups like "The Friends of Hyde Park", and regional planning organizations suffering from a spell of transportation-myopia. Elected officials, who are now more than ever subject to the whims of an insatiable public, comprise another weight that must be addressed by the landscape planner. In the center of this spectrum is a community and a process in balance, where resignation to facilitation-only is appropriate.

Residing at the opposing terminus is the planner in obsolescence. Unwilling to pursue the virtuous, but less palatable elements of the 21st century planning process, these individuals are concerned with three things: (1) completing their checklist, regardless of what that may entail; (2) abdicating their responsibility and abandoning their technical expertise under the guise of participatory planning; and (3) securing their position professionally and socially by limiting controversy at all costs (Krumholz 2009, 170-171). As Teddy Roosevelt mused, these are "those cold and timid souls who neither know victory nor defeat".

Antecedents A New Nationalism of Rebellion: Gifford Pinchot as the Fulcrum of Conservation

The earth, I repeat, belongs of right to all its people and not to a minority, insignificant in numbers but tremendous in wealth and power.

Gifford Pinchot (Egan 2009, 66).

If often requires the entire span of one's career to engage in the seemingly infinite set of situations that may test the planner's role as a fulcrum. In the case of Gifford Pinchot, he experienced the better part of this spectrum in a shade under a decade. At the turn of the century, Pinchot channeled the many streams of conservation into a singular confluence and a series of hyper-political endeavors: the birth of the United States Forest Service and the National Monument Act of 1906. Though the creation of Federal lands may seem benign, Pinchot's influence on President Roosevelt's decision to stand up to the strongest

special interests of his day – timber speculators and the corrupt Senators in the industry's pocket – was a transcendental moment for the nation (Egan 2009, 68). In this role, Pinchot not only sought to balance these single-minded actors, he aimed to outweigh their efforts by exponential magnitudes.

But Pinchot's political clout was fragile and ephemeral. If McHarg's test of creativity and fitness were applied, it could be inferred that Pinchot was too volatile and abrasive in his approach to remain in his position for long. As President Roosevelt left the nation's highest office, his successor's (Taft) lack of fortitude and poorly formed values undercut Pinchot's vision. The political pendulum that swung Pinchot into power was now swinging violently away from him. Early into the Taft Presidency, he found himself unemployed (Egan 2009, 70). What could have ended there, and served as a cautionary tale for the fulcrum planner, instead transformed into a galvanizing event. As Roosevelt delivered his "New Nationalism" speech, partially in an effort to undercut Taft, Pinchot donned a new cap in his push against the resource-depleting timber industry: nationalist rebel.

Pinchot's place along the spectrum of intervention actually polarized further upon his departure from public office, as he felt little obligation for tact as an ordinary citizen. Perhaps this is the lesson his life can offer, that values do not disappear. The scrutiny of public office may cause them to dim, but if they are real, they cannot be extinguished. Pinchot felt, as more planners probably should, that public service (not to be confused with the typical public position held by planners) is the duty of those best fit to serve. But perhaps these positions are only meant to be temporary, for they are perpetually limited in power and scope by the constituency they serve. As one's political capital is expended, which Pinchot's surely was, the fulcrum planner does not retreat from their values. Instead, they pursue new avenues for approaching them.

Tilting the Scales: McHargian Activism

"A fallacy is that planners plan for people. Actually this is not an assumption at all; it is a presumption. The planner who comes from out of town is prepared to solve problems is a menace" (McHarg 2006, 86).

Armed with the notion that knowledge is power, McHarg's writing on "the planner as catalyst" masks the activist planner with a veil of neutrality, or in this instance scientific data. From his perspective, the planner who best effects change is one that shelves their ego and instead helps a "community make its values explicit...identifies alternative solutions with attendant costs and benefits...and operates within a framework of biophysical culture" (McHarg 2006, 87). Inherent in this approach to planning is the belief that a singular best-fit model – which can be empirically proven – exists uniquely in each site or situation.

Two prongs comprise this notion. The first is creativity, in that the dynamics governing the universe may all trend towards entropy, but certain situations, even if only ephemerally, can transform biota into a higher level or order (McHarg 2006, 87). Fitness is the second

prong of this belief, in which, at least ecologically, the planet provides such an abundance of opportunity, it is merely up to the planner to properly evaluate and assign biophysical elements to their proper place (McHarg 2006, 87).

But McHarg does not call for a revolt from objectivity into pure activism. He writes that "I object to much of the current planning philosophy as it is emerging in both teaching and practice, for it assumes that the planner imposes values and exercises for the good of the people. I resist this. Given a set of data, the planning solutions will vary, not with respect to the set, but with respect to the value systems of the people who seek to solve the problem" (McHarg 2006, 88).

In essence, he is calling for planners to raise the floor of the public's understanding of the implications of their development patterns to a level that accounts for the tradeoffs between growth, public health, equity, and the myriad of other factors influenced by planning. It is the first scenario-based approach public input, and a progenitor of contemporary planners like Peter Calthorpe and John Fregonese.

This approach is valuable in a number of ways: it raises the level of understanding for the public that will ultimately steward a plan, thereby creating a more implementable document; it attempts to balance competing interests through the lens of science, which can temper any accusation of bias towards a planner; and it incorporates the notion of a values framework, which is purely contextual to the people and place it is crafted. However, this model fails to address the communities where intransigence is intractable. How can one raise the floor of a community when no discernible bottom exists?

Apoplectic Populism: Cuyahoga Falls, OH

"I believe in democracy and as a result suggest we need to engage in the messy political process" (Steiner 2011, xii).

In the winter of 1996, a non-profit dedicated to providing affordable housing by the name of Buckeye Community Hope Foundation began the approval process for a new development on land already zoned for multi-family apartments in Cuyahoga Falls, OH. As a condition of their building permit, the Foundation was required to screen the complex from its neighbors through a series of earthwork interventions, baffles, and opaque fencing (Callies et al 2008, 479). Despite these efforts to hide the new affordable units from their neighbors, public opposition to the project was immediate, intense, and irrevocable.

This opposition culminated in the passage of a referendum that repealed the City Council's permit to Buckeye that November. After this referendum was temporarily defused by the Ohio State Supreme Court, the United States Supreme Court interceded, granting the rabid public legal validity, and upending the effort to construct affordable housing in the small Ohio town. In repealing the permit, Justice O'Connor wrote that "a referendum cannot... be characterized as a delegation of power...The people retain the power to govern through

referendum with respect to any matter, legislative or administrative, within the realm of local affairs" (Callies 2008, 482). Concurring with the Court's opinion, Justice Scalia wrote:

"it would be absurd to think that all arbitrary and capricious government action violates substantive due process...freedom from delay in receiving a building permit is not among the fundamental liberties...There is nothing procedurally defective about conditioning the right to build low-income housing on the outcome of a popular referendum" (Callies Year, 483).

The court's affirmation of classism in this case calls into question the role that planners could have played in the interceding events between the development proposal and the subsequent ballot referendum. Cuyahoga Falls' residents, singularly focused on excluding those of modest means, received little attention from "The Planner as Catalyst" as described by McHarg. No public record exists of a city official or planner attempting to educate the residents of the value inherent in a more diverse population, nor the potential legal ramifications of both ballot-box zoning and exclusionary land use. At the very least, this approach may have yielded a begrudging acceptance of the need for affordable housing, even if hidden in some remote corner of the city's municipal boundaries. Though this case dealt exclusively with housing options, its pertinence to matters of toxic discourse is transitive.

But in situations like this, where the apoplectic populism of a citizenry clashes with the very notion of decency, the role of the landscape planner must be more prominent in the discourse of development. Where McHarg invoked scientific reason – which is of course a virtuous path upon which to proceed – the fulcrum planner injects values and circumvents community bias once the appeal to logic proves futile. Much as McHarg advocated a full disclosure of the implications for development choices, so too does the fulcrum planner disclose the underlying notion of community decisions like this one. After this full, unfettered disclosure, it is left to the community to embrace their flaws or attempt to address them.

Subversive Salience: The Mount Laurel Decision

"Papered over with studies, rationalized by hired experts, the ordinance at its core is true to nothing but Mount Laurel's determination to exclude the poor" (Callies 2008, 534).

In what has become known as the Mt. Laurel Doctrine, more than a decade of dissonance from municipalities in New Jersey (and what can only be described as muted acquiescence from the cities' planners), the State Supreme Court interceded to remedy their misdeeds. In the absence of a willing planner, the court assumed a role it should never be asked to take on: policy-making.

Throughout the 1970s and 1980s, the city of Mount Laurel defied legal imperatives to bear a "fair-share" of the affordable housing burden within the region. Though this case is

explicitly linked to issues of equity, the coming wave of regionalism (or megaregionalism) will bring similar “fair-share” principles to the full menu of planning issues: ecology, economy, infrastructure, social and physical mobility, and vulnerability to change. Planners will be asked to work with these issues as the nation’s demographic cleavages continue to sharpen, and the previous generation’s power is siphoned away and spread across a more diverse cross-section of the population.

As this notion of “fair-share” breaches the boundaries of affordability, it also coats the issues of ecology and economic development. Energy, transportation, and water resources are now dominating the discourse of development, and a landscape planner acting as a fulcrum will have to balance these issues at disparate and sometimes competing scales. Mount Laurel’s subversive and fractured jurisdictions – bereft of planners willing to meet the force of intransigence head-on – were forced to consider the regional implications of their actions by a court instead. This, however, hints at an approach to regionalism for the fulcrum planner in which the competing interests are inter-community rather than intra-community.

Conclusions

“Our model, after all, asked city planners to be what few public administrators are: activist, risk-taking in style, and redistributive in objective. As I got around to other cities, I began to perceive that most planners were not so inclined...and were actually quite cautious and conservative” (Krumholz 2008, 172).

If landscape planners accept McHarg’s notion of fitness and creativity in their designs, it seems of equal merit to apply similar principles to their role in the discourse of development. As Krumholz writes, not all – in fact very few – in the profession will choose to serve in a balancing, and sometime forceful manner. “As a profession, (landscape) planning has been too timid...Beyond the narrow powers and responsibilities mandated to planners, the scope and content of their work waits to be defined by the planners themselves” (Krumholz 2008, 174). Though it is difficult to imagine a landscape planner devoid of McHarg’s first prong (creativity), the notion of fitness implies who amongst the profession may be willing and able to plan in the role of fulcrum.

“The planner who is interested in affecting change must take their recommendations beyond planning commissions...However, these commissions rarely decide important issues; politicians, business leaders, and high-level bureaucrats do. If a planner’s work is to be used, he must take it beyond the commission and into the political arena” (Krumholz 2008, 175).

At the activist pole of the spectrum of intervention, the landscape planner is forced to pushback against the forces threatening to consume the discourse of development. More often than note, this should be manageable from the traditional role of landscape planners: city planning staff or consultants. But this will not always be the case. Situations will arise

that demand leadership on issues of ecology or equity that traditional elected officials have proved too politically impotent to address. Those landscape planners meeting McHarg’s notion of fitness – here in the mold of berated elected official – have an obligation to enter the political fray and advance not only the profession, but the social and ecological systems they purport to serve. This planet, at the nexus of resource and climactic disaster, has no other hope than for more planners and designers to carry the burden of such service.

In an era that seems to require “fill-in-the-blank” urbanism as a title for any normative model, two come to mind for the landscape planner as fulcrum: empathetic urbanism and third-law (as in thermodynamics) urbanism. Though it is not likely to be embraced by any semblance of the profession’s majority, a powerful plurality willing to take risks, meet subversive forces head-on, and occasionally wade into the quagmire of politics can find value in their role as a fulcrum. Intra- and inter-regional battles, particularly in areas dealing with the tensions of an ever-diversifying population, may not be addressable in the traditional box of participatory planning. Equal and opposite planning forces are needed to balance the single and special interests subverting the human ecology needed to sustain the planet.

“National leadership responded to past challenges and contributed to prosperity for many Americans. We now face the interrelated issues of urbanization, population growth, and climate change. Our nation rose to the occasion in 1808 and 1908. The time is indeed again right to plan our nation” (Steiner 2011, 167).

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Magic, Technology, and Landscape: A Primer on the Practice of Contemporary Topomancy

Travis Glenn

Landscape architect n. One whose profession is the decorative and functional alteration and planting of grounds, especially at or around a building site.

