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**Affecting Sustainable Changes in the Individual Through
Landscape Architecture: A Case Study of Outdoor Spaces at
the University of Virginia**

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Abstract

In the long trek towards creating a sustainable society, universities play one of the most significant roles. They serve as laboratories for defining what it means to be a sustainable institution, and as educators and moral influencers of the next generation of informed citizens. Sustainability initiatives at many universities still focus mainly on technical and economic fixes, with some minor focus on equity and social dynamics. The inner world and consciousness of the individual, as well as aesthetics and beauty, have mostly been ignored as significant factors in the creation of a sustainable society. Landscape architecture is a field that has the potential to explore both of these factors through the design of outdoor spaces on campus that inculcate sustainable values in individuals and increase the inhabitant's own sense of well-being.

Introduction

Outdoor built environments present a vital opportunity to engage individuals in the development of values that will lead to ecologically responsible and sustainable behavior. Americans spend 90% of their time inside¹; the 10% they spend outside must thus be carefully utilized to advance pro-environment attitudes and inculcate values that lead to more sustainable, thoughtfully led lives. Universities, as physical places that develop much of the next generation of well-educated citizens, have a particular responsibility to create outdoor spaces on campus that foster these values in students by way of their interactions with and habitation of these spaces. By now, it is a well-studied phenomenon that increased time spent in outdoor environments increases pro-environmental attitudes and well-being. It is becoming increasingly apparent that built landscapes that imitate various essences of nature and take beauty seriously can have similar effects. Built outdoor spaces have the potential to create beneficial effects for individuals when they are constructed with the individual's experience, considerations of beauty and intangible characteristics of nature in mind. By cultivating spaces that consider the inner experience -- both intellectual and physical -- of the individual, what one considers a sustainable outdoor space can shift beyond only ecological considerations of water drainage and native species, for instance, and move towards cultivating an inner or personal sustainability. As part of a more holistic notion of sustainability, personal sustainability focuses on sustainability at the individual level -- how the individual can become an environmentally virtuous person, or embody values that lead to a sustainable, ecologically responsible lifestyle. Personal or inner sustainability includes the cultivation of values like slowness, imperfection, the aged and worn,

¹ ORD US EPA, "Indoor Air Quality," Reports and Assessments, US EPA, November 2, 2017, <https://www.epa.gov/report-environment/indoor-air-quality>.

awareness, and attentiveness. By cultivating these values, one comes to more fully appreciate the subtle and beautiful qualities of nature that a peripheral glance may not reveal, while turning towards a way of life that is more reflective on the whole. The most obvious way to inculcate these values is to spend time in nature, yet much of people's lives are lived in built environments that are devoid of natural elements. This need not be the case. Built outdoor spaces can inculcate the same values as nature into people's daily lives. As nature does, built outdoor spaces enable embodied, multi-sensorial experiences through the body's interaction with a physical space, and affect people through their beauty and aesthetic characteristics. Despite such ample potential, these values and considerations are often overlooked by institutions when developing sustainability plans and outdoor spaces. Using the University of Virginia (UVA) as a case study, this paper aims to analyze why architecture and landscape architecture should be a pedagogical tool for inculcating holistic sustainability values in a campus setting.

Pedagogy as a Didactic Tool

Architecture itself is a didactic tool that can be harnessed by landscape architects and institutions to inculcate particular values in the occupants of the spaces they design. Unfortunately, this conception of architecture is not always considered or widely accepted. Such a lack of attention to architecture's pedagogical role exposes a fundamental misunderstanding of how the spaces one interacts with every day affect an individual. There would be little doubt in anyone's mind that spending twenty four hours in a concrete jail cell or spending twenty four hours in the Hundertwasserhaus in Vienna would have radically different effects on one's mental and physical state, and that each one of these spaces would in turn reveal contrasts in what the space's designers valued when they created the space. Though not comparable spaces in function, this example serves to illustrate the seeming simplicity of the concept, which makes it all the more surprising that this concept goes by the wayside in most conventional construction. David Orr has spent a career making powerful observations about just this oversight and the pedagogical role of architecture. He speaks about academic architecture as an example of this oversight:

The problem isn't just that many academic buildings are unsightly, don't work very well, or that they don't fit their place or region. The deeper problem is that we've assumed, wrongly I think, that learning takes place in buildings but that none occurs as a result of how they are designed or by whom, how they are constructed and from what materials, how they fit their location, and how they operate and how well. My point is that academic architecture is a kind of crystallized pedagogy and that buildings have their own hidden curriculum that teaches as effectively as any

course taught in them. And what lessons are taught by the way we currently design, build, and operate academic buildings?²

Orr offers us not only an image of how architecture functions to teach us, but an image in which its ability to teach is on par with traditional classes. In this view the didactic role of architecture is extremely influential. The values and intention that went into a building are projected back out into the world, and its occupants absorb these values. A piece of architecture teaches values by means of its chosen materials (e.g. are they local, responsibly made, hand-crafted), its planning process (e.g. participatory, community-involved, authoritarian), location within the landscape, relationship to the sun and seasonal changes, and so forth. Every choice in the building's construction represents the creators' values, regardless of the extent to which they actively attempted to express values through their architecture. There are implicit lessons in every piece of architecture, and students will learn these lessons without being actively aware of this silent education. Time spent learning at university represents a critical period of value absorption and learning in a young person's life. Every opportunity should be used on a campus to mold its students into ecologically responsible, attentive, mindful humans. Academic buildings should accomplish this by instructing lessons on ecology and attention to the uniqueness of place and locality, as well as instructing in mindfulness.

While architecture is a didactic tool for the instruction of any value, it seems particularly apt at teaching environmental values. In asking the inhabitant to notice all the thoughts, ideas, and values that went into the architecture, it is also encouraging more attentive, more mindful behavior. Such a mindfulness is at its base what environmentalism is about – the aggregate of many little things and intangible essences. How does a piece of moss drape on a rock, what variations of green exist in it, see all the small droplets of water just so because of water tension, nearby lichen in various blues, a ray of light cutting through leaves and dappling in streaks in just-so ways. Pro-environmental attitudes are based in such relations of attentiveness, in which one is cognizant of the multitude of relations around oneself. Architecture that asks its inhabitants to notice the meticulous thought and attention to detail that went into its creation helps to cultivate this skill of attentiveness to detail and awareness of the larger systems that influence and structure our environment. Such intentionality in its message is, however, often missing in standard academic architecture. As Orr laments, a standard academic building is

a building with lots of squareness and straight lines. There is nothing whatsoever that reflects its locality...How it is cooled, heated, and lighted and at what cost to the world is an utter mystery to

² David W. Orr, "Architecture as Pedagogy," *Conservation Biology* 7, no. 2 (1993): 226–28.

its occupants. It offers no clue about the origins of the materials used to build it. It tells no story. With only minor modifications it could be converted to use as a factory or prison. When classes are over, students seldom linger for long. The building resonates with no part of our biology, evolutionary experience, or aesthetic sensibilities. It reflects no understanding of ecology or ecological processes. It is intended to be functional, efficient, minimally offensive, and little more. But what else does it do?...it tells its users that locality, knowing where you are, is unimportant...it teaches that disconnectedness is normal...buildings are provisioned with energy, materials, and water, and dispose of their waste in ways that say to students that the world is linear and that we are not part of the larger web of life³

For Orr there is a glaring disconnect between the lessons taught in environmental and sustainability classes, and the lessons taught by the spaces in which this instruction occurs. When institutions make sustainability plans, they rarely consider architecture as a didactic tool for teaching environmental values, increasing the disconnect between their sustainable pursuits and the reality of architecture's pedagogical value.