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The American Society of Landscape Architects believes that the practice of landscape architecture, for purposes of the licensing statute, should be defined as any service where landscape architectural education, training, experience and the application of mathematical, physical and social science principles are applied in consultation, evaluation, planning, design (including, but not limited to, the preparation and filing of plans, drawings, specifications and other contract documents) and administration of contracts relative to projects principally directed at the functional and aesthetic use and preservation of land.

Professional Licensure: Definition of Landscape Architectural Practice (2002)

Landscape as a medium for design at the intersection of urbanization, environment, and contemporary culture.

Harvard Graduate School of Design, Department of Landscape Architecture

Innovative design as informed by ecology, the history of ideas, techniques of construction, new media, and contemporary urbanism.

University of Pennsylvania, Department of Landscape Architecture

Topomancy: n. the contemporary practice of utilizing the contours and activities of the land to not only divine, but actively shape, the future.

Topomancer: n. a practitioner of topomancy, may or may not be professionally recognized by the LAAB.

John Hammond: We've made living biological attractions so astounding that they'll capture the imagination of the entire planet.

Broken down to its Greek roots, *topomancy* literally means divination through place (*topos* + *manteia*), its traditional meaning when used (rarely) in the English is divination through the contour or shape of the land. Perhaps however, this word can be brought out of its relative obscurity and given a rather more active interpretation. Taking the magic inherent in divination and giving it an animus in the landscape, transmuting it from a form of scrying to a form of shaping, asserts that the role of the topomancer is not merely to read the landscape, rather to form it, not just divine the future but create it. This takes us some ways from the "decorative and functional alteration and planting of grounds", but I argue it is a trip worth making, and presents an interesting angle from which to examine the contemporary practice of landscape architecture.

Before exploring the possible utility of topomancy as a synonym for landscape architecture, the building blocks of the idea must be in place, the most important of which is the meaning of the magic conjured by the use of "divination". In the Preface to *Center 16, Latitudes Architecture in the Americas*, Michael Benedikt defines architectural magic as something performed only by "fine and confident and deeply complex buildings", it is "those quiet miracles of place-making that make us want to stop, dwell a while and bask in the gift of Time that they are". Going a step further, he then argues that "what architects *really* want to do . . . is to make their buildings *magical*" (emphasis in original). Translated into a modern context, magic here is reinterpreted through "the knowledge that supernatural feats are really natural ones" involving technology, skill, and unusual experiences. For Benedikt, the purpose of this is to replace "monotony with marvel", achieving an "effect that is truly magical".

Benedikt, leaning a little on crowd sourced interpretations, then presents a list of "effects" employed by professional magicians, and links them to their architectural corollaries. The eight effects listed are: productions, vanishes, transformations, restorations, teleportations, escapes, levitations, penetrations, predictions. Not strictly intended as a definitive list of the tools available, this none the less serves as an entry point for positioning the use of 'magic' in the shaping of the built environment. Benedikt is primarily arguing the relevance of magic to *architectural* design, but, significantly, the first works he cites to support his argument are meaningful, magical even, because of their relationship to landscape, not just architecture (Frank Lloyd Wright's *Falling Water*, Mies van der Rohe's *Barcelona Pavilion*, Le Corbusier's *Villa Savoy* and the *Chapel at Ronchamp*). Additionally, from a more formal landscape perspective, much of the Italian Renaissance garden design (productions, vanishes, escapes), most of the works of Le Notre (vanishes, transformations, transportations), and even elements of the picturesque (restorations, penetrations), to stay within the classical canon, all utilize some these effects. If the argument can be accepted that the effects of the professional magician do have a relationship with the practice of designing the built environment, and their way of framing an understanding space could be a valuable one, the question still remains as to why this

is significant. Early in the Preface, Benedikt points to magic's ability to replace "monotony with marvel", at the end of it he expands on this idea further. Invoking the classical troika of architectural criteria, *firmitas*, *commoditas*, and, crucially, *venustas*, Benedikt reaches back to Vitruvius and the founding of architectural philosophy to test whether 'marvel' qualifies as an architectural goal. While much has been made of the first two ideas, the last has perhaps been the forgotten sibling. However, when *venustas* is reinterpreted as *delight* instead of *beauty* (a word whose pariah status in the architectural lexicon awaits its own liberator), Benedikt makes room for magic in design by linking delight to a "drawing-in of breath in wonder". If you have ever watched the performance of a magician at a child's birthday, the link between a drawing-in of breath, delight, and magic can seem fairly straightforward. Benedikt does concede that this skill, this "prestidigitation", is more familiar to modern audiences when wielded by today's movie-makers (a feeling I can certainly remember from the first time I saw a dinosaur walk across the screen in the original *Jurassic Park*), but also reaffirms that "magic remains in the hands of (*landscape*) architects to practice: productions, vanishes, transformations, restorations, teleportations, escapes, levitations, penetrations, and predictions, all." This almost reads like a list of required skills for today's practicing topomancer (a notable contrast to what the ASLA has listed as important components to the practice of landscape architecture).

Magic, then, has a place in the design of the built environment, specifically the built landscape, with an intended purpose of invoking awe and wonder. Returning something inherently human, yet also otherworldly, to the visitor through the temporal and spatial fixation of experience, experience which can be recalled as memory not only in the moment and but also in subsequent encounters with definitive elements of the place, seems a reasonable return for relaxing the iron vise of rationalism enforced by much of Modernism's credos. An important caveat though lies in the reliance on technology, "unknown or superior technology" in Benedikt's words, to achieve the effects of magic. Landscape architecture, and architecture in general, has a long history of incorporating (in some cases inventing) the avant garde of technology in order to expand the horizons of what can be made. These advances have allowed the practitioners of the design professions to recreate and manipulate components of experience (light, sound, texture, even time, for example) enhancing both the realization and representation of design. The trade offs inherent in the use of increasingly advanced technologies are not always apparent, however, and even the pursuit of an end as delightful as magic does not obscure the need to evaluate the means.

John Hammond: How can we stand in the light of discovery and not act?

In the last of British science fiction writer Arthur C. Clarke's Three Laws, he states (warns?) that: "Any sufficiently advanced technology is indistinguishable from magic". In many cases, the pleasure, the *magic*, of the use of technology in the landscape derives from technology performing in such a way as to obscure its own presence (Olmsted's design for the Fens in Boston has long since ceased to appear as a designed landscape to the casual visitor, most are surprised to learn it is in fact a designed landscape, and the market for geotextiles is basically predicated on the ability to disguise the technology

employed). While many of these projects may unintentionally, or eventually, result in the vanishing of the original technology, others actively employ a sophisticated understanding of technology specifically to disguise or reduce the impact of the technique in order to heighten the desired effect (Le Notre's manipulation of contours and parallel lines in order to force perspective, the 19th century English use of the ha-ha to "leap the fence" and "show that the whole of Nature is a garden", the Japanese tradition of bonsai and zen gardens). In some cases the technology required is not currently understood (or is so poorly) rendering the resulting landscapes magical even to the modern eye (shaping, and moving, the menhirs of Stonehenge or the moai of Easter Island).

Many of the functional components of technology, even the everyday varieties, are so complex (and complicated) that their understanding outstrips a layperson's physics, even when they are not intentionally designed into invisibility (for example see any Apple product made while Steve Jobs was at the helm, or the Waller Creek District design competition's capitalization on the ability of technology to invisibly "teleport" water out of harm's way). When the technology is not intended to be hidden or disguised, it can at times be celebrated with the resulting effect no less magical for its impact upon the visitor. The use of French military landmoving in the 16th century works of Philibert De l'Orme (particularly the Chateau de Chenonceau), or the extensive reliance on English knowledge of horticulture to spread the picturesque across the Empire, are earlier instances of this intentional display of technology. Today's exponentially growing body of knowledge amongst the ecological sciences is arguably the foundation for the current showcase technology, and is used overtly, covertly, frequently unintentionally, to generate magic in the built environment (putting aside the magic that can be worked through the rendering capacity of modern computers).

Each of these cases presents a situation where the technology utilized has been suitably advanced to instill a sense of wonder, of the magical, of *delight* in visitors (or users). When the industrially, or here the landscape, designed curtain remains intact and the small man can mask his voice, all visitors may see is the magic of the Emerald City and its attendant Wizard, rather than the complex machinery and process knowledge required to pull it all off (much less maintain it once built). This illusion through ignorance formed the basis of Arthur C. Clarke's science fiction writing, and the collective faith that these processes do work underpins the function of most of modern society (with the possibility of occasionally dire results, as portrayed in Clarke's masterpiece 2001: A Space Odyssey).

Ellie Sattler: You never had control! That's the illusion! I was overwhelmed by the power of this place. But I made a mistake, too. I didn't have enough respect for that power and it's out now.

However, in taking the metaphor of magic to an extreme end, there are some interesting cautionary tales for the profession. Many cultural allusions to magic come with warnings of the cost of excess. Whether in the literal understanding of magic in *The Sorcerer's Apprentice* (the original Goethe or Disney's *Fantasia*), supernatural in the fate of Anakin Skywalker (Darth Vader), the superhuman (Uncle Ben's famous phrase to Peter Parker

in *Spiderman*, "With great power comes great responsibility"), the fictional quest for technology (HAL 9000's eventual betrayal of the astronauts in *2001: A Space Odyssey* or SkyNet in *Terminator*) or the real world pursuit of magic in architecture ("For the commission to do a great building, I would have sold my soul like Faust", Albert Speer), the lesson taught is that the cost for pursuing technology for its sake alone is often too high.

In the case of "smart technologies", the potential for conflict was envisioned early in the 1940's, at the first light of the Information Age, by Isaac Asimov's Three Rules of Robotics. These were meant to ensure that technology never did get out of hand, outpacing the ability (duty) of its creators to make moral, not just technical, decisions (Ian MacDonald's *River of Gods* (2004), alternately, paints a rather nuanced vision of just what might happen when it does). Importantly, this is only one end of the spectrum, history abounds with illustrative tales of the just use of magic (technology) to achieve beneficial ends.

John Hammond: I don't think you're giving us our due credit. Our scientists have done things which nobody's ever done before...
Dr. Ian Malcolm: Yeah, but your scientists were so preoccupied with whether they could that they didn't stop to think if they should.

As a key technology at the landscape architect's disposal, the preeminence of ecological science within the profession of landscape architecture has arguably been on the rise since Frederick Law Olmsted first coined the term "landscape architect" and designed the green lungs of Boston and New York, but this has been especially true following the change in social valuation of environmental goods in the 1960's and Ian McHarg's seminal 1969 work, *Design with Nature*. The use of ecological technologies for site restoration, pollutant remediation, hypernature creation, or, perhaps most importantly, sustainability criteria, has led to a comparative explosion of the application of landscape architecture, and generated some truly magical places (MVVA's Teardrop Park in winter, the Lurie Garden by Gustafson Guthrie Nichol, or the Qinhuangdao Red Ribbon Park by Turenscape).

The capacity of the discipline to perform its magic across a variety of scales (witness the strength of awards in the annual ASLA Residential Design category versus the 2009 TED Talk by Magnus Larsson on the possibility of using bacteria to transform the leading edge of the Sahara into a sandstone buffer), means that the reach of the discipline is likely to only continue to expand. Much of this rise to cultural prominence (if some exaggeration is allowed) has been on the crest of the rising tide of ecological awareness amongst the general public. Articulated through environmental legislation (most clearly in the National Environmental Policy Act of 1970), social activism and a slight, but significant, shift in consumer habits, this social consciousness has created a market for the sustainable in all things produced (and increasingly services), including the built environment. It has also served as a foothold by which the profession has attempted to pull itself from the "labyrinths of postmodernism" (to use Benedikt's words again). In doing so, landscape architecture broadly has tended to embrace ecological science more deeply than as just an implement of construction, and in many ways allowed

Dimensions of Landscape Storytelling

Annie Palone

Even though place cannot be fully perceived or definitively theoretized, we may still hope to arrive at a workable conception that will help explain the importance of place to literary and cultural imagination, and the cultural work that place-responsive imaginative acts can perform.

Buell 2001, 64

The question of identity, of who I am, is resolved in the Aboriginal consciousness by knowing the full implications of where I am...

Lawlor 1991, 236

Place Matters: Environmental Readings

The landscapes that we inhabit and visit are imbued with a complex array of cultural, social, environmental, economic, and linguistic nuances. Whether we live distanced from the flux of seasonal and ecological patterns, or in tune with them, our understanding of who we are and how we live is intimately connected to the cultural constructions within which we dwell. Different societies understand and relate to landscapes differently, whether speaking with different languages or simply different lexicons; our environments shape and are shaped by our understandings of them. Culture simultaneously mediates and dictates context, provoking different readings from different readers. The concept of landscape literacy has several dimensions through which “landscape storytelling” can be understood.

The idea of “ecological literacy” describes a viewer’s ability to identify and make sense of ecological and environmental phenomena effecting the appearance, function, and quality of an ecosystem. It also hints at the idea that places and whole landscapes, like texts, can be read (and perhaps written). Over two thousand years ago, Western civilization already required a term for the “nature” remade by human activity. Cicero differentiated between untouched or first “nature” (wilderness) and “second nature,” that of the productive agricultural landscapes created “by the use of our hands” (*Cicero De Natura Deorum*, II 60). During the Italian Renaissance, the making of formal gardens for the elite required the expansion of Cicero’s framework to include “*terza natura*,” the formal, man-made, aesthetically-pleasing gardens that acted as proxies for the original “nature.” Half a world away, the enviro-cultural belief system of the Indigenous peoples of Australia played out in

a very different way, in a very different landscape. Seeing all creatures as sharing “in the consciousness of the primary creative force,”

“...compelled the Aborigines to respect and adore the earth as if it were a book imprinted with the mystery of the original creation. The goal of life was to preserve the earth... In its initial purity. The subjugation and domestication of plants and animals and all other manipulation and exploitation of the natural world... were antithetical to the sense of a common consciousness and origin... To exploit this integrated world was to do the same to oneself” (Lawlor 1991, 17).

So while Western civilization required names for not one or two “natures,” but three, at least one Indigenous people who identified deeply with their environment prioritized a different set of values, including an intimate relationship with the land and creatures amongst which they lived.

“Landscape is not ‘just like’ language, it is a language. And landscape architects use it” (Bennett 1999, 94). Not a simile, or even a metaphor, Bennett asserts that landscape is in fact a language. Whether we align with this assertion or not, we can certainly agree that landscape, language and metaphor are inextricably linked by a very wide range of human cultural traditions. The leading contemporary theorist on *The Language of Landscape*, Anne Whiston Spirn, assures her readers that “...all can learn to read landscape, to understand those readings, and to speak new wisdom into life in city, suburb, and countryside, to cultivate the power of landscape expression...” (Spirn 1998, 26). While her theory is powerfully and beautifully written, it overlooks or elides the cultural differences inherent between different peoples’ use and understanding not only of languages, but also of landscapes and environmental resources. We must assume that different “readers” will have different levels of literacy and of fluency. “There may be no more subjective experience than that of landscape. Like language, each person may read different types and levels of meaning into different landscapes” (Bennett 1999, 93). Spirn’s theory falls short by its neglect of these varying levels of landscape fluency.

Biologists, for instance, will read and understand the same landscape very differently than will ecologists, hydrologists, or geologists, even if these four groups share common languages, lexicons, and scientific backgrounds. Our cultural and educational experiences prepare and predispose us to read and understand words, texts, and stories differently. Imagine then, how varied the readings of a landscape might be when the viewers are from different countries, cultural backgrounds, educational experiences and religious denominations. Spirn proposes that landscape elements function grammatically like nouns, verbs, and adjectives, and in combinatory “sentences,” which express “pragmatics, poetics, and polemics.” Her theory attempts to bring a common focus to varied landscapes. The possibility that she raises, that landscapes may be analyzed metaphorically by using poetic devices, strikes me as incredibly useful and practical, but perhaps it falls a bit short by not embracing the stories about landscapes, and the nuanced telling of these tales

which are so much a part of cultural traditions around the globe. In an attempt to extend her theory to embrace a wider range of cultural traditions, I will provide examples from Indigenous cultures (in North America and Australia) that will help create a sense of how and why place matters to people and how this is achieved through their frameworks for environmental storytelling.

This essay surveys contributions to the fields of anthropology, ethnography, landscape architecture, history, geography and literature in an attempt to provide evidence for the ideas that firstly, there is more than one dimension to landscape storytelling, and secondly, that it is at our peril that we forget how to read, write, and understand the stories of the land upon which we live. Robert Lawlor, Martín Prechtel and Keith Basso bring a wide range of Indigenous landscape stories and storytelling traditions to life. Geographer Yi-Fu Tuan wrote the seminal *Space and Place* in 1977, which has influenced the way that we understand place-making in time and space today, and Anne Whiston Spirn is a scholar and landscape architect whose *Language of Landscape* has challenged her contemporaries to better understand the meanings, metaphors, and grammar of landscape architectural design. These theorists—along with many others—have deeply influenced my understanding of the making, reading, and meaning of landscape.

Dimension I: Landscapes in Literature

Without geographical context, or setting, literature would be rendered virtually meaningless. The landscapes in which literary events take place are fundamentally tied to and inherent in the languages and lexicons that describe them; the intersections between culture, language, and landscape form the context for all human stories. Robert Lawlor writes about Aborigine worldview from the context of first-person, first-contact anthropological accounts, and information and anecdotes from contemporary Australian Aborigines: “There is no Aboriginal story that does not make reference to places, and land formations are never discussed without reference to their mythological stories” (Lawlor 1991, 237). While contemporary literature may lack the spatial specificity of Aboriginal storytelling, setting is nonetheless fundamental to character and plot development, and ultimately, to believability. Placeless stories lack power and meaning, and leave readers little space in which to imagine themselves; even stories that purport to be placeless are embroidered with landscape details that provide a hidden context and authenticity.

For the Western Apache of Cibecue—on the Fort Apache Indian Reservation in Arizona—whose storytelling traditions anthropological linguist Keith Basso has studied, “The location of an event is an integral aspect of the event itself, and identifying the event’s location is therefore essential to properly depicting— and effectively picturing— the event’s occurrence. For these reasons, placeless stories simply do not get told” (Basso 1996, 87). I believe the same can be said of any story, for placeless stories are ineffective and ineffectual. Place-centric stories in the Western tradition are to be found in poetry as well as in prose. The major project of the Romantic poets was to highlight the power of nature to inspire, so their works are rife with examples of beautifully rendered landscapes. Coleridge’s *Kubla*

Khan (1816) describes a chasm in the earth set within an imagined garden, a place out of an opium-induced dream, apparently. It is the specificity of the description of this place that makes it so evocatively powerful. It is exotic, distant, menacing, and compelling in Coleridge’s metered language, and it is the rich landscape imagery that renders the poem meaningful even two hundred years after its publication.

*So twice five miles of fertile ground
With walls and towers were girdled round:
And there were gardens bright with sinuous rills,
Where blossomed many an incense-bearing tree;
And here were forests ancient as the hills,
Enfolding sunny spots of greenery... [l. 6-11]
Five miles meandering with a mazy motion
Through wood and dale the sacred river ran,
Then reached the caverns measureless to man,
And sank in tumult to a lifeless ocean... [l. 25-28]*

The poem is as beautiful as the landscape through which it runs. Its imagery evokes the power of nature to inspire creation, as it describes the exotically distant garden through which a sacred river flows. Another example of landscape in literature comes from Yi-Fu Tuan’s *Space and Place*; he quotes a twentieth century prose novel by Christopher Isherwood, “They are sitting on the grass under one of the newly planted trees. Their tree is even smaller than the others. It has barely a dozen leaves on it. To sit under it at all seems ridiculous...” He describes the power of place making offered by the tree’s paltry shade:

“Trees are planted on campus to give it more shade and to make it look greener, more pleasant. They are part of a deliberate design to create place. Having only a few leaves, the trees do not yet make much of an aesthetic impact. Already, however, they can provide a stage for warm human encounters; each sapling is a potential place for intimacy...” (Tuan 1977, 141).

For landscape architects, designers and geographers, this story is a fundamental affirmation of our power to make meaningful places— while simultaneously undermining our importance, since the non-shade of any leafless sapling can become a place, if enriched by a meaningful encounter. Another interesting aspect of place-making is raised by Basso,

...place-names, or toponyms, comprise a distinct semantic domain in the lexicons of all known languages, and... the formal properties of place-name systems, together with their spatial correlates and etymological histories, have long been objects of anthropological inquiry. But the common activity of placenaming—the actual use of toponyms in concrete instances of everyday speech—has attracted little attention from linguists or ethnographers. Less often still has placenaming been investigated as a universal means— and, it could well turn out, a universally primary means— for appropriating physical environments (Basso 1996, 76).

This statement raises the question of how the very naming of the elements of a landscape gives them cultural relevance and grounding. It raises too the importance of lexicon— in the Inuit languages of the Arctic Circle there are a dozen words that describe the qualities of ice and snow, and in Dutch, the number of terms that describe man-made landscapes points to that nation’s cultural history of land-transformation. Place-making, and its relationship to landscape lexicon (including toponyms), is a subject beyond the scope of this paper. Proving that literature relies upon descriptions of landscapes in order to become meaningful is not my purpose here; instead, it is the second, less understood, dimension of landscape language upon which the remainder of this essay will focus.

Dimension II: Landscapes as Literature Reading and Writing Landscapes

In *The Language of Landscape* Anne Spirn divides her analysis of aspects of landscape language into three parts: “Nature’s Infinite Book” (language, reading, and literature), “Landscape Composition” (nouns and verbs, stories and context, landscape grammar), and “Using the Language of Landscape: Pragmatics, Poetics, and Polemics” (1998, vii-viii).

“The power to read, tell, and design landscape is one of the greatest human talents; it enabled our ancestors to spread from warm savannas to cool, shady forests and even to cold, open tundra. But, now, the ability to transform landscape beyond the capacity to comprehend it threatens human existence. Having altered virtually every spot on the planet, humans have triggered perturbations that threaten to change it irrevocably and dangerously... Some speak of the end of nature, but it is nature as we know it that is threatened, not the planet itself, not the universe” (Spirn 1998, 25).

The dominant culture of industrialization, globalization, and corporatization has remade landscapes across the earth with consequences beyond our capacity for imagination. The removal of Western culture from the enviro-spiritual imperatives of Indigenous peoples and our own ancestors has left us in an untenable situation. If we hope to offer more than palliative care for a dying civilization, landscape architects, politicians, policy-makers, and citizens must step up to the challenge of dealing with the residual problems that our heedless use of environmental resources has wrought. We must remember and revalue the imperative of sustainability or we will have no one but ourselves to blame. Corroborating Spirn’s statement we see that, [If] one thinks of place sense as containing within it many different patches besides just home, including what comes to us via the world of images as well as through live transactions, plus the changes in us relative to place and the awareness of landscape as timescape, then we are on the way to arriving at a conception more fit for local, regional, and global citizenship. At the turn of the twenty-first century, “place” becomes truly meaningful only when “place” and “planet” are understood as interdependent (Buell 2001, 77).

Inserting storytelling back into the landscape may prove one way to affect the tectonic shift in worldview that this will require. Making landscapes’ meaning legible may be our

most powerful tool in affecting change of this magnitude. What we understand or believe about our environment has very real impacts on our use of resources and our valuation of functional ecological systems and “ecosystem services.” We have allowed the dominant culture to overwhelm a perhaps innate human valuation of “nature,” in favor of greedy resource extraction and the primacy of the market economy.

“Conventional ecological studies proceed on the tacit premise that what people think about the environment –how they perceive it, how they conceptualize it, or, to borrow a phrase from the ethnomethodologists, how they “actively construct” it– is basically irrelevant to an understanding of man-land relationships. To accept this premise is to conclude that cultural meanings are similarly irrelevant and that the layers of significance with which human beings blanket the environment have little bearing on how they lead their lives. But the premise is not correct, for American Indians or anyone else, and to suppose otherwise would be a serious mistake” (Basso 1996, 67).

Cultures rely on both landscape and language in order to make meaning: “American Indians, like groups of people everywhere, maintain a complex array of symbolic relationships with their physical surroundings and... these relationships, which may have little to do with the business of making a living, play a fundamental role in shaping other forms of social activity” (Basso 1996, 66). This neglect may be attributable to one complication of writing about landscapes and the metaphor of “reading” them. Language is implicitly, inextricably tied to both subject and object– the written words that describe landscape language present a considerable semantic riddle. It is, nonetheless, worthwhile to try to deconstruct it in order to better understand where we have come from and where we are going.