Role of the University

"More than any other institution in modern society, colleges and universities have a moral stake in the health, beauty, and integrity of the world our students will inherit. We have an obligation to provide them with tangible models that calibrate our values and capabilities, models that they can see, touch, and experience."⁴ How has the University of Virginia, nestled in the Blue Ridge Mountains in Charlottesville, VA, approached this obligation Orr speaks of? The University of Virginia, as an institution that has made great strides over the past decade towards implementing sustainable measures, and that has a campus landscape often considered one of the most beautiful and historic in America, provides an interesting case study from which to examine the potential of built outdoor spaces to teach sustainable values. In recent years, the University released their first comprehensive, four-year sustainability plan in 2016, created a program called Grounds as a Living Lab⁵ wherein selected sustainability curriculum engages in real-life sustainability projects on campus, and in 2020 approved a resolution for the University to be carbon neutral by 2030 and fossil fuel free by 2050⁶. As an institution taking active steps towards sustainability,

³ David W. Orr, "Architecture as Pedagogy II," *Conservation Biology* 11, no. 3 (1997): 597–600.

⁴ Orr.

⁵ "Grounds as a Living Lab | UVA Sustainability," accessed May 2, 2020, <https://sustainability.virginia.edu/discover/grounds-living-lab>.

⁶ "Plans & Progress | UVA Sustainability," accessed April 9, 2020, <https://sustainability.virginia.edu/about-us/plans-progress>.

it provides an opportunity to examine what facets of sustainability might be being left out, even in a plan with the best of intentions.

A scroll through both the University of Virginia's "Sustainability Plan 2016-2020" and the Office of the Architect's "Guidelines for Sustainable Buildings and Environmental Design" will reveal a certain orientation in regards to the university's concept of sustainability and landscape's role in sustainability. UVa's main sustainability plan is focused on technical fixes and CO₂ reduction strategies, social outreach to increase awareness and encourage more sustainable habits (e.g. recycling, biking or walking instead of driving), and directing more teaching and research towards sustainable endeavors. Limited, if any, mention is made to personal well-being and mental health, or the individual's connection to nature, nor to the role of outdoor spaces in sustainability beyond their ecological soundness. One goal is to "Plan and design landscapes and open space that can support learning, research and teaching in areas such as environmental sciences, civil engineering, storm water management and conservation/preservation of biodiversity resources."⁷ Though addressing outdoor areas and their capacity to teach, they have a practical, scientific bent, and are aimed more at instructors using them as teaching tools to demonstrate sustainable infrastructure or teach about ecology. A similar attitude is apparent in the document "Guidelines for Sustainable Buildings and Environmental Design," in which one sees, once again, a focus on resource and energy management in landscape design, rather than a focus on the individual's experience of the space and how this experience translates into sustainable values. The plan states,

For the purposes of these guidelines, sustainability will refer to a balanced concern for the long-term planning of three interdependent University areas: equity, economy, and environment" where the three prongs are defined as "Equity: Development and operations should be considerate of impacts related to the surrounding community and its social ethics, networks, local history, and neighborhood connectivity. Economy: High performance buildings, infrastructure and environmental design produce mid- and long-range cost savings yielding maximal benefits in terms of physical development, operational costs, and procurement. Environment: Sustainable approaches to natural systems and the environment will ensure their protection and continued health for all inhabitants and species.⁸

⁷ "UVA_Sustainability_Plan.Pdf," accessed April 9, 2020, https://sustainability.virginia.edu/sites/sustainability/files/2019-07/UVA_Sustainability_Plan.pdf.

⁸ "Jefferson - UNIVERSITY OF VIRGINIA.Pdf," accessed April 9, 2020, <https://officearchitect.virginia.edu/pdfs/SustainableDesignGuidelines.pdf>.

Though there is an indication of a move towards more holistic concepts of sustainability, as evidenced by the inclusion of social and equitability concerns, they are not portrayed as central to the plan, if mentioned at all, as the plan focuses most on the technical and structural forms of sustainability.

In the context of campus sustainability as it has developed over the decades, UVa finds itself moving slowly towards an adoption of a more holistic concept of sustainability, but still largely focusing on technical (e.g. CO₂ emissions reduction) and economic facets of sustainability. Though absolutely necessary, these are only one part of a larger sustainability regime that includes deep internal changes to how the institution is run and integrating sustainability into everything the school does, rather than tacking on peripheral programs and sustainability efforts. Sustainability has yet to become a foundation of the university's identity, and for a truly sustainable institution, this is necessary. In a historical narrative of the progress of campus sustainability since the 1970s, the 1990s-2010s have been characterized by university adoption of sustainable initiatives including CO₂ reduction pledges, green buildings, sustainability assessment programs, sustainability and design curriculum (as opposed to solely environmental science curriculum), and adding sustainability management departments to the University's administration.⁹ UVa has taken all of these steps, and is beginning to make further progress in expanding into the "third epoch" of sustainability universities which is characterized by a "need to embrace a holistic understanding of sustainability, moving beyond the search for technological solutions and direct economic benefit,"¹⁰ Like other institutions, UVa's sustainability efforts receiving the most publicity and attention from students and faculty not involved with sustainability initiatives on grounds -- though part of their sustainability mission involves social and community outreach, equity, and healthy living environments -- often remain dominated by campus operations, landscape management, and green buildings. The "more elusive, incalculable sustainability issues" receive less attention, and many argue that "while clearly these technological and economic approaches to sustainability are resulting in sizeable and unprecedented leaps in HEIs' awareness and engagement around sustainability, they are intrinsically limited in both breadth and depth."¹¹ More holistic sustainability efforts can often be sidelined or have their great potential mistakenly underrated by mainstream (not involved with sustainability initiatives or teaching) administration and faculty. Until entire universities take more holistic understandings of sustainability seriously and place them in importance on par with reducing CO₂ emissions, truly sustainable universities will never emerge. A fundamental part of this holistic understanding of

⁹ Camille Washington-Ottombre, Garrett L. Washington, and Julie Newman, "Campus Sustainability in the US: Environmental Management and Social Change since 1970," *Journal of Cleaner Production* 196 (September 20, 2018): 564–75, <https://doi.org/10.1016/j.jclepro.2018.06.012>.

¹⁰ Washington-Ottombre, Washington, and Newman.

¹¹ Washington-Ottombre, Washington, and Newman.

sustainability is a wide acceptance of the didactic nature of architecture and a focus on personal or inner sustainability.