“Aboriginal stories, be they about life or the Dreamtime, focus on place descriptions and spatial directions rather than time designations such as *when*, *before*, or *after*. For example, in the course of a journey of a few miles along an approximate 180-degree arc the names of 38 separate spatial directions are marked as sites in a ritual walk at the base of Uluru in central Australia” (Lawlor 1991, 239).

Markings on the rock, its changing colors and vegetative patterns, and the presence or absence of spring water are cues to the stories about ancestral events that took place here, only some of which may be shared with outsiders, *Minga*, others of which are known only to initiates. On the *Mutitjulu* walk, geologic and landscape features are associated with the creation activities of a group of ancestral beings, the most important of whom are two snakes, Kuniya and Liru, whose ritual battle is recorded in the rocks through which the path passes.

A walk through a very different cultural landscape, in the urban context of Brooklyn’s Prospect Park, offers a sense of the density of place-meaning in a designed landscape, rather than a mythologized one– though some might argue that Olmsted’s parks also function pseudo-mythologically, particularly for landscape architects–

"This entire sequence– the spring, the pond, the glen, the ravine– occupies a tiny space; the straight-line distance that I have walked is barely a thousand feet from beginning to end. Yet so skillfully did Olmsted and Vaux lay out the path, engage the sense, mask distances, and direct attention from one event to another, that I have entirely forgotten that just over the brow of the hills is Long Meadow and beyond it Flatbush Avenue" (Rybczynski 1999, 412).

The sequencing of landscape experiences in this urban park, juxtaposed as they are along a relatively short transect, shows the power of variation to extend temporal and experiential space, and to give a small space more meaning as a representation of the larger landscape; the same is true of the Australian walks, which pass through the landscape of a mythological creation story.

Landscape Metaphor

Landscape metaphor, part and parcel of what Basso calls "the ethnography of lived topographies" (1996, 111), is inherent to virtually all human cultural matrices, and for societies which create literature, it is even more inextricably a part of cultural identity. Spirn also describes this idea: "Landscape metaphors modify perceptions, prompt ideas and actions, molding landscape, in turn" (Spirn 1998, 24). But this description seems more tailored to the analysis of built landscapes, than to the way that cultures rely on landscape metaphors to construct their most fundamental identities. Describing the propensity for Indigenous people to use not only different languages, but also vastly different social constructions, Paul Radin wrote in 1916 that, "Ideas about the habitat are frequently set forth in elaborate similes and metaphors which equate disparate objects in a fashion that at first seems quite unfathomable..." (137; in Basso 1996, 68). These underlying cultural constructions, which are inseparable from the languages that describe them, and the landscapes that fostered their development, are very difficult to get at, but it is of the utmost importance that we do so. Recreating a global landscape language that values the protection of environmental resources as imperative to our survival will empower the designers of landscapes in the twenty-first century.

Landscape metaphor is active in our relationships to places. In the traditional cultural system of the Indigenous Australians, "places and their meanings are continually woven into the fabric of social life, anchoring it to features of the landscape and blanketing it with layers of significance" (Basso 1996, 109-110). This social life calls for the enactment of relationship to places through:

"the agencies of myth, prayer, music, dance, art, architecture, and in many communities, recurrent forms of religious and political ritual... Deliberately and otherwise, people are forever presenting each other with culturally mediated images of where and how they dwell" (Ibid.).

Where these images, cultural and geographic, are intentionally empowered by traditional stories, peoples' sense of place, sense of themselves, and sense of stewardship of the land are magnified.

Space and Place: Creating, Remembering, and Reading Landscape Stories

Martín Prechtel is a "half-blood Native American," who grew up on a Pueblo Indian Reservation in New Mexico, and is traditionally trained as a Maya storyteller. He writes of his experiences in Guatemala through the lens of the "Big" stories of the *Tz'utujil* Maya amongst whom he lived in the 1970s. The story that follows is from his first return visit to Guatemala, after being forced to flee the country in 1980 as a political refugee from the Guatemalan Civil War. It illuminates the nexus of landscape and storytelling for the traditional *Tz'utujil* Maya of Santiago Atitlán, in the Highlands of Guatemala.

When we entered the first profusion of volcanic hills and forests, the driver stopped the truck while one of the young fellows in the back... inquired of me if it were true that I knew the story of The Toe Bone and the Tooth and if so could I tell it to them from here on out as we drove. The landscape we were driving through was the story and we had to proceed mighty gradually, stopping very often, to allow me to tell the whole tale, pointing out all the places, rocks, rivers, trees, volcanoes, animals and so on as we passed them. Certain mountains that we circumnavigated were actually part of a different story to which they forced me to jump as well, only to return back to The Toe Bone and the Tooth after rounding the bend back into our original story... I found myself asking them at intervals in the telling of the tale, "You remember, don't you?" None of them did.

At one point, just before getting to the southeastern corner of the Mother Waters of Lake Atitlan, I got lost as well, the story didn't match the land and I recognized nothing. I stopped speaking.

For these boys this road had always been this way, for me it was out of the story, an unknown thing. Amazed at my confusion the boys explained that an earthquake, several floods and an intense forest fire had rerouted the river, reorganized and tumbled down two mountains. The road now slowly edged around a slope of yellow dust and fast-growing gravilea trees, swinging 200 yards west to what had been, in my time, pure air above a deep ravine.

Another of the boys yelled to us, "This must've been where the Mountain God threw down the hills and tried to burn the Raggedy Boy. The mountain was angry for all our tearing up the ground."

In the interim of my absence all these young men, either through their families, as war orphans, or by themselves, had been coerced by political circumstances into becoming protestant Christians, who expressly prohibited the old stories and any proximity with people who might know them. As a result none of the young people truly knew their own people's

"Big" stories such as The Toe Bone and the Tooth, but all had heard about them on the sly. Though they didn't know the tales, here in one telling they were already inside the story, remembering what had recently happened as part of what had always happened for thousands of years for the land and for their people...

Prechtel 2002, xii-xiii

The excerpt from a much longer story provides a rich description of the relationship between landscape and storytelling amongst the *Tz'utujil*. The making and remaking of stories incorporates the changes in the landscape that have occurred over time and reflects the cultural dynamism required of a people who live in a dynamic environment, shaped by volcanoes, mudslides, floods, and fire. Their environmental storytelling thus provides not only a cultural education, but also a fluency in the language of natural processes, and a metaphoric basis for translating environmental change into a mythological understanding and writing of cultural history. Even in this excerpt, the power of Western culture—represented here by its proxy, Protestant Christianity—to eradicate cultural understanding of landscape, is implicit. It is, in part, this abandoning and eradicating of traditional/Indigenous landscape storytelling tradition that has led us to the ecological tipping point at which we find ourselves today.

Half a world away, "place is inseparable from the original activities that gave it form," for Australian Aborigines, where storytelling is supplemented by song, dance, and ritual:

"The mythic formative events of... place are sung and danced at night by the campfire. Stories about the acts that resulted in the formation of the hills, rocks, water holes, and local animal species are reborn in the swaying, earth-stomping movements of the hunter-gatherers... Reliving those activities in performance makes place inseparable from meaning. All experience of place and country is culturalized... The landscape is thus the externalization of cultural memory as well as the memory of tribal and mythic forbears" (Lawlor 1991, 236).

In the West, we have not only forgotten our "tribal and mythic forbears," for the most part, we have eradicated them in favor of consumerism. As in Guatemala, we have done so at our own peril. By forgetting our landscape fluency, becoming illiterate in the world of landscape language, we have forgotten how to read the landscapes in which we dwell, and as a result, have cannibalized them to the verge of extinction. The living creatures with which we share our surroundings have ceased to have any deep cultural meaning, freeing us to shrug off their eradication and extinction. How will we bring their stories, and the stories of the landscapes on which we depend, back into the stories that we tell, the landscapes that we make, back into the realm of landscape storytelling?

Conclusion

Ecological restoration, revitalization, and reclamation depend on those versed in the tradition of landscape storytelling to rehabilitate the meaning and value of landscape narratives. There is no corner of earth left untouched by human industry and its repercussions.

"For the Aborigines, the loss of wilderness is not only the loss of identity, but also the loss of contact with the eternal truth and meaning of existence. Spirituality depends on intensity of life in the land, and when it declines so too does the spiritual potential and depth of humanity" (Lawlor 1991, 241).

For the rest of the world, the spaces where ancient redwoods once reached to the sky, the depopulated seas and wetlands once teeming with wildlife and sea grasses dancing in windy coves, rolling mountains stripped of vegetation and blasted to pieces in the search for coal, the rainforests slashed and burned for a year or two of agriculture, the beaches and seabirds tarred and scarred by industrial greed and spilled oil, the diminution of biodiversity, bear witness to the dominant story we have been telling. The outdated cultural maxim to control and subvert "nature" is affecting our environmental wellbeing and creating a crisis situation. Is this to be our legacy for the generations that follow? Spirn and others hold out hope; they lead us to an opportunity for a better outcome.

"To recover and renew the language of landscape is to discover and imagine new metaphors, to tell new stories, and to create new landscapes... Reading and speaking it fluently is a way to recognize the dialogues ongoing in a place, to appreciate other speakers' stories, to distinguish enduring dialogues from ephemeral ones, and to join the conversation" (Spirn 1998, 25).

If we are to "join the conversation," what is it that we have to say? "[Environmental] Wellbeing is as much a spiritual value as it is an economic necessity" (Kumar 2011, 1), and we will need both in order to survive. Returning to a pre-contact state of untouched wilderness is impossible as the human population continues to grow, requiring the use of additional resources. We have done a great deal of damage through several centuries of heedless misuse and abuse. However, bringing the language of landscape back into broader cultural conversations promises a powerful way to begin healing. Landscape architects can lead the way forward into a new era of landscape fluency by inspiring a new genre of landscape storytelling. The onus is on us to create leadership towards a resurgence of respectful and responsible coexistence with the environment. "Crisis is an opportunity for transformation" (Kumar 2011, 1). The twenty-first century will bear witness to our success or failure to seize this opportunity.

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Planning a New Land Ethic: An Argument for the Return of Productivity to the Urban Landscape

John Rigdon

The history of landscape planning in the United States reveals a pattern of increasing distance between the idea of open space and agriculture. Landscape planning has effectively divorced urban open space and productive agricultural land. This process has created unsustainable cities and a total disconnect between the average American and his/her food source. This is problematic from both a physical planning and an ethical standpoint. In order to reverse this process, there needs to be a change in the landscape planning professions that promotes a new land ethic. Planners need to look to the past in order to have a better future.

Development of the Profession and the Divide

Early landscape planning in the United States was primarily focused on enhancing the intrinsic values of nature. Nature was manicured and shaped in order to provide urban access to the pastoral landscape. Access was promoted as a necessary source of health and an escape from urban life. (Ndubisi 1997) Agricultural uses were incompatible with urban open space. The inclusion of a working landscape would take away from the beauty and needed escape that parks provided.

Landscape planning next underwent a period of growth and professional refinement. The focus was on planning for preservation, recreation, management of river ecology, as well as the traditional element of natural scenery. This is exemplified by the Plan for the Fens and Riverway in Boston by Frederick Law Olmsted and Charles Eliot. (Ndubisi 1997) This project was part of a broader call for planning with, rather than against, nature. The goal was to mitigate the impacts of humans on nature. Unfortunately, agriculture was viewed as a human impact. The importance of these early distinctions went on to shape the development of a landscape planning paradigm.

Landscape planning gradually developed a systematic approach to understanding and shaping the land. This approach began with Patrick Geddes and would continue to develop through the work of Ian McHarg. (Ndubisi 1997) The focus shifted to a replicable process for addressing the landscape that was grounded in an understanding of natural systems. Eventually, this approach led to a paradigm for the practice of landscape planning. Ndubisi argues that this paradigm developed around 3 main ideas: (1) The explicit linkage between ecology and planning, (2) the articulation of ethical principles governing human relationships to the land, and (3) the refinement of techniques for applying ecological ideas in landscape

planning efforts. (Ndubisi 1997, 17) The work of Geddes, and especially Ian McHarg, made the case for a merger between ecology and landscape planning. The paradigm evolved to treat the land as a set of mutually exclusive uses that must be properly located. One example is Eugene Odum's ecosystem compartment model. He compartmentalized land uses into production, protection, compromise, and biologically non-vital uses. (Ndubisi 1997) The new paradigm reinforced a belief in separating land uses based on ecological compatibility. This further divorced open space from food production.