Personal and Inner Sustainability

A truly sustainable society cannot be attained solely through top-down reform. While these large-scale policy and technical reforms are imperative, a truly sustainable society must be one with a sustainable culture. Any culture is comprised of many individuals, and thus a focus on the individual experience is essential to a holistic understanding of sustainability. Oliver Parodi and Kaidi Tamm address the paucity of focus on what they call personal sustainability, which encompasses a broad diversity of fields, such as psychology, cultural studies, and philosophy. Parodi and Tamm argue that addressing personal sustainability is a vital component of addressing sustainability on the whole:

Up to now, sustainable development addresses the transformation of infrastructures, economic systems and societies but not the transformation of individuals. It deals with economic and social patterns and problems but not with emotional and psychic ones. Biodiversity is mentioned but not our subjective body. The way we make sense of the world, including perception and interpretation processes, (individual) experiences, thoughts, emotional patterns, psychic structures, awareness etc. are not taken into account when striving for sustainable development.¹²

This is evidenced in the way universities have approached sustainability for decades and in most current approaches. Even those that begin to grasp sustainability beyond technical and economic concerns often fail to address the inner worlds of individuals even as they call for community involvement and equitable development. A university can implement many sustainability initiatives to increase recycling and biking, construct LEED certified buildings, reduce CO₂ emissions and decrease fossil fuel dependency, without any of these initiatives making the slightest mark in the minds of most students. Those students at UVA involved in sustainable extracurriculars remain relatively niche and sustainability-focused curriculum, though growing, can still only reach a limited number of people, many of whom take these classes because of a prior interest in the environment. Even the very best campus sustainability initiatives do not often involve reaching out to the individual and considering their internal world as a vital component of how they approach nature and make sustainable or un-sustainable decisions. Luckily, there are some sustainability-focused classes that do address this facet of sustainability, but these remain few and far

¹² Oliver Parodi and Kaidi Tamm, *Personal Sustainability: Exploring the Far Side of Sustainable Development* (Routledge, 2018).

between. The ideas learned in these more philosophical, self-reflective, wicked-question oriented classes are the last and least likely to be operationalized in concrete sustainability initiatives due to their abstract nature. And yet, this inner world is inseparable from the environmental impacts an individual has on the outer world by way of their decisions. In Parodi and Tamm's approach to the connection between personal sustainability and sustainable development, they assert that:

...inner and outer sustainability are not separate, but interconnected dimensions. The aspects influencing personal sustainability include a set of primarily outer characteristics such as physical health or natural beauty, as well as inner features such as consciousness, spiritual, cultural and worldview-related aspects or a sense of well-being. The inner features further include perceptions, bodily experiences, as well as thoughts and values, needs and wishes, emotional and habitual patterns.¹³

An individual's cosmology or conception of what well-being is will have an enormous impact on their decisions, with great ecological consequence. How does one conceive of the good life and how does one choose to cultivate oneself in order to achieve this life? How does one's spiritual state or mental health impact their decisions? What an individual values and the virtues they deem worthy of cultivating in him/herself have a profound ecological impact, and are questions of the inner world and experiences of individuals.

Discussions of behavior change and psychology as a tool to understand what will make people adopt more sustainable behaviors is helpful, but may be limited in scope in addressing the values that contribute to sustainable decisions, such as valuing the self, others, and the environment (egoistic, altruistic, and biospheric values).¹⁴ Marcel Hunecke suggests that many psychological approaches have proved helpful in understanding environmental decision making, but fall short in certain areas, and provides an alternative psychological model that encompasses aspects from multiple approaches. Social-ecological research excels in its considerations of the societal contexts in which environmental decision making occurs, but generally focus more on society-nature interactions than those between the individual and nature.¹⁵ Environmental psychology illuminates the motivational bases for environment-related behavior, but generally "interventions designed for effecting changes in environment-related behaviour aim to

¹³ Parodi and Tamm.

¹⁴ Ben R. Newell et al., "The Psychology of Environmental Decisions," *Annual Review of Environment and Resources* 39, no. 1 (October 17, 2014): 443–67, <https://doi.org/10.1146/annurev-environ-010713-094623>.

¹⁵ Marcel Hunecke, "Psychology of Sustainability: Psychological Resources for Sustainable Lifestyles," in *Personal Sustainability: Exploring the Far Side of Sustainable Development* (Routledge, 2018).

modify the relevant cognitive processes, ideally taking into account the situational context in which the desired behaviour usually occurs. However, these interventions do not succeed in initiating the profound motivational changes that are needed in order to effect changes towards sustainability-oriented lifestyles.”¹⁶ Hunecke argues that positive psychology has the greatest contribution to make to the field of environmental psychology with its focus on “furthering those positive emotions that are seen as the prerequisite for the on-going development of a person’s personality” and its concentration on not just the individual growth process but “on the humanistic design of institutions and organizations as the basis on which these growth processes can take place,” as well as “available empirical evidence concerning factors that determine subjective well-being and life satisfaction.”¹⁷ Considerations of happiness, flourishing, life satisfaction and the impact of an institution’s design on an individual are all offerings of positive psychology that “have not been applied systematically to fostering sustainable behavior.”¹⁸

Other research has begun to examine this connection between human flourishing or happiness, and ecologically sound lifestyles and environments. Catherine O’Brien has defined a concept of “sustainable happiness” as “happiness that contributes to individual, community and/or global well-being without exploiting other people, the environment or future generations.”¹⁹ She cites research examples that have associated happiness with positive health benefits, lower inclination towards materialistic values, and nature-relatedness, and notes her own inclinations in seeing interconnections between Seligman’s positive psychology concept of “authentic happiness” and sustainability. For O’Brien, “our natural desire for happiness becomes the entry point for discovering that our well-being is inextricably associated with the well-being of others and the natural environment,”²⁰ echoing a growing body of sustainability research that sees the same connections between happiness, subjective well-being, and sustainability, including frameworks for sustainable, humanistic design.²¹ Nature-connectedness research has examined a hypothesis “that human psychological health is related to the state of the environment and time spent in nature, and that people’s subjective sense of connection with nature may contribute to well-being,” with supporting results.²² There seems to be a reciprocal and complex relationship between mental health and

¹⁶ Hunecke.

¹⁷ Hunecke.

¹⁸ Hunecke.

¹⁹ Catherine O’Brien, “Happiness and Sustainability Together at Last! Sustainable Happiness,” *Canadian Journal of Education* 36, no. 4 (2013): 228–256.

²⁰ O’Brien.

²¹ Carolina Escobar-Tello, “A Design Framework to Build Sustainable Societies: Using Happiness as Leverage,” *The Design Journal* 19, no. 1 (January 2, 2016): 93–115, <https://doi.org/10.1080/14606925.2016.1109206>.

²² Leanne Martin et al., “Nature Contact, Nature Connectedness and Associations with Health, Wellbeing and pro-Environmental Behaviours,” *Journal of Environmental Psychology* 68 (April 2020): 101389, <https://doi.org/10.1016/j.jenvp.2020.101389>.

ecological health, where sustainable lifestyles breed life satisfaction and this in turn breeds more environmentally conscious decision making, in a virtuous circle.

The connections between subjective well-being, mental health, personal cosmologies, nature-connectedness and sustainability abound, in theory and/or in empirical evidence. A fully holistic sustainability plan will move towards a recognition of these types of connections, clearly drawing lines between the mental health and well-being of the university's students and the amount of time its students spend in nature or spaces that embody many of the same qualities nature retains. Many universities, UVA included, have a long way to go when it comes to addressing mental health and the inner worlds of its students. If time spent in nature aids in increasing both happiness and nature-connectedness, a university's holistic sustainability plan must draw direct lines between sustainability and mental health, using landscape architecture – a space where one can be connected to nature in the daily course of college life – as a tool with which to address both issues at once. In examining the relation between well-being and sustainability, it becomes apparent that the inner world is vitally connected to outwards sustainable behaviors, and that these behaviors cannot be motivated merely by psychological nudges. They must also be motivated at a more fundamental level, by deeply held values, which is where the concept of inner sustainability enters. UVA's sustainability plan going forward must acknowledge these internal worlds of its students as a vital component in the transition to a sustainable institution, beyond the very important top-down changes it can make. It must help cultivate students who hold values that will incline them towards environmentally responsible lives.