In the later part of the 20th century, the incorporation of human culture became part of the paradigm. Social values were incorporated into landscape planning in order to better address local customs and beliefs. (Ndubisi 1997) This concept was also expanded to the planning of landscapes as political or cultural metaphors. Some practitioners have even argued that landscape planning has become too focused on ecological services to the point of ignoring artistry and cultural message. (Corner 1999) While a focus on environmental and ecological services may hinder artistry, planning landscapes as works of art divorces open space from food production.

The Conflict between Working Land and Open Space

The historical trajectory of landscape planning has led to a central conflict: planners have advanced a notion that food production and open space are mutually exclusive. These two uses are viewed as incompatible, particularly in urban environments. Agriculture has been relegated to specified areas in rural locations and open space has been treated as experiential rather than productive. Urban open spaces are used to promote the experience of nature as a health benefit, rather than promoting the tangible benefits of local food production. This has turned parks into museums that exist to emulate a vision of the pastoral American countryside. At the same time, food production is so far removed from urban settings that most Americans will never experience it firsthand.

The distance between working land and nature has been reinforced by the application of policies and theories in the planning field. Two of the most important policy obstacles are Euclidean zoning and nuisance law. Planning has attempted to respond through new theories; however, in practice, these theories have not effectively addressed the dominant ideology that food production and open space are incompatible.

Planners have historically used regulatory tools to prevent collocation of "incompatible uses." Euclidean zoning has left an indelible mark on the American Landscape. Zoning has regulated urban open space into parks, while rural open space is frequently farmland. (Godschalk 2004) Zoning agriculture away from our cities has led to unsustainable farming and food transport practices that are heavily dependent on fossil fuels. Zoning has also led to a tremendous physical and spiritual distance between the population and food production; the supermarket is the closest that many people come. Unfortunately, Euclidean zoning is still the dominant form of regulation in most locations in the United States. This divorce of man from nature has dramatically changed relationships to the land.

Additionally, nuisance law has played a part in separating agriculture from urban land use. Nuisance law was intended to prevent land uses that harm the ability of others to enjoy full use of their property. In many states, this has been interpreted to prevent farming in areas that are not specifically zoned as agricultural. (Callies 2008) Nuisance law has not been updated to meet current planning needs. Some cities have found ways to avoid violating nuisance law, but it still represents a major obstacle separating agriculture from urban open space.

In response to the shortcomings of Euclidean zoning, planners have come up with alternative theories to guide development. Land use regulations are one such category. Forward-thinking practitioners have focused on higher density and mixed-uses (Fulton 2001), clustered development (Arendt 1994), and urban containment policies such as the Urban Growth Boundary. (Jabareen 2006) These tools attempt to create a new spatial order and mitigate the ills of traditional planning. The theories offer a step in a positive direction for overall growth. (Godschalk 2004) However, they all share a common failure to address the underlying separation between the urban spaces they create and the food production these spaces depend on.

Ecosystem services are another theoretical approach to improved land use planning. The concept was first introduced in the Millennium Ecosystem Assessment (MEA) by the United Nations. The original MEA divides services into four categories: provisioning, regulating, supporting, and cultural. (Nations 2005) Provisioning refers to the production of food and water; regulating refers to the control of climate and disease; supporting refers to nutrient cycles and crop pollination; and cultural refers to spiritual and recreational benefits. These types of services are all fundamental to creating sustainable open space. However, it seems that landscape planners have focused on regulating, supporting, and cultural services exclusively. There is no consideration given to provisioning food. This selective use of ecosystem services has contributed to the separation of food production from our urban open spaces.

This section outlined a few of the ways in which landscape planners have categorized food production out of urban open spaces. The most basic tools of the planning profession expressly permit the coexistence of these uses. Additionally, even theories of the most progressive planners displays lack of synergy between productive land and the concept of ecosystem services. Most practitioners understand open space and working land to be two options when both should be the objective. Together, these professional approaches have the effect of regulating nature and agriculture away from where people live. This has profoundly altered the American land ethic.

Establishing a New Land Ethic

Aldo Leopold is credited with coining the term "land ethic" in his Sand County Almanac. (Leopold 1949) In this book, he argues for an expansion of human land ethics to include

the biotic community. All actors in an ecosystem were important to his ethic, as they were all critical to preserving a balanced system. This is summarized best by Leopold himself:

“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.” (Leopold 1949)

Leopold also expresses deep concerns for an individual who does not know where the food he eats came from, where the materials that built his house came from, and where his energy for heating came from. (Leopold 1949) He foresaw a “spiritual danger” in this high level of detachment from the land. He also believed that when people lost connections to the land, they lost respect for the land. Thus, Leopold argues for “thinking like a mountain”. Such a view represents an understanding of the land as the product of all of the forces that have shaped it in the past. (Leopold 1949) Reestablishing a connection between man and nature is the first step in creating a new land ethic.

Modern landscape planning has moved away from the Leopoldian land ethic. Practitioners have allowed working land and nature to become completely divorced. There is a widely held belief that farms are a land use designation that is incompatible with the places people live. Additionally, urban open space is treated as a chance to make a metaphorical or social statement. These practices are deeply ingrained; thus, drastic measures must be taken by landscape planners in order to repair the broken land ethic guiding our practices.

In order to address the complexities of modern detachment from the land, we must include Green Urbanism as a framework for reconnecting America to the land and reintroducing a land ethic. Green Urbanism is the practice of creating urban communities that reflect the best elements of the urban setting and the environment. This model creates cities that are ecological in design and function, as well as ecological in their limitations. (Beatley 2000) It is a broad planning strategy for cities that:

- (1) Strives to live within its ecological limits
- (2) Is designed to function in ways analogous to nature
- (3) Strives to achieve a circular rather than a linear metabolism
- (4) Strives toward local and regional self-sufficiency
- (5) Facilitates more sustainable lifestyles
- (6) Emphasizes a high quality of neighborhood and community life (Beatley 2000, 6-8)

Two of these goals are critical to establishing a new land ethic. The first is design that is analogous to nature (goal 2). This concept has been labeled biophilia. This theory asserts that most human decision-making, emotional, and problem-solving skills evolved through interaction with nature. Due to these strong and deeply embedded connections, human well-being remains very closely tied to nature. Known biophilic benefits include: better health outcomes, better community cohesion, and better cognitive performance. (Kellert, Heerwagen and Mador 2005) These benefits will reinforce a strong connection to nature if they are understood and promoted.

Second, local and regional self-sufficiency is critical to recreating a land ethic. Beatley advocates for local urban agriculture on both a city-wide and local community scale. The goal is to connect cities with their food source as much as it is to promote community food security. This improves the stability and integrity of the land. (Beatley 2000) Additionally, Leopold would argue that connection to food production would alleviate some of the spiritual danger that current urban areas face. (Leopold 1949)

Bringing Leopold and Green Urbanism together can create a new land ethic to guide landscape planning. Leopold importantly promotes the value of considering the entire biotic community in decisions. This should remain a guiding force in planning. He also points out the spiritual danger of being removed from the land. This is the very reason that current unsustainable cities exist. Leopold advocated for a one-to-one relationship of man and nature. This is no longer possible in a modern context. Green Urbanism offers a solution to this problem. This model brings productive agriculture land to the people in urban settings. Urban residents cannot each have their own piece of land to work. However, seeing where food is produced and experiencing the biophilic benefits of that proximity will lead to new value being placed on the land.

How can this ethic be applied?

Planning will play a central role in developing and spreading the new ethic. Planners must coordinate regionally to make growth management decisions. Open space must be designated for the region and set aside, barring any development. Growth management and urban containment tools can be used by planners to promote this vision. Regional coordination has already proven highly effective at implementing urban containment policies in Portland, Oregon. (Seltzer 2009) This model could be used as a template for open space designation elsewhere in the US.

Most importantly, the open space must be food-producing and sustainable. Planners must bring food production back into the definition of ecosystem services. Landscape planners must move away from spaces that are planned and designed to promote the intrinsic beauty of nature alone. Beauty will be found in the benefits of productivity to the health and wealth of the regional community. Green Urbanism offers a great template for balancing the biophilic benefits with productive benefits. This should be a model for treatment of open spaces within a community. All spaces should designate areas for food production as well as space for other uses.

Green Urbanism offers an alternative to the direct involvement of man in nature in presented Leopold’s new ethic. (Leopold 1949) Substantively, this will mean that planning open space must be conducted at a neighborhood scale. This can be achieved through creating community gardens that are run by neighborhood associations or local community groups. City or regional governments can give the land to these community groups to maintain and manage. The community will be compensated through the produce from their agriculture.

Additionally, the city or regional authority can provide technical expertise and necessary equipment. This model has been used to great success over the last 25 years in Cuba. (Sinan 2011)

Overall, creating policies that will promote a new land ethic will require a combination of existing growth management strategies and neighborhood planning. This combination can bring agriculture back to urban environments and repair the broken land ethic of urban Americans.

Conclusions

History shows us that landscape planning has played a pivotal role in the destruction of the American land ethic. Advances in theory and practice have led to a belief that open space and working land are mutually exclusive. This dichotomy has fundamentally undermined our land ethic. However, all is not lost. Using Aldo Leopold's original framework, Green Urbanism can be introduced to fill the gaps in applying Leopold's land ethic to modern America. Planners need to implement policies that contain growth and bring agriculture into urban open space. The end result will be the reconnection of Americans to the land and the establishment of a new land ethic.

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Understanding Sustainable Design Through Ecological Humanism and Cultural Ecosystem Services

Mark Teschauer

In this paper, I will argue that conceiving of sustainable design through the lens of ecological humanism and cultural ecosystem services not only realizes goals of Schauman's (1996) environmental partnership but also creates more humane cities and communities in the process. By understanding the cultural services ecosystems provide to people, our communities and cities can be designed in a manner that benefits both ecosystems and humans. I will first distinguish this idea from both anthropomorphic and ecocentric concepts of environmental ethics, and propose that while ecocentric concepts have been extremely valuable in urging for Schauman's (1996) partnership rather than stewardship, they do not easily incorporate human needs and benefits from ecosystems. Utilizing Hayward's (1995) concept of ecological humanism, which asserts that it is possible to develop human capacities within natural limits, I will posit that humans can not only lead meaningful lives within natural limits, but can also lead meaningful lives from benefits derived from ecosystems. These benefits, in this context, are specifically cultural ecosystem services. Based on the United Kingdom National Ecosystem Assessment (2011), I will then define and explicate what these services are and how they help individuals lead more fulfilling lives. Finally, I will tie these services in with sustainable design, and argue for a sustainable design that addresses human needs through these cultural ecosystem services that, by so doing, realizes Hayward's ecological humanism and Schauman's environmental partnership.

Reconciling Anthropomorphism and Ecocentrism

In his *Ecological Thought*, Hayward (1995) argues for a new concept of environmental ethics that recognizes the importance of both human needs and the need to reconceive the position of humans in relation to the environment. While Hayward recognizes that concepts of anthropomorphism and "enlightened self-interest" is grossly outdated because it does not recognize people as part of nature, he also finds that ecocentric models of thinking do not address the cultural and social aspects of humans that the anthropomorphics so emphasized. It does not mean that ecocentric concepts are invaluable, especially given their contributions to helping humankind understand its true place in the world, but that they could simply be expanded upon and enriched.

As an alternative that reconciles both the anthropomorphic and ecocentric concepts, Hayward proposes a new ethic that he calls ecological humanism. In this ecological humanism, "human flourishing need not depend on the ability of nature to conform to

human ends. Human emancipation can thus be seen not in terms of an extension of humans' power of external nature, but rather in terms of an attempt to develop human capacities of internal development and adaptation." (Hayward 1995, 75) Although Hayward's ecological humanism is an advance on the anthropomorphic and ecocentric concepts, it can go further in asserting the idea of Schauman's (1996) partnership between humans and nature as being integral to ecological humanism. In this sense, I want to emphasize that humans can realize flourishing *through* ecosystems themselves, and that establishing a partnership with nature not only suggests that humans can flourish within the means of nature, but that humans can flourish *through* ecosystems. When humans live within the means of nature and through nature, they realize the benefits it can provide to them.

Cultural Ecosystem Services

By benefit, I mean ecosystem services in particular, and, in keeping with Hayward's ecological humanism, especially those that promote human flourishing and help humans create meaning in life. In particular, I am speaking of cultural ecosystem services, or the "the non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation and aesthetic experiences." (Millennium Ecosystem Assessment 2005, 29) I will go so far as to argue that environmentalists feel so strongly about the environment because of cultural ecosystem services. Most environmentalists derive much fulfillment in life through the cultural ecosystem services and actively seek to live their lives in a manner that reflects their appreciation for these services, and advocate for environmental policies on the basis that doing so protects a resource that provides them with meaning. Environmental justice is a potential exception on the basis that disadvantaged communities seek not to necessarily protect a resource, but rather mitigate the impacts of negative environmental influences on community quality of life. In this regard, however, I will state that the desire for a less polluting or harmful environment is a pursuit seeking to increase a community's capacity to have a high quality of life where it can ultimately develop meaning through cultural ecosystem services.

The United Kingdom National Ecosystem Assessment (UK NEA 2011) is a report of the specific ecosystem services present in the United Kingdom and serves as a good resource that highlights the most recent research on ecosystem services. In the UK NEA, cultural ecosystem services are included in this analysis, where researchers highlight five main cultural services derived from ecosystems in the context of the United Kingdom:

- (1) Leisure, recreation and tourism goods – Opportunities to engage in "relatively generic opportunities to walk, run or cycle;" "opportunities only available in a few habitats (e.g. surfing);" and "opportunities to achieve specific benefits related, for example, to seeing particular flora or fauna, or being able to climb particular crags" (UK NEA 2011, 657). I will extend this to include places for social interaction, such as urban parks.
- (2) Health goods – The role ecosystems play in promoting physical activity, physical health, and mental health, along with addressing public safety concerns (ibid., 661-666).
- (3) Heritage goods – Environmental features, such as specific landscape (i.e. the Highlands

in Scotland), that have cultural meaning and associations to different social groups (ibid., 666).

(4) Education and ecological knowledge goods – Engaging in educational opportunities about and in nature, which increases one's "connectedness" to nature and increases "ecological knowledge" (ibid., 670).

(5) Religious and spiritual goods – "Inspiration" people find in nature, which can alternatively be described as "enrichment, experience, solace, enlightenment, fulfillment, renewal, or reflection" (ibid., 672).

The report further details each of these particular cultural services, providing the reader with the most relevant and recent research in the field, but for the sake of brevity, all of these specific findings will not be detailed. Even though the report finds that gaps exist in specific research areas, the report presents a few compelling examples of cultural ecosystem services, including one on the effects of hospital patients, all of whom underwent cholecystectomy (a kind of gall bladder surgery), having a view from their bed of either a tree with foliage or a brick wall (Ulrich 1984). The study found that patients with the tree view spent less time in the hospital recovering, were reported by nurses to be in better mental health, and required not as many potent narcotics doses than patients with the brick wall view.

This finding alone, I feel, suggests what I said earlier about why most environmentalists may be as passionate as they are: they recognize the psychosocial benefits ecosystems and nature provides to them, and are willing to do devote their time and resources to protecting ecosystems for this reason, and to live within nature's means, as Hayward (1995) proposes. Such an understanding may be interpreted as being anthropocentric because it suggests that we should value nature because of the services it provides us, rather than valuing nature for its intrinsic values. I feel that this interpretation presents both ideas as being mutually exclusive when they do not have to be. I provide a psychoanalytic interpretation of why humans value nature, and while humans may have their own set of values towards it, it does not mean that nature itself cannot have its own set of intrinsic values. It is perhaps through the services that nature provides us in our daily lives that we feel compelled to identify nature's own intrinsic values and protect them. As a result, we should shift our focus on the environment to not only understand its intrinsic value, but also to better understand the value and meaning it gives to humans.

Bringing Ecological Humanism and Cultural Ecosystem Services into Sustainable Design

By shifting our focus, we are also shifting the way in which architects, landscape architects, urban designers, and planners ultimately address the built environment. The built environments we design and plan have the potential to not only ensure that humans can live within the means of nature, but that our specific designs reflect our appreciation for nature and the cultural ecosystem services it provides. Readers of this paper may feel that I am advocating for a biophilic approach towards the built environment, and while this is

true, I wish to expand on this concept further to include more than the need to simply insert nature in cities. While I feel that this is certainly important, we should also understand that other interventions such as green building design, urban growth patterns, and low-impact/regenerative design factors into realizing this environmental ethic.

Firstly, it is important to recognize the ecocentric perspective that humans have lived in a manner that has been destructive to the environment and our ecosystems. Humans should do what is necessary to minimize the harm it causes on the environment. As a result, the communities we build and plan for have to firstly be compact, transit-supportive, and bicycle/pedestrian friendly. Low-density, auto-centric development requires a high level of automobile use, which produces the greenhouse gases that affect climate change and cause air and water pollution. Additionally, the level at which this development is occurring sometimes requires construction on greenfield land, and it does not always occur in an ecologically sensitive manner. Regional species biodiversity is lost in the process, limiting the ability of a region's ecosystem to sustain itself.

While there is sometimes the need to construct new communities to meet population growth, this growth should be concentrated in already existing areas, and if it must occur outside of these existing areas, it must be sensitive to ecologically sensitive areas. McHargian suitability analysis is one means of understanding what these sensitive areas are, and how they relate with one another. Suitability analysis does not only have to occur in greenfield areas, but also in existing communities to understand their ecological sensitivity and plan around these areas wisely.

Lastly, green building standards such as LEED are a means of consuming fewer resources and minimizing our impacts on nature through the built environment. We can specify standards that indicate requirements for building materials, space heating and cooling, water usage, and the like to reduce the number of resources that the building uses and ultimately results in reduced environmental impact.

However, there is the need to expand of our relationship with the environment from one beyond simply mitigating impacts to seeing how it is feasible to not only work with nature, but also how is it possible to realize Schauman's (1996) partnership with nature and create plans and designs that regenerate ecosystems. In this regard, it is feasible to look at park space as locations for fostering species habitats, or even as places where endangered species habitats could be recreated. Although the name low-impact development (LID) suggests that humans should design stormwater systems that do not result in a reduction in surface water quality or in stream bank erosion, I think LID is a means of working with natural systems to naturally filter stormwater in a manner that returns it to the water table in a measured, cleaner manner than conventional stormwater drainage systems. In a similar manner, it is possible to think of green buildings in this way, thinking of how waste water can be processed on site and released back into the environment in a manner that it is just as, if not cleaner than, when it entered the building.

But if we are to fully realize the elements of ecological humanism and the benefits that cultural ecosystem services offer, we will have to increase the presence of and accessibility to nature in our communities. In this regard, there are many potential means of realizing this goal. Increasing the number of public green spaces in our communities is one obvious means of doing this, along with the tree canopy community-wide. Bioswales in low-impact development projects, especially if such projects are distributed throughout a community, can increase interaction with nature. However, such interaction can truly happen when people are able to be outside. Encouraging the walkability and bicycle friendliness of our communities means that humans can interact directly with nature, rather than through automobiles and transit, even though the latter promotes many desirable environmental goals. Humans can interact directly with nature in community gardens and actually be in contact with the Earth itself, and not only gain a service of food for consumption or flowers for aesthetic pleasure, but a service of fulfillment of hard-work in gardening, education in understanding how plants grow, and appreciation for the processes of nature. Lastly, but certainly not least, growth boundaries around cities and towns ensure that rural landscapes will have a reduced likelihood of being affected by development, and can be preserved for the benefit of residents within the immediate community. These residents will have greater accessibility to this kind of landscape and can have a greater ability to access it through walking, bicycling, or transit.

Conclusion

While ecocentric perspectives about the environment have been beneficial towards readjusting human's relationship with nature, it has come at the expense of reducing concern for human needs. Hayward's (1995) ecological humanism provides a means of asserting that human needs can be met within nature's means, and that it is possible to have human flourishing alongside ecosystem flourishing. However, it is also possible to have human flourishing *through* ecosystem flourishing, and that cultural ecosystem services as a means of understanding this, along with the fulfillment and satisfaction that nature can provide in people's lives. With this understanding that nature can have intrinsic value, and that humans are interested in understanding this value because of cultural ecosystem services, we can conceive of a sustainable design that is concordant with this ideal. We should not only look to how humans can minimize their impact on the environment, but how they can develop Schauman's (1996) partnership for regenerating ecosystems through sustainable design, along with a partnership where humans can express appreciation for nature through sustainable design. This appreciation, in its logical end, is expressed through the increased provision of nature in our communities. Nature not only provides humans with the sustenance that is necessary to survive on the planet from day to day, but that it also provides people with the sustenance that is necessary for our flourishing. A sustainable design that recognizes this is one that not only ensures the flourishing of our ecosystems, but the flourishing of our societies and cultures as well.

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Landscape Architectural Education: Thoughts of a Young Architect that Decided to Work with Landscapes.

Dimitra Theochari

On an autobiographical note, this paper comes from a need to present my observations and assumptions of how landscape architecture could be taught on a graduate school level, through my experiences in various architecture schools around the world as a student or as a visitor in the last eight years. This matter has been baffling me the last couple of years because it is my wildest dream and deepest intention to introduce landscape architecture in Greek universities. It is through this lens that I view, judge, and understand my environment. Consequently, I find it important to reveal the major experiences that shaped my thoughts on the subject of landscape education. These experiences are: attending the American Society of Landscape Architects (ASLA) Conference Chapter San Diego in October 2011, the lecture of Kai-Uwe Bergmann in The University of Texas at Austin School of Architecture (UTSOA) on January 23, 2012 entitled "Yes is More", and my recent visit to Kansas State University School of Architecture in March 2012.

I will start this paper with facts. Fact 1:

One month of studying in any landscape architecture school in the world will probably raise the most crucial question that a landscape architect has to ask: "What is landscape architecture?" Certainly one comes to an architecture school with more answers than they leave with. Yet, why is this question posed so many times, by so many people of so many different academic levels, years of experience, and backgrounds? The ASLA Conference was full of efforts to respond to this question. Any landscape theory book is full of efforts to address the question, as are books about landscape urbanism, ecological urbanism, ecological aesthetics, and so on. Coming from an architecture school that worships modernism I am very used to the question: "What is good architecture?" and the embarrassing silence that follows it almost every time. However, the question: "What is good landscape architecture?" is, to my knowledge, not addressed in landscape architecture schools. I'm wondering; why the question of "what architecture is?" is left out, and architects do not doubt or discuss it. However, they can directly go to the next step of questioning its evaluation. Looking at architecture theory books alone, and in comparison to landscape architecture theory books, one will clearly see this difference in need for redefinition of the field. That was one of my very first observations, so I started to ponder about why is this happening. Soon I realized that the question of "good landscape architecture" is not asked because landscape architects choose to face the much bigger

challenge to define what landscape architecture is. They do so before they start to evaluate whether it is good or bad.

As a result, I have been trying to comprehend why landscape architecture is so difficult to understand, approach, and define. For, if it is that difficult to understand in the first place, how could one teach it? It was then that I started a “secret experiment”; approaching classmates, professors, and fellow landscape architects with a single question: “What is landscape architecture?” A (by now expected) moment of silence, a deep breath, and a pause after that always - and I mean ALWAYS - preludes the most unexpected responses. Professors would quote J.B. Jackson and his essay entitled “*The Word Itself*”, students would say all kinds of things that I would rather not quote, landscape architects would talk about their practice and the market. Yet the question remains: “*What is landscape architecture?*”, as if I had asked “What is life?” or some other existential question.

My first assumption soon came: since the field often gives the impression that it “walks on a tight rope”, and since professors often do not know what to respond, how could students begin to approach this question? How could they learn to design landscape architecture, if they can hardly get their heads around to what landscape architecture is? Most importantly though, how could I think of an educational system that could respond to that question, at least at some level, and teach students how to develop ideas, design, redefine, experiment, evaluate, and start over?

Fact II:

Landscape architecture is indeed very difficult to approach; in my opinion, more difficult than architecture. The difficulty lies on the complexity of the subject, the interdisciplinarity that is essential to begin the discussion, the range of scales, the range of perspectives, and the number of sciences directly or indirectly affected from the design decisions. Following the McHargian approach to Design with Nature, as demonstrated in his famous book, requires a great amount of time and devotion and a lot of ecological knowledge. At the same time, knowledge of art, aesthetics, history, politics, urban design, and planning are needed. Additionally, visions, concepts, philosophies, and larger ideas about how the designer situates himself in the world and landscape architecture are all important issues that need to be addressed.