Ecologically Responsible Values

The interconnections between sustainability and happiness, flourishing, and positive psychology, among others, begins to drive us towards a recognition that ecologically responsible decisions are not merely motivated by values as broad as, "I value the environment" or "biospheric" values, but many other seemingly peripheral values that contribute to a flourishing, mindful, well-examined life. To value nature is, I believe, not an isolated value, but is rather informed by and correlated with other values and characteristics. To cultivate attentiveness, awareness, and mindfulness in oneself are all values and habits that likely lead to a greater appreciation of nature. Much of care for the environment comes from paying attention to the detail in the webs of life that may go unnoticed in daily life. One example may simply be considering where your trash ends up after it leaves your curb and what the lifecycle is of any of the products you use on a daily basis. Another example might be not just noticing bird song, but wondering what they are communicating, why right now, why with that call and not another? One of the defining features of nature is incomprehensible complexity and beauty, and deeply rooted interconnection. Thus,

an appreciation of nature comes in large part from an ability to value these concepts in their own right. Valuation of these concepts surely leads beyond just an appreciation of nature to greater flourishing in every other area of life, which is why happiness and the flourishing of a mindful individual are tied up in this lifestyle. So what might be these components of nature that draw us to it, and that we can cultivate in other areas of life? Central to nature is the role of time – slowness, patience, gradual and rapid change, decay and breakdown, revival. Nature holds an aesthetics all its own, an intangible beauty. Nature is a place where attentiveness, awareness, and mindfulness are all rewarded and revealing of even more wonders. Nature is a place of imperfection, where great beauty can be found in fault or seeming error. Nature is a place where experience is inevitably constituted by multisensorial sensation. Returning to Parodi and Tamm's description of personal sustainability, we see that it is both a set of outer characteristics and inner characteristics that function together to determine one's state of personal sustainability. If an individual's inner world affects the outer physical world through his/her choices, it is important to remember that the physical outer world can also impact the individual's inner world. This is where architecture can play a role in shaping the values of the individual, and in the case of environmental values, landscape architecture has a particularly pertinent role. It is these characteristics of slowness, attentiveness, decay, imperfection, beauty, and bodily sensation that individuals must learn to value in order to fully appreciate nature, and it is these same characteristics that landscape architecture can embody and thus quietly impart to its inhabitants. How do UVA's outdoor spaces fare at embodying these values, and thus ultimately in their role as subtle teachers of sustainability?

How Do Outdoor Spaces at the University of Virginia Perform?

What follows is a discussion of personal observations made during time spent in these locations, and a discussion of various characteristics and values they may or may not embody, and to what degree they might have succeeded in inculcating sustainable values in myself. My own experiences in and perceptions of these spaces is of course highly subjective, and they do not claim to be the experiences of every individual that experiences these spaces. I attempt to use myself as a case study of one individual's perception of the effect these outdoor spaces might have on her inner or personal sustainability.

Rooftop Patios

I will focus on two of UVa's rooftop patios: the rooftop patio above the Batten School for Leadership and Public Policy, and the rooftop patio above Clemons library. Both were created as retrofits of existing building rooftops. While there are physical limitations to the type of vegetation that can be grown on a rooftop, and thus no one is expecting towering trees on a rooftop, rooftop patios can still be verdant, lush spaces for study and contemplation. Batten and Clemons perform very differently in this regard.



Batten Rooftop Patio – groundcover, uneven stone pavers



Batten Rooftop Patio – tables with umbrellas, sedum groundcover, and concrete pavers

Sitting on the Batten rooftop one will notice the ground is split between stone or concrete, and soil with groundcover and tall grasses. There are no potted plants, but rather all plants are in the ground, including some small tall grasses, purple catmint, and sedum. During warm weather, the catmint gives the patio a sweet odor and attracts bees, adding an element of wildlife to the space. Half of the patio is made of concrete squares where the chairs and tables reside, though next to equally large patches of soil with sedum. The other half is made of slate pavers that though generally having right angles, have variation in shape and size, and the stone's undulations on the surface. The edges between the stone and the soil areas are not one long straight line, and are instead broken up by stones that stick out irregularly and the plants that fill these little areas between misaligned stones. This allows for a more organic effect with variation for the eye and the creation of pockets of stone and greenery, rather than one sharp boundary between the two. The other half the patio, though without these pockets or texturally interesting stone, makes up for some of this by simply having the amount of ground cover be equal or greater than the amount of concrete squares. Though next to a main walking thoroughfare, the entire patio is raised above and away from the sidewalk on one side, and backs up onto the beginning of the West Gardens on the other, and so remains relatively quiet despite its proximity to a frequently used walkway. Some tables have a metal umbrella and others have none, providing an option for shade on a sunny day, or no shade for a mild or

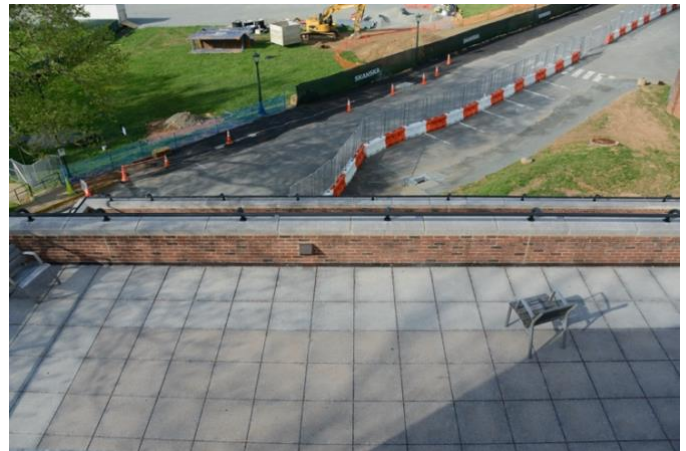
winter day. The chairs are made of a metal frame and a wood seat and back, with a slight curve that provides some support for the lower back, making them useful for extended periods of study. The perforated metal umbrellas are effective in that they have the holes to let in small amounts of light rather than a fully opaque umbrella, adding to a slightly dappled effect as a screen or tree would provide. Their robust quality and undulating metal structure are not a particularly elegant design however, and to me are reminiscent of the kinds of umbrella-table seating one finds outside of a fast-food restaurant. Though less durable in the long run, fabric umbrellas with wooden poles would provide a more natural, soothing textural feel and appearance. Overall, for a small rooftop patio near the busy center of campus, this is a relatively effective space for the constraints of a rooftop garden, though there is certainly room for improvement with the umbrellas and perhaps some taller potted plants of various sizes interspersed with the ground cover on the patio.

The Clemons Library rooftop patio performs very differently. It is a much larger space, and unlike the Batten School rooftop, it is not broken up into distinct areas and there are no pockets. It is one large square space, made of square concrete pavers, with shiny metallic tables and lamp posts, all in straight rows. The chairs are the same as those on the Batten rooftop, made of metal and wood, and there are also a series of flat wooden benches. Unlike the Batten rooftop there is no soil on the ground, and thus no ground cover or plants flush with the ground. There are instead a series of twelve giant rectangular planters, about two meters wide and one meter tall. These planters are light brown and made of metal, and have only one large tree in the center of each one, unlike other planters on grounds that have a variety of bigger and smaller, flowering and nonflowering plants within one planter. Peering over the edge, one will notice the two smaller patios along the two lower levels of the building. These are the same in structure, except without tables or benches or greenery of any kind. The predominant colors on all the patios are grey and light brown, and the benches are the only soft textural element with any variation in shape. The planters are an obtrusive size because they contain trees, with the only greenery thus being raised up and away from the occupants, seemingly far down below these towering structures that are so industrial in size, color, and material, they seem to dwarf the trees within them and neutralize any naturalness coming from the plants. The height of the planters makes the trees inaccessible, leading to a disconnect between the individual and the trees. Variation in the location of vegetation – some on the ground, some at knee-height, some at chest-height, some over the head, for instance – allows the occupant to access nature from multiple levels. Low vegetation in particular gives a feeling of being more connected to the earth in places where most of the ground is not soil or another natural substance, providing a sense of “the ground beneath your feet” even where one’s feet are actually on concrete. The space is dominated by the concrete grid of the ground, and corresponding grid placement of the planters and lampposts, creating an excessive

linearity and repetition that is not balanced by any natural elements or disruption to the grid. The space is not one in which one can connect back to nature in even a mild sense. This is primarily due to the lack of green and natural elements, as well as its domination by such industrial materials as metals and concrete, and planters out-of-proportion to the human body. Neither straight lines, grids, nor industrial materials are inherently antithetical to a natural aesthetic, or more broadly a space that can inculcate sustainable values. They are, however, used here in such unimaginative ways that, in conjunction with the lack of greenery, natural sounds like falling water or chirping birds, or natural scents such as those of blooming flowers or musty, decaying leaves, the space does not connect one to nature or offer restorative aesthetic stimulation. I am not suggesting that either straight lines or curvilinear lines are inherently more beautiful than the other, nor that either has a full monopoly on environmental aesthetics or restorative spaces. The deeper issue at stake is control – the extent to which vegetation appears managed or wild – which seems to have a greater effect on whether the occupant has similar sensations to being in nature and on the occupant's feeling of respite from the highly managed, linearly ordered, rigid world of Western academics and systems. Concepts of rewilding in urban areas, though also serving an ecological function, also illuminate such conceptions of control, and how playing with notions of control and wilderness reveals our embeddedness within nature.²³



Clemons Rooftop Patio – large planters, right angles, grey and brown, repetition and grids



Clemons Rooftop Patio – lower levels, no greenery or tables

The Clemons Library patio could well be considered ugly. Its rigid and repetitive shapes, patterns, colors, use of materials, and lack of greenery dull the mind and dampen the spirit. In such a space, the inhabitant's spirit and state of mind suffers. Even considering varying personal aesthetic preferences for beauty, the space does not embody many of the characteristics that make nature beautiful, such as

²³ "Creative Approaches to Rewilding," The Ecologist, accessed May 4, 2020, <https://theecologist.org/2019/mar/29/creative-approaches-rewilding>.

imperfection, decay, or variation. Clemons patio is one of the few large outdoor areas with tables and chairs, thus making it suitable for more extended periods of outdoor study. Any space made for study outdoors should be designed to allow its occupants to connect to nature in some form, and enjoy a space that contrasts with the ordered rooms and traditional academic intellectual environments one usually inhabits during study. Beauty in the form of places that lifts the spirit and engages the mind, and has thus been an overlooked tool in the drive to inculcate sustainable values in people. If a building is LEED certified or net-zero but an ugly, dismal place to be, it will not be an effective environmentally motivating endeavor, because it will not uplift the spirits of its occupants. As discussed earlier, well-being is an integral part of a holistic concept of sustainability that puts people in the most receptive positions to new ways of living and seeing the world. Beauty also trains people to be more attentive, especially to the intangible and indescribable aspects of space that impact the individual emotionally or make one *feel*. Such attentiveness feeds into an appreciation of the complexity and beauty of nature. Thomas Pilz describes beauty as a means to create attentiveness, which “leads to an open mind and gives presence to every single moment of our life,” as can be evidenced in part, by attentiveness being the foundation of every ethical system.²⁴ UVA landscape architecture professor Beth Meyer explicitly links beauty and sustainability in her essay, *Sustaining Beauty. The performance of appearance: A manifesto in three parts*. Counter to a contemporary narrative that sees a focus on beauty as a trivialization of landscape architecture as mere ornamentation, Meyer writes to reclaim the role of beauty as an active force that performs on the occupant, affecting the occupant’s psychological state and in turn affecting culture and society. Contemporary sustainable landscape narratives limit sustainability to discussions of ecology, equity, and economy, largely ignoring the cultural, experiential role of sustainable landscape architecture.²⁵ Citing the ideas of nineteenth-century landscape architects like Frederick Law Olmstead, she notes that for them, “urban landscapes were experiences as well as environments, sustaining civilization and culture as much as the bio-physical environment,” a perspective which she claims has been lost in contemporary discourses surrounding sustainable landscape design. The sustainable landscape cannot simply be the one that performs ecologically, but must also function socially and for the individual, taking into consideration not just the appearance of the space – as beauty is often, wrongly, limited to – but the aesthetics of the space, which includes the individual’s entire polysensual experience. Considering the Clemons patio, one might note the lack of stimulation for the senses. Unlike the Batten roof patio, there are no trees or greenspaces nearby to provide the sound of rustling leaves or birdsong, there are no scents like the pleasant smell of catmint, there is no variation in the patterns on the ground or

²⁴ Thomas Pilz, “Towards a Culture of Attentiveness” (Walk 21, Barcelona, 2008).

²⁵ Elizabeth K Meyer, “Sustaining Beauty. The Performance of Appearance A Manifesto in Three Parts” 13, no. 2 (2018): 19.

colors to create visual interest, and there is neither a variety or greenery, nor any greenery accessible to the individual at ground level and without barrier. It is not only visually unattractive, but is devoid of sensory stimulation. It is hard to imagine that the sensory or psychological experience of the inhabitant was considered in the design of this space. It does not ask the inhabitant to be attentive to her surroundings or locality. None of the qualities one associates with nature are on display. Meyer describes an encompassing meaning of beauty; in a description of a waterfront park she describes the beauty of the trees and vines: “These trees, grasses and vines are as enduring as the chain link fence and cantilevered concrete walks; their beauty is perceived in relation to their resilience, to their ability to regenerate.” Here beauty is tied not just to sensation or visual components, but to the concepts of resilience and regeneration. Meyer states:

A beautiful landscape works on our psyche, affording the chance to ponder on a world outside ourselves. Through this experience, we are decentered, restored, renewed and reconnected to the biophysical world. The haptic, somatic experience of beauty can inculcate environmental values.²⁶

And as discussed earlier, environmental values are not just a literal valuation of the biosphere, but also a valuation of characteristics commonly displayed in nature, like resilience and regeneration, as Meyer mentioned. Also, importantly, beauty is something one experiences, in every sense, and that affects one’s consciousness. Landscape architecture as a purveyor of beauty is thus particularly impactful because as a physical space, beauty can be experienced through all the senses and in the whole body, providing ample opportunity for the alteration of consciousness. By virtue of its proximity to nature as an outdoor practice, landscape architecture has the unique potential to inculcate environmental values by fusing beauty and the outdoors in everyday spaces.