Design related matters are too many and too complicated in landscape, and they are very difficult to approach if a student does not have a background in architecture, urban design, or planning. At the same time students with design background alone will face difficulty in approaching, in-depth, all subjects that relate to flora, fauna, soil, and ecosystem processes. For this reason teaching landscape architecture in an audience with a variety of backgrounds is simultaneously exciting and challenging, with many scales of complexity interwoven in the educational process itself. Landscape architecture curriculum in graduate schools should never neglect this fact: people from different backgrounds have different skills to

bring into landscape. However, they simultaneously lack different sets of knowledge that are de facto prerequisites. In the future, when designing a landscape curriculum, I intend to include that understanding of looking at the “larger scale” of people’s studies before trying to fit them in the mandatory curriculum of an accredited school. At the same time, I recognize that for a program to achieve this sort of interdisciplinarity, there needs to be a great number of faculty and serious funding. Consequently, there are probably very few schools in the world that could have such a funding for a design school that cannot rely on grants from the military or corporations as engineering schools do. William Porter, while he was the Dean of the School of Architecture and Planning at MIT, published a paper in the Journal of Architectural Education (JAE) that discusses the Dilemmas and Directions of the Architectural Education in the University Context. In this paper, Porter posits a series of questions about the organization of architecture schools: *Do Architecture Departments Have the Right People? ... Do Architecture Departments Seek Knowledge? ... What Public Purpose is served? ... Are the departments committed to Social Reform?* Following this problematic situation, I consider it very important for a school to develop a curriculum that is based on available faculty knowledge matched with similarly qualified students, to provide the best combination of prerequisites to be fully educated in landscape with the resources available in the school.

I believe that only when the students are taught to cover the gaps in their knowledge in the areas they are not already educated; they are able to participate in class equally, to be evaluated equally, and to give the best of their backgrounds in the class, and in landscape architecture. For, if students do not strive to go beyond the borders of the discipline inside school, it will be way more difficult to do so outside school when they will have to face all the aforementioned problems.

How to organize a design oriented landscape architecture curriculum that aims to deal with urban sites, varied user interests, the 3 E’s of sustainability, environmental planning, site design, living systems and ecosystem services? The question alone is a great challenge; the parameters of landscape design are impressively complex and interconnected. In the part of the paper that follows, I will present a proposition about how I imagine a school could function in a way that teaches landscape architecture and addresses all the critical factors required.

Towards a New Landscape Architecture Education

First and foremost, landscape architecture education should be organized in three years at the graduate school level. At the undergraduate, level four or five years may suffice – I lack experience in that area, so I would rather focus on a graduate studies curriculum.

The first year of landscape architecture studies should focus on “Filling the gaps”. Graduate students that choose to focus in landscape architecture already have a strong academic background and probably work experience in some field. Consequently, they have already excelled in a certain number of skills required by landscape architecture;

however, they need to be educated in the fields they are not yet competent in. For, this first year is dedicated to learning ecology, geology, hydrology, human use of land, landscape architecture construction principles and site design. It is dedicated for students of eco-sciences to learn design, aesthetics, detail construction and architectural principles (basic theory and history of architecture); it is dedicated to students from human studies to learn design and ecology, and so on. Landscape architecture theory and history should be taught to all equally.

One could make the valid assumption that the new graduate students of landscape architecture will start from a common ground having already experienced and worked on aspects of the interdisciplinarity of the field. In this phase it is very helpful for new students to attend reviews, thesis presentations, and master project presentations by older students. This will provide them with a more complete perspective of where they are and what are they required to achieve by the end of their studies. In a well-funded and organized school, lectures and exhibitions are always a very important aspect of studies.

School corridors and entrance space of classes should be utilized as a constant exhibition space for what is happening in studios,. It is very important for the studio to open up and blur boundaries between studios and people.

At this point I want to make a parenthesis on the spatial organization of studios. The way studios are organized in Kansas State University (KSU) is a very good way to have a living/working space of one's choice that blurs boundaries. In KSU students are given a space in big classrooms where they have a drawing desk and a desk with their desktop computer, and that space is stable over the course of their studies. As a result, students may sit around peers of different studios, and in that way they are exposed and connected with people working on different projects. That is a very important, mixed way of approaching the otherwise over-arranged and disciplined studio space. Meeting spaces may be arranged in different areas of the school and the exhibition space on the entrance of studios helps to make missing connections.

Getting back to the curriculum, I consider extremely important the organization of field trips to other states and countries. These should be led by professors for five to ten days, depending on the destination, during winter or spring break (which may not be required since they will be self funded by the students, but highly recommended) to visit sites, experience, discuss, explore famous designed landscape architecture projects, see firsthand the context in which they were designed and all the infrastructure layers, systems and stakeholders of the cities or the landscapes, listen to the opinions and criticism of professors on these projects. They will use the experienced eye of the professors to guide them, learn to how to observe, what to notice, and how to think and talk about landscape. If field trips are important for architecture, imagine how important they should be for landscape architecture, which is, in its nature, an open-door discipline.

All graduate students, having an introduction in all the fields they have gaps in, should be introduced in the second semester to a small project of designing with living systems. From

that semester on professor should provide courses including literature, movie screening, landscape architecture, and music that will give the students the opportunity to approach different ways designers, artists and writers talk, describe, and understand landscape.

In the Second year of studies, the studio organization changes; it is here that my theory of landscape architecture education lies. Since it is apparent that it is very difficult for a young student to address all the levels that need to be addressed in landscape architecture in one studio, and achieve to produce a detailed design project in 15 weeks of studying, I will propose a new way of working in studios.

Landscape architecture design is rarely judged as good or bad. Often, actual design is never reached in the studio. When it is reached, there are multiple questions about concept, ecology, site construction that are left out. Conceptual diagrams begin to show relationships, but in reality they show nothing that relates to real space and real design. Relationships become more important than the product itself, for the design quality of the product and the detail of aesthetics is left to be discussed in diagrams but not in real like-built projects. And, most importantly, in the end, students reach their final semester with a lack of either conceptual background to address landscape, or with lack of aesthetics of design, or with lack of construction knowledge. Besides, the construction knowledge required to understand landscapes is much more complicated to understand, since unlike building, landscapes are open to unpredictable change. They need to be resilient to ever-changing patterns and relationship between stakeholders of the system, and be able to find a balance in any dynamic break of symmetry and ordinary condition. All these factors should be first taught to the students, and these criteria should be evaluated upon completion of their projects.

Consequently, I propose a series of studios that are interrelated not as subjects but in the series of the objectives they want students to tackle. In the second semester of studies, students should be let out in the landscape for a few days, with no use of any technology (cameras, video cameras, smart phones and so on) in order to feel, experience, observe, take notes, and sketch. A bird watching facility could be chosen, or a forest, or a prairie; whatever is available to the area where the school is situated. Students should learn to seek patterns not in terms of small assignments, but in terms of feeling embedded in the landscape. For, if one has never felt embedded in the landscape how could she possibly design landscape? In this case students can use literature, poetry, music, sculpture, and drawing to understand relationships with the landscape. The professor must first work to open their eyes to the beauty of the land and the related ecosystems. It is also important to note that students should be educated in ecology, plants, and ecosystem services before they go out in the landscape, in order for them to have a critical and informed eye of what they feel.

To ground these concepts I want to present ideas and directions by Porter, Stamps, Varnelis, Crew, and Forsyth. Porter indicates in his article three directions architecture schools should think about to reform the way they address the questions he posed: *Modeling Social Diversity, Disaggregating the Notion of Design, and Introduce Specialization*. In this part,

Porter indicates that professor should teach different classes that focus on their personal research, and the instructor should use studios to develop knowledge and expertise. Stamps proposes four points to support his hypothesis that *the Jungian functions of thinking, feeling, sensing, and imagining are important for architectural education, both individually and collectively*: Artistic socialization, Societal Trends, cultivation of artistic skills balanced by epistemological knowledge, and implementation of epistemological balance. Stamps identifies the challenge for architectural education in using all six of the characteristics of Jungian Process in design. Varnelis questions the relationship to research, scholarship, and criticism through presenting the Harvard Project on the City from 1996 to 2000 running by Rem Koolhaas. Last, the paper LandSCAPES: A Typology of Approaches to Landscape Architecture by Crewe and Forsyth, gives an interesting methodology of categorizing landscape architecture approaches and theories that could be implemented as the subject of studio courses of each one of the six semesters of studying landscape architecture in the graduate level. The six typological approaches according to them are:

- S design as Synthesis
- C Cultivated expression
- A landscape Analysis
- P Plural design
- E Ecological design
- S Spiritual landscapes

These six categories could easily be applied in landscape architecture education and create the core of a design program curriculum.

Having presented other theoretical approaches, and getting back to my studio organization propositions, I believe that in the first year all classes and class discussions should happen outdoors. The instructor should organize landscape architecture promenades and discussions, and students will learn to listen, see and comprehend space in motion. My inspiration for this way of teaching comes from the famous Greek architect and landscape architect Dimitris Pikionis, and the way he chose to teach architecture through walking in the campus, in the city, and in the parks of Athens.

In the third semester of studies, as executed in many schools including UTSOA, the process of design should be taught. Students should learn how to collect data, map parameters that define the processes of living systems, map human settlement and memory, combine information, invent relationships and connections, and form a vision about what should happen in a certain site and project. A clear thesis statement should be formalized by the end of the class. The process of this analysis can follow one of the many ways proposed by landscape architects; I personally find the Carl Steinitz method taught by Dr. Allan Shearer interesting and extremely educative. Concluding this semester with a number of projects with well formed and criticized thesis statement and well developed analysis should be submitted to the school faculty. In this semester, the students learn how to think and how to collect and present data in a way that proves that they know how to think. This is a

significant year for students to learn how to approach design competitions. That is the first important step of the studio system I propose.

In the fourth semester of studies, students should be required to choose one of the projects from the previous year, that has a formed analysis, and a specific thesis parameters, and design this project according to those factors. Students should be asked to follow the thesis proposal and analysis data to the word, and they should not be requested to do any further analysis in the subject. The projects should be presented to them by the professors as closed cases that are given to them as designers to actually design the solutions to the problems addressed under the scope that has been defined by past students. In this case, a great variety of projects can appear in a studio, and the discussions can start directly with the design itself, or even the premise of the initial hypothesis and how it relates to the proposed design. In this case, since students will not have to spend all this time in gathering data and understanding the site, they will have time to develop design ideas, test possible solutions, experiment, apply different aesthetics, and be judged upon design criteria alone. The detail of the completion of the project should be discussed according to the scale that the project that was given to them initially. All the results of this experimentation with design upon premises should be submitted to the faculty and kept in a way that can be used in the future. Steps in this process should be: large conceptual scale, human scale of actual experience, constructive detailed scale.

I believe that this way of approaching design will give students a deep understanding of process because they will have more time to focus on the design itself, and to present iterations, alternative solutions, and define advantages and disadvantages of using certain methods to profit certain ecosystem services over others. In this case, the students do not start a project from zero but in +15 weeks of the progress of the previous group of students. This idea came from the lecture of Kai-Uwe Bergmann when he explained how they develop ideas in his office. Ideas in BIG are worked on, dropped, reconsidered, redeveloped, dropped again, and presented in a completely different form after multiple years and minds of iterations a long time after the initial concept. I believe that this is a very contemporary and interactive way of using ideas and knowledge: a process upon which ideas evolve and become collective, instead of close-up and focus in plagiarism. There is not parthenogenesis in design, and to a degree I can argue that everything has been said before; however, not in the way one new mind can reinterpret them. The process of rethinking and re-spatializing a thought that wasn't initially created by your own mind is very important in architectural education.

Continuing that thought, in the fourth semester of studies I would argue that students may take a previously completed project in either the analysis phase, or in the analysis and design, and reinterpret the design, reuse basic moves and provide new human scale ideas, and new detail ideas. Installations may be presented instead of models in that semester, and parametric design could be addressed, since a series of ideas were already put together and parameters have been set. Design can excell, and its evolution over time can be a constant subject of exhibition and publications, but mainly of experimentation and

education. For once landscape students will see infinite possibilities and not a series of diagrams that saw similar relationships of undersigned systems.

Workshops and competitions should also take place in this semester, since students by now have a complete understanding of design process and should be ready to step on their own fit. Moreover, in this semester collaborative studios with schools around the world could take place. Technology gives the ability for all sorts of easy and fast communication now. Also, taking into consideration that architecture students hardly sleep, they could learn by cooperating with a school in Asia because a 24 hour working process is possible. Drawings could be sent back and forward for iterations, and a multicultural and multidisciplinary discussion can open student minds even more. Results of a process of that are unpredictable.