Rotunda Courtyards

The Rotunda at UVa has an East and West courtyard on either side. These provide a particularly helpful example of the decisions made in recent changes to their design, and the values they reflect. Currently, the West courtyard has a brick laid ground, and a few light green metal, café-like tables strewn around the area. The chairs are not particularly comfortable for long studying and there is a young tree in each corner, in a square plot of earth, about a meter long on each side. The architectural forms of the Rotunda provide visual interest and architectural beauty, which includes semicircular archways and the curved

²⁶ Meyer.

wall of the Rotunda. The East courtyard is identical in form, but it has a raised pool (about two feet off the ground) and four benches, each sitting in front of a small, well-manicured plot of soil and plants, providing a very symmetric, controlled feeling.



East Courtyard today (2020), no shade without the magnolias



West Courtyard today, 2020, loss of ground cover, somewhat stark space

The lost potential of these courtyards becomes apparent when we look at photos of them from only a few years ago, before they were changed to their current form in 2013 (the following photos of the East Courtyard²⁷ and West Courtyard²⁸ from before the renovation are not my own photos).



East Courtyard Prior to Renovation



West Courtyard Prior to Renovation

²⁷ "UVA Rotunda Side Fountain," *Martin Phillips Photography* (blog), December 15, 2012, <https://martinphillipsphotography.wordpress.com/real-estate/buildings-structures/uva-rotunda-side-fountain/>.

²⁸ Timothy Jarrett, *Rotunda, West Facade and Courtyard*, June 5, 2004, photo, June 5, 2004, <https://www.flickr.com/photos/timjarrett/2400083427/>.

These images show us that the courtyards had grass and each had four magnolia grandiflora trees in each corner, such that the trees' foliage provided greenery not only for these courtyards, but also for the walkways surrounding the courtyard above. In the West courtyard we can see moss on the rotunda walls and a slightly unkempt grass groundcover. There are natural wood benches that look slightly worn, instead of the white painted ones we see in the lawn gardens and elsewhere around grounds. The East courtyard had the same type of grass groundcover and trees, a low-lying pool with a small fountain in the center, and small, carved stone benches. Leaves from the magnolias, planted in the early 1900s after the 1895 fire, littered the ground.

The magnolias came down in 2012 for renovations and roof repairs of the Rotunda, with the trees cited as causing potential harm to the Rotunda if limbs fell off during storms, and being in the way of scaffolding needed to perform the roof repairs. Their removal was not without protest, with students starting a petition that obtained 3,000 signatures. Ultimately their requests were ignored as the concerns aforementioned, and a push for what was apparently Jefferson's original vision of the Rotunda, were posited above students' emotional pleas and the university's environmental responsibility.²⁹ The UVa Architectural History chair at the time stated that Jefferson wanted his buildings to have "plenty of sky behind them, to stand up and stand out," and of his own view stated both "I am in many ways a tree-hugger and don't like to see them cut down, but they do mar his concept of how the Rotunda should be seen."³⁰ One petitioner stated, "I don't want to stand idly by as they trample over common sense and due decency in the name of sycophantic adherence to the plans of a man who's been dead for almost two hundred years."³¹ As a UNESCO World Heritage site, the University of Virginia faced a problem particular to historical locations, in which strict historic preservation regulations conflict with desirable sustainable or aesthetic choices. It is unfortunate in this situation that in the pursuit of historic preservation, the ecological and cultural character of these spaces were so severely affected.

There are further aesthetic differences in the courtyards before and after the renovation, beyond the obvious removal of the magnolias and grass, and the brick paving of the entire courtyard. The aesthetic changed from a more unkempt, almost lost-temple like feeling, to a highly manicured, controlled sensibility. A prime characteristic of nature is that of imperfection, and the beauty that this brings. The Japanese aesthetic-philosophy of wabi-sabi is a wonderful example of a worldview and aesthetic that

²⁹ Ted Strong, "UVa Students Push to Save Magnolias around the Rotunda," The Daily Progress, accessed April 12, 2020, https://www.dailyprogress.com/news/uva-students-push-to-save-magnolias-around-the-rotunda/article_8bb050ce-d315-5930-87b2-fd65a0b877f9.html.

³⁰ "Rotunda Rehab: Good-Bye and Good-Riddance to Magnolias?," accessed April 12, 2020, <http://www.readthehook.com/102203/rotunda-good-bye-magnolias>.

³¹ Strong, "UVa Students Push to Save Magnolias around the Rotunda."

draws much of its values from observations of nature, and that provides an alternative conception of beauty from the Western concepts of control and perfection. The spiritual values of wabi-sabi are based in a philosophy that “truth comes from the observation of nature.”³² These lessons include that all things are impermanent, all things are imperfect, all things are incomplete. Some illuminating principles are:

“Greatness” exists in the inconspicuous and overlooked details. Wabi-sabi represents the exact opposite of the Western ideal of great beauty as something monumental, spectacular, and enduring. Wabi-sabi is not found in nature at moments of bloom and lushness, but at moments of inception and subsiding. Wabi-sabi is not about gorgeous flowers, majestic trees, or bold landscapes. Wabi-sabi is about the minor and the hidden, the tentative and the ephemeral: things so subtle and evanescent they are invisible to vulgar eyes.³³

Using this conception of beauty, one can put words and values behind finding beauty in the moss growing on the rotunda wall in the West courtyard, the dirt on the fountain, or the scattered, yellowing and decaying leaves in the East courtyard. The courtyards today appear scoured clean, any dirt or moss seen as a blemish to remove, a fault to correct. The concept of the big, bold Rotunda building as “great” was given precedence over this Japanese concept of “greatness” being found in small, overlooked, temporary things, like moss or decaying leaves that are there one day and blown away by the wind the next. The values of wabi-sabi and their conception of beauty take their cue from nature, such that one who is in a space designed with these aesthetic values in mind will likely receive these nature-derived values, in contrast to classical conceptions of beauty where perfection and control of an imperfect world are architects’ ultimately unattainable goals.³⁴

Another important characteristic of wabi-sabi is its description of beauty as an interaction between entities:

Beauty can be coaxed out of ugliness. Wabi-sabi is ambivalent about separating beauty from non-beauty or ugliness. The beauty of wabi-sabi is, in one respect, the condition of coming to terms with what you consider ugly. Wabi-sabi suggests that beauty is a dynamic event that occurs between you and something else. Beauty can spontaneously occur at any moment given the

³² Leonard Koren, *Wabi-Sabi for Artists, Designers, Poets & Philosophers* (Imperfect publishing, 2008).

³³ Koren.

³⁴ Stanley Tigerman, “Apophysis, Wabi-Sabi, and the Ethics of Errancy,” *Perspecta* 46 (2013): 176–95.

proper circumstances, context, or point of view. Beauty is thus an altered state of consciousness, an extraordinary moment of poetry and grace.³⁵

Beauty is not a set of visual characteristics, but rather an exchange, an event, and an altered state of consciousness. This conception of beauty speaks to Meyer's description of the experiential nature of beauty and its alteration of one's consciousness, and the subsequent power beauty has to affect more environmentally-focused states of consciousness.

East Gardens



Fallen leaves and dappled light on the garden floor



Curving path through blooming flowers

The East Gardens are large, layered gardens behind each of the eastern Pavilions on UVA's central Lawn. Built on a hill, most have a higher and lower level, with various height gradations as one moves from the house down to the bottom of the garden. These changes in ground level give a dynamic feeling to the gardens, and a sense of movement as one descends from one level to the next. Each garden is different, but they share a key set of characteristics. Many large, mature trees are not only beautiful, but provide

³⁵ Koren, *Wabi-Sabi for Artists, Designers, Poets & Philosophers*.

ample shade and create lovely patterns of light. Trees, however, do not cover the entire garden, leaving ample space to lie in the sun. The visitor is provided with options as to their desired temperature and amount of shading, and the dappled patterns and larger trees emulate many of the aspects of being in a forest. The abundance of different plant types and flowers gives off many different scents, and the ear is filled with bird song and the sound of wind rustling many different leaves. The gardens' serpentine walls create a sense of closure from the busy world outside, giving a feeling of respite and escape from the busy world outside its walls. Their serpentine shape also helps lend an organic feel due to their curvilinear lines. There are no large or industrial buildings on any side, so one does not feel pressed in by towering walls. The paths within the garden are gravel paths, and often curve around in organic forms, leading you down a walk way under a tree or between bushes that spill over the edge and reach out to you. Unlike the Clemons patio where the plants are not at ground-level, here the plants are reaching towards the visitor, allowing them to feel their presence and engage with them. There are a great variety of plant types and many are very old, giving a sense of age and history.



Yellow flowers draped over a rustic wooden trellis



A rusting Corinthian column head, covered in cobwebs

The East Gardens are a feast for the senses, which is part of what makes it an effective outdoor space for inculcating environmental values. Embodiment and polysensorial experiences are increasingly recognized tools in the advancement of sustainable lifestyles. Sustainable food, for instance, has been at the forefront of these concepts. The Slow Food movement aims to create sustainable food practices through the avenue of taste as, according to the movement's founder Carlo Petrini, "a medium of communication and a source of culture and conviviality."³⁶ Eating delicious, local produce with friends and enjoying the

³⁶ Sarah Pink, "Sense and Sustainability: The Case of the Slow City Movement," *Local Environment* 13, no. 2 (March 2008): 95–106, <https://doi.org/10.1080/13549830701581895>.

communal spirit of eating food together is all part of a full sensory experience that imparts the importance of locality and sustainable food. The Cittàslow movement in Britain also aims to use sensory experience as a means to connect people to place and create sustainable cities through attention to “how place is produced through the inter-relationships between human, material and sensorial agencies in urban contexts.”³⁷ Cittàslow considers, “how some forms of sustainable [urban] development...might create alternative sensory contexts to those framed by global corporate capitalist enterprises, the consumption practices they imply and the sensory pleasures derived from them.”³⁸ A sustainable city, then, is tied up in a whole set of practices and daily experiences that result in different sensational experiences of the city, linking sustainability to certain sensorial experiences, in a concept of “sensory sustainability.” This concept has a direct link to the idea of embodiment, or acquiring values by way of physical experiences. In an essay entitled *The Spirit of Public Space: Embodied Through Writing and Movement*, Magdalena Joanna Sliwinska advocates the use of poetry writing and bodily rituals performed in a space in order to understand the meaning of a place through action, or “interiorize[e] the space through movement,” leading to better design proposals for use of the space.³⁹ She asserts that “In order to design places of spiritual depth, designers need to embody the spiritual and sensual character of the space to create designs that make end users more present with themselves.” By attending to concerns of individual experience on the front end, the resulting landscape architecture should make each individual more present with themselves, as it will be designed specifically to attend to the inner world of its occupants. This design method holds great potential for designing spaces that will effectively impart the implicit lessons of nature in a given outdoor space. Landscape architecture has the ability, like the Slow Food and Cittàslow movements, to practice “indirect (rather than confrontational) activism that aims to persuade both by example and by providing alternatives to the sensorial everyday experiences associated with global consumer capitalism.”⁴⁰ Physical spaces represent a unique opportunity to teach through embodiment, in unnoticed or “indirect” ways. This form of teaching is more likely to occur when the sustainable lessons one wishes to teach and the inner experience of the individual are addressed in the design process, and are an actively desired part of the space’s ultimate function. The East Gardens of UVa were not designed with ecologically sustainable intentions in the same way that, for instance, the Dell at UVa was designed as a storm water retention pond and to aerate and clean water. However, the East Gardens must have been designed with natural beauty in mind, and in this way they function as incredibly sustainable spaces. The beauty and verdancy of these Gardens contribute to a rich polysensorial experience, and a sensation of

³⁷ Pink.

³⁸ Pink.

³⁹ Magdalena Joanna Sliwinska, “The Spirit of Public Space: Embodied Through Writing and Movement,” *Journal of Interior Design* 44, no. 1 (2019): 13–27, <https://doi.org/10.1111/joid.12142>.

⁴⁰ Pink, “Sense and Sustainability.”

being in nature. These spaces perform to impart sustainable values, such as wabi-sabi's values of beauty as incomplete, imperfect, impermanent, or the values Meyer mentioned of resilience and regeneration.

The East Gardens, tucked-away from main thoroughfares, give the visitor a sense of respite. Sustainable outdoor spaces within universities should accomplish this, so as to give students and others a chance to retreat into more natural spaces and away from the narratives of high stakes institutional competitiveness, traditional, logical instruction, or the linearity and industrial materials of most academic buildings. In a paper entitled *Restorative Counter Spacing for Academic Sustainability*, David R. Jones examines how the controlling institutional structures of a university can reinforce a “managed, goal-directed, modernist narrative of nature. This narrative does not reveal the contested, materially and socially constructed, multiple meanings of nature, which could potentially shift or reenchant the various university actors’ relationship with nature.”⁴¹ Jones claims that:

in their preoccupation with the externalities of the “triple bottom line” of sustainability agendas and with the tangibles of standardization and measurement, universities have veered further away from engaging with what McIntosh (2004) describes as the inscape/landscape dialectic. This describes the intangible “soil and soul” dynamics that bring a sense of completeness and grounded identity from being at one with the living Earth.⁴²

At a university that privileges its corporate image and technical sustainability solutions, it is hard to imagine students and staff ever developing these more emotional, holistic conceptions of nature in an environment dominated by this narrative. Jones asks how, in light of this dominant narrative, can students and professors embrace these wider meanings of nature and establish a greater bio-cultural connection. The solution he proposes is “restorative counter-spacing.” This entails access to spaces that function as a respite from the dominant instrumental sustainability narrative and instead provide room for fostering psychological, physical, and bio-cultural restoration.⁴³ It is easy to feel a release from the instrumental sustainability narratives when one is sitting under a large, sweeping pine tree in one of these gardens, and it is in a space like this that one can work on the bio-cultural relationship and remember what it feels like to embrace nature, within the course of one’s daily routine on campus. Universities, theoretically an ideal place for counter-spacing, due to their removal from the mainstream world as places of reflection and progressive ideas, have so far lacked in embracing this role, and as Jones notes, “while studies have

⁴¹ David R. Jones, “Restorative Counter-Spacing for Academic Sustainability,” *Organization & Environment* 27, no. 3 (September 2014): 297–314, <https://doi.org/10.1177/1086026614545088>.

⁴² Jones.