Last, but not least, I want to make a quick note about the importance of residency programs, study abroad programs, and combinations of the above (doing residency abroad), writing a Master Thesis and designing a Master Project. All these experiences enhance in a different way each the perspective of landscape and the profession of landscape architecture to graduate students. A residency program is important to help the student ground themselves in the reality of the profession. It is better, in my opinion, than an internship program mainly because it gives the opportunity for the school to have a continuum of students going to specific firms, creating relationships, networking and, also, it establishes the name of the school in the market. As a consequence, students can keep better track of the way specific firms function from the inside, and be able to guide themselves in a more efficient way for their future professional choices. Last, the value of the program to the individual is tremendous and subjective.

To continue, the study abroad can change the world view and life perspective of students, especially if it gives the opportunity for students to study in universities around the globe in a different languages and take classes and credits there to fulfill their own curriculum requirements. Such a program can create networking on an academic level, and is a completely different experience than changing environment for work. Living in another country, having to adjust your life style, your cultural and social habits, and adapting to a new educational system is of great value. I would underline that especially for landscape architecture students this experience should be widely supported, because it is the clearest way for students to understand that "context matters" and that landscape has many levels of cultural and social interpretations.

As far as the Master Thesis and Master Design Project proposition is concerned, I believe that doing such a project should be required from the school and not recommended. The difficulty of creating such a project and the degree to which it becomes a big challenge increases the level of the program and guarantees that only competent landscape students graduate from the school. Moreover, it can be a beginning for the school to be established in academic circles through publications and paper submissions in conferences, symposia and academic events. The educational process of creating a thesis and designing a master project is crucial for the evolution of a designer, since he has no choice but to create in-depth

research and design iterations to present something complete, and be ready to receive and respond to academic criticism about the depth and quality of their work. I personally believe that this is the criterion that makes American graduate university programs unique around the planet, and schools that do not require that should reconsider the principles of their foundation.

Conclusion

Landscape architecture as a field is still in a growing process and it hasn't yet reconfigured itself. Landscape architecture needs to be defined in order to be evaluated as an architectural design process. Landscape architects should write more about the way they see themselves in the field and try to engage the public in order to achieve more built projects and implementation of theories and ideas in the long term. Landscape architecture educators should create a more powerful voice about what they think the profession is and how it should be taught, as there is a lack of case studies in educational experimentation. Educators should have opinions not only about landscape, but about pedagogy, and be bold about them. Educators should use their designing skills and their knowledge of landscape to design adequate spaces and university facilities in order to be able to experiment with what it means to teach landscape, learn from results and reinvigorate the process. Last, educators should primarily be interested in being pedagogues, capable of performing educational experiments, willing to take students out in the landscape and ready to change their bold opinions with new bold opinion. And those opinions should primarily have a spatial component, let alone the theoretic one.

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Intentional Landscapes

Abby Wiltse

In *Garden Perfections: The Practice of Garden Theory* (2000), the landscape theorist John Dixon Hunt elucidates three categories of landscape first defined during the Renaissance: 'first nature' being wilderness, 'second nature' being the cultivated landscape, and 'third nature' being the garden, a combination of nature and culture. One might argue that over the course of the twentieth century a 'fourth nature' has been evolving which expands both the scale and complexity of our landscapes. From the territorial to the nano-scale, mutant environments which fuse natural and artificial, technologic and infrastructural have been proliferating. In the current scenario, the dialectic is no longer nature versus city, or natural versus artificial, but positions within a spectrum of mediation and manipulation of nature, landscape, and built environment (<http://www.architecture.uwaterloo.ca/fourthnatures/about-fourth-natures.html>).” With new technologies and systems that serve our needs, we create our own version of nature. Different theorists have referred to this philosophy as fourth nature, next nature, new nature, hyper nature, and probably by other designations. Whatever the name of the philosophy is, the fact remains that we are rapidly manipulating our environment and our world. However, at the same time that we are causing rapid global change, people are more and more disconnected from nature, or any concept of nature. From designer dog breeds, genetically modified plants, artificial towers disguised as trees...to remnants of nature sneaking back to re-colonize and enliven our lifeless cultural relics, we must each question the roles and relationships of nature and culture in our designs, our lives, and our environments. How can we design to accept change? How can we fit ecology and environmental concerns into our cultural aesthetic?

CHANGE

“With our urge to design our environment, we cause the rising of a next nature that is wild and unpredictable as ever (www.nextnature.net).” It is in our nature to change our environments. We have an innate desire and drive to adjust and reorder. We constantly break down and rebuild in an effort to rationalize, understand, and connect with our world. Children do this in sandboxes, architects and planners do this at larger scales, animals do this to survive. We all *must* do this to survive. Every breath we take changes our environment at a micro scale. Given that change is inevitable, I will discuss how the concepts of first, second, third, and fourth natures apply to the history and future practice of landscape architecture. To be a good designer and create projects that benefit both the public and the environment, I would argue that one way to be successful is to consider

each “nature” in the design and planning process through spirituality, interaction, art, and awareness.

FIRST NATURE, WILDERNESS, SPIRITUALITY

First nature is commonly understood as wild nature, untouched by man, a nature of the gods. First nature, or untouched wilderness, traditionally sets human culture apart from the environment with spiritual/religious symbols and suggestions. I believe the idea of first nature is still valid today. Although in my opinion, nature and culture, a deep and ancient intertwining, have coevolved and need some reimagining. Some people argue that first nature is gone forever, because humans have impacted every possible piece of uncharted land and affected global systems and patterns. Yes, that is probably true. However, I tend to, perhaps more optimistically, disagree and instead imagine first nature as the *potential* for wildness that endures in every living cell and being. Because we have coevolved with

nature and are part of nature, it is arrogant to believe that we are really that far removed or separate from nature. Technology and scientific discovery is allowing us increasing control of natural systems at both the macro and micro scales. Examples include cloud seeding, intensive land use planning, and nanotechnology. However, I believe we still need the hope of believing in something more mysterious and vaster than ourselves and our human scope. First nature is ultimately a paradox. It must be thought of as separate from humans by definition, yet we must be a part of it at the same time because it is a human conception. Argued either way, this nature represents spirituality—a belief in something larger than one’s self.

SECOND NATURE, AGRICULTURE, INTERACTION WITH THE ENVIRONMENT

In *De natura deorum* (45 BC) Cicero wrote “We sow corn, we plant trees, we fertilize the soil by irrigation, we dam the rivers and direct them where we want. In short, by means of our hands we try to create as it were a second nature within the natural world.” Second nature is an intervention with first nature, as in agriculture, architecture, cities, and civilizations. Our bodies and minds have evolved to work with the land and lately we spend too much time indoors and too much time in front of screens. My favorite parts of landscape architecture projects



Frontispiece to *Curiositez de la nature et de l'art*,
l'Abbé de Vallemont, 1705

are those in which I am in direct contact with the client, the site, the dirt, and the plants. Besides the health benefits, the psychological effects of watching and physically unfolding a design idea onto a site are extremely gratifying. Recent blog entries have surfaced on the internet claiming scientific evidence of natural antidepressant properties of certain beneficial bacteria gained by working in the soil (Francis 2010). I truly feel human after working outside. I also believe that involving the client (based on their level of interest and inclination) in parts of the installation or maintenance process is invaluable. Many people are interested in the idea of gardening, planting, watering, or otherwise caring for living plants but have little or no experience or worse, fear of failure. As a landscape architect, I feel it is part of my duty to design (with appropriate degrees of complexity) ways for the client or general public to interact physically with their environment, thereby creating meaning for them in their own place.

THIRD NATURE, GARDENS, ART

Third nature is reserved for the garden; an abstract representation of first and second natures. A garden is a universal place to cope with modern life and to slow the pace of change. A garden can be both a noun and a verb. Gardens bring innate joy; tending and protecting one little piece of nature, even a singular potted plant, gives us a small yet tangible part in the evolutionary dance with nature. Gardens are a place to explore, experiment, and learn from nature. As Laurie Olin states, “Nature is the great metaphor that underlies all art (Olin 1997, 109).” I agree with Olin and would just add that as designers, art and history must also inspire our understanding and management of nature, especially in garden design.

FOURTH NATURE, MODERN LANDSCAPE ARCHITECTURE, AWARENESS

“Different from first, second, or third nature, “new”—or, what I call “fourth”—nature is that which occurs in the absence of human agency in settings that have otherwise been culturally transformed. Such places have much to offer to the curious observer. They reframe nature as a thing of wonder—a performing, transforming, interactive marvel—and they raise questions about how “new” or “fourth” nature might be courted through design. To design with fourth nature, landscape architects must understand natural processes and ecosystems specific to the places where nature is emergent. Human-made wilderness is both sustainable and transformative. Fourth nature is a form of performance art, in which the players are plants and the scenarios are improvised according to their inclinations within context (Hemming 2006).”

A good summary of the essence of fourth nature, but plants are not the only players; any landscape element can be exaggerated in hyper nature. Elizabeth Meyer defines hyper-nature simply as the recognition of art. “The experience of beauty, a process between the senses and reason, an unfolding of awareness, is restorative. By extension, experience of hyper-nature is transformative and can result in appreciation of new forms of beauty, discovered because they reveal unrealized relationships between human and non-human life processes (Meyer 2008).”

My definition of hyper-nature is: a kind of ecological art that draws attention to any landscape or natural processes by means of human invention and often technology. For example, Michael Van Valkenburgh uses hyper-nature to describe constructed topography at Brooklyn Bridge Park that has made the natural angle of repose in soil steeper through the use of geotextiles and internal structuring. He defines hyper-nature as a constructed exaggeration of nature in design. Incorporating hyper-nature is one way to ensure the long term ecological and cultural sustainability of a project by emphasizing natural processes over natural forms that “draw the attention of a distracted audience” and create meaningful experiences in the landscape. In another example called bio-LED, Taiwanese scientists have created trees that could function as streetlights. “They infused the leaves of *Bacopa Caroliniana* with gold nanoparticles which causes the chlorophyll to produce a reddish luminescence (www.nextnature.net)” It’s partly about showing the importance of natural processes, but also in the 21st century, with the constant technological and visual stimulation, it may be that everything needs to be bigger and brighter just to get our attention.

CONCLUSION, INTENTIONAL LANDSCAPES

“Fear of the unknown, relentless romanticism, and nostalgia for the picturesque are three driving conditions that detract from the practice of contemporary landscape architecture. One way for the discipline to move forward is by embracing process and understanding ‘new nature,’ thereby cultivating a new approach to place-specific design (Hemming 2006).”

“What nature looks like, or is supposed to look like, appears to be our problem, a cultural matter; it has little to do with ecology. [Ecological restoration without aesthetics] is neither philosophically or compositionally challenging or rewarding (Olin 1997, 137).”

I agree with Olin that we must include aesthetics in restoration and reclamation projects: designing for ecological restoration is part of the challenge. Conversely, the quest to incorporate and justify the environmental science and management schemes with the aesthetic installation and sense of place is an incredibly challenging and rewarding venture. I believe the trick may lie in the thoughtful alignments of transitions, thresholds, edges, and gateways. Our aesthetic is evolving to include messy and natural-looking places and invite them in, as long as they are cared for or framed in some way as to make their intrinsic value visible. This revolution in aesthetics is the first step in appreciating the intrinsic beauty of new restoration technologies in old landscapes. “Lastly, ecological parks serve as a vehicle for reconnection. There is a nesting hierarchy of types of reconnection that parks can generate. Parks can provide an opportunity for passive contact with nature. Environmental education programs, waysides, and other types of environmental education generate a deeper understanding (Boland 2001).”

To bring all of the multitude of pieces together, landscape architects need to be generalists. They must function as a hub bringing together all of the experience and innovation from every area of science and art. Trained as problem solvers, we can look back through time at

the historical interrelationships of the different perceptions of nature. We strive to balance nature and art with every site’s specific cultural and environmental history. The current trends and interest in ecological services and systems, such as rainwater harvesting and prescribed burns, are moving us towards a more responsible and involved stewardship of place. These “intentional landscapes” are obviously cared for by humans while at the same time exhibit understanding of the benefits that nature can provide us with. Beyond pure aesthetics, beyond conservation and preservation, I believe our global population needs to invest in these places and interpret the meaning within the frame of each culture’s specific cultural and environmental history. Landscape architects are in a unique position to understand both sides of the equation and design places that break down the dichotomy between nature and culture.

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