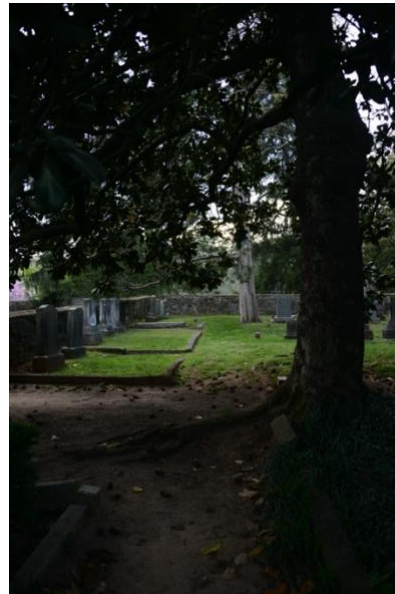
⁴³ Jones.

consistently demonstrated that natural environments are more restorative than urban or built environments, there appears to be a paucity of research in relation to academic settings.”⁴⁴ And yet, academic settings are often where people experience the most formative educational, value-molding years of their lives.

The Dell and Graveyard



The path through the Dell, running by backyards and tennis courts



A beautiful magnolia, headstones nestled among its roots



An ornate headstone in the graveyard from the 1920s

The Dell is a large 11 acre park on UVA’s grounds that includes the headwaters of Meadow Creek on Observatory Hill, which flows all the way down past tennis courts and through a lightly forested area into a sizeable pond next to Emmet Street that doubles as storm water retention and helps aerate and cleanse the water.⁴⁵ As one enters the Dell from Emmet Street, it begins on a narrow asphalt path which brings you by the pond. On one side, the pond is a straight line and a small grass hill slopes down to the waters, ending in a stone edge to the pool, such that one can walk right up to the water. On the day that I went to observe this, someone was fishing in the pond, standing in this area. On the other side of the pond is a meandering path that goes through trees and foliage on each side, with the land sloping into a marshy part

⁴⁴ Jones.

⁴⁵ “The Dell – Environmental Resources – UVA Facilities Management,” accessed May 3, 2020, <https://www.fm.virginia.edu/depts/operations/environmental/stormwater/dell.html>.

of the pond without a stone edge. As one exits the pond the asphalt path turns into a dirt path that runs alongside the stream, with the backyards of various houses up on verdant hills to the right, and tennis courts and then a relatively thick stand of trees on the left. As you continue, you are led to a wooden bridge that crosses the stream, or you can veer off the dirt path and continue down to a place where the stream narrows and there are enough stones that you can hop across. There is then a path, or simply the hillside, that leads you up to the graveyard, where headstones can date back into the 1800s. The graveyard provides great aesthetic and historical interest, and walking through it one feels a sense of mystery and discovery as one reads the headstones and takes in the wide variety of carving styles and the eras they represent. On the day I was walking there, I happened to have a close encounter with a fox, which enhanced the sublime feeling of the graveyard. The plants there are allowed to run wild to a great extent and remain relatively unkempt, things are not so manicured, and nothing is in a straight grid or rigid format. Shapes and forms, materials and styles are fluid and dynamic.

The Dell exemplifies many features of a sustainable space, beyond its successfully engineered ecological sustainability. For me, the Dell provides a space where its off-the-beaten-track feeling gives the visitor a small sense of discovery and mystery as they leave the pond and travel down the dirt path. The path's end next to the graveyard enhances this aura as one ambles through the graveyard, discovering new and interesting headstones – both the people buried there and the architectural interest of the headstone itself. Kaplan and Kaplan's research on environmental preferences for restorative spaces reveal that people prefer spaces with an aura of mystery, which can be achieved by partial obscuration of view and the possibility to explore further, as well as the inclusion of winding roads, the interplay between light and shadow, and various layers and planes of vegetation.⁴⁶ The dirt path of the Dell provides a sense of discovery, one's view being obscured by forest-like trees surrounding the stream adjacent to the path. Other qualities they identify as constitutive of restorative spaces include quiet fascination, wandering in small spaces, separation from distraction, and wood, stone, and old. Quiet fascination can come from activities like fishing or bird watching, or simply "from the setting itself, from the sound patterns, the motion, the intensity of forms and color" and wandering in small spaces refers to the feeling of being in a "whole different world" in relatively small spaces.⁴⁷ The quality of separation from distraction is similar to the concepts of respite discussed earlier, and "wood, stone, and old" suggest that restorative settings include materials that add to rather than detract from the setting, such as using a fallen tree as a rustic trail bench. Old, worn, decaying objects provide an example of natural beauty as these objects succumb to the

⁴⁶ Rachel Kaplan, *With People in Mind: Design and Management of Everyday Nature* / (Washington, D.C. : Island Press, c1998.).

⁴⁷ Kaplan.

inevitability of time and decay, and what was built by humans is taken over by nature. The decaying stone of the graveyard's headstones in the Dell, the rusting Corinthian column head in one of the East gardens, and the Oxford spire hundreds of years old in another of the East Gardens provide a sense of deep age and mystery of a lost past, intertwining with the feeling of losing oneself in nature. The sense of age and slowness are characteristic of nature, and sustainable outdoor spaces should likely have some element that embodies this characteristic. For instance, conceptions of slowness in architecture overlap with sustainability in that both are intimately concerned with locality, both in form that responds to place and in use of local materials and techniques, as well as with creating lasting, durable projects that consider the culture and values of its local inhabitants.⁴⁸ A sustainably designed outdoor space is one that accounts for the potential effects on the inner world of its occupants, considering their needs, values, and desires, and what features would best inculcate sustainable values in these particular people. Such a process requires great time and consideration, and cannot be rushed.

Conclusion

Few fields present such ample opportunity to address a wide breadth of factors that contribute to the development of a sustainable society as landscape architecture. Outdoor spaces have the unique quality of being experienced by the occupant in her whole body and with multiple senses, allowing for built outdoor spaces to inculcate values in the same manner as nature does – experientially and discreetly. The experience of the occupant is internal, directly affecting one's inner world, one's consciousness. Landscape design thus has the distinct quality of being able to address the spiritual, emotional, and cognitive space of a person in the same way nature does – the experience of space. The characteristics of nature and its particular forms of beauty can be embodied by built spaces, such that the occupant feels the value of these characteristics, and is through being taught to value things such as impermanence, decay, resilience, imperfection, and greatness in subtlety, one may eventually begin to value nature – who holds all these characteristics – to a greater extent. These thoughtful, beautiful spaces will also work to increase the occupant's sense of well-being and work on the inhabitant to make her more mindful and attentive to her surroundings. The value of attentiveness itself opens one up to new understandings of one's world and permits one to consider one's surroundings with greater depth and empathy. Due to the university's role as a place for reflection and progressive ideas, it should provide spaces of respite from dominant industrialist-capitalist narratives and instrumental sustainabilities, proving instead spaces where one can reconnect to the values of nature in the course of one's daily life. As an institution who has a sustainability initiative and who holds itself responsible for educating responsible citizens of the world,

⁴⁸ Brian O'Brien, "Slow Architecture: Linger, Savour, Touch," *Building Material*, no. 12 (2004): 16–19.

UVa must include ecologically, bio-culturally educated students among their definition of the well-educated student. This requires adopting holistic conceptions of sustainability that include mental health, sense of well-being, beauty, and aesthetic experience. Outdoor spaces are the most direct access most people have to nature everyday by their basic virtue of being outdoors. If an institution cannot take the impact of these spaces on their students' inner lives seriously, there is no chance of molding ecologically responsible people, not to mention a sustainable culture.

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