

Design Problem-Solving in the Anthropocene¹

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Before we start the 20 minutes, because I know there's a clock up here, I want to say thank you—thank you to the Society for having me here. I fear I might be the comic relief, if not the village idiot. You're all incredibly intelligent people and, although I've done keynotes and commencement speeches in front of thousands and thousands of people, you scare me. So, just be generous, okay? I am putting myself up here with vulnerability. Please know that. I want to take a moment to thank Bill Brinkman and Sybille Zeldin for extending the invitation to share thoughts with you and, Bill, I hope I don't get you kicked out, that's my biggest fear. I also want to thank Annie Westcott for giving me the opportunity to modify the focus of my presentation, and to Jeremy Schoenrock, who graciously received three iterations of this presentation, the most recent of which was last night, because I'm a workaholic insomniac. So, thank you, Jeremy.

I also want to apologize to all the physicists in the room, and in particular to the Society's new inductee, Dr. Sandra Faber. I apologize for appropriating physicists' information in this presentation. I am a landscape architect who has a passion for understanding all things in the cosmos, as there are so many parallels with the human condition.

I also want to ask: Are there any sci-fi nerds in the audience other than me? Oh, thank God! Great! Good. Okay. Let's begin.

THE ASSIMILATIVE CAPACITY OF NATURE

Phrase: The ability of nature to heal itself; its capacity to receive toxic substances without deleterious effects and without damage to life.

So, this talk was conceived with the title "Design Problem-Solving in the Anthropocene" and evolved into "Landscape in the Era of Fear and Xenophobia" and has been realized in its final iteration as "The Assimilative Capacity Of," and that's where I want to begin. We are on a

1 Read 26 April 2019.

sphere that is orbiting in a solar system, within a galaxy, in a vast universe. We are a very fragile blue planet in the context of all of this vastness, presently in a period of extraordinary polarization, most physically realized in the context of climate change. But it goes beyond climate change. There are extremes that we have to live with now, and that this is the new norm is incredibly fascinating. “The Assimilative Capacity Of” nature is that threshold where natural systems just can’t absorb anymore—an out-of-balance scenario. Something’s going to break. It’s all going to fall apart if we pass a certain threshold, and, presently, we’re at that point of vulnerability on our very fragile planet. But it is not just our natural systems that are in jeopardy. I want to acknowledge that we might actually be at the assimilative capacity of ourselves—humanity—and really that’s the point to which this talk has evolved. It is our point of departure.

I want to begin here with a Swanson TV dinner, and my childhood self sitting at the kitchen counter on date night when my parents would be out having a good time; we were left at the kitchen counter, watching television. I’m 55, so I grew up with this show—*Star Trek*.² I feel sure this is the first time that the American Philosophical Society has ever had an image of *Star Trek* up on their screen. I feel compelled to point that out. Can any of the sci-fi nerds in the audience identify this particular episode? This episode is called “The Empath,” and in this episode the guys in silver, who are recognized as the aliens—aliens always wear silver—have captured the three guys from *Star Trek* and have tortured one of them: Dr. McCoy. They’ve also abducted this young lady—an empath. The aliens have come to her solar system where a supernova is imminent. Three planets are orbiting that sun, each with viable civilizations; they captured one person from each of those three worlds to test them, to see whether they, as representatives of their civilizations, were worthy of being saved from the imminent explosion that would end all life. One of those worlds is represented by this empath, who is mute. She has the power to heal through touch those who are afflicted, by absorbing their pain into herself and then healing herself. The aliens have tortured Dr. McCoy within an inch of his life, and the aliens’ goal is to see whether the empath will touch him and absorb his tremendous pain, even if it meant she may die. And with visible reservation and inner fear, in the end, she does. She absorbs his pain and heals him. She collapses near death and the aliens carry her off, leaving to save her civilization as the one of three worthy of being saved. The empathic society is saved as a result of the capacity to give beyond itself.

² The referenced image can be seen here: <http://kethinov.com/images/startrek/TOS3x12m.png>.

EMPATHY

Noun: The psychological identification with or vicarious experiencing of the feelings, thoughts, or attitudes of another.

I have formed a studio based on empathy. Land Collective is an empathy-driven design studio focused on landscape. Its origin is based on my own DNA; in tests, I chart really high on empathy. I have a capacity to give beyond myself to problem-solve on behalf of my clients and their constituents, and, to be very crass, empathy is profitable. To think beyond one's self is actually not inappropriate, people. In fact, it is needed. It is a much-needed commodity. One can actually have a thriving practice empathically assisting others to problem-solve the challenges they face. In my case, I do so through design.

Land Collective's practice began six years ago. We're now up to 16 collaborators between two studios—one in Indianapolis and the main studio here in Philadelphia. We have project work across the country, as far west as Los Angeles, north to Detroit, east to D.C., and a little bit in Europe. Our Philadelphia studio is right around the corner, and I invite you to visit us on Second Street, between Market and Arch. We have a gallery component associated with the studio that shows landscape-related works as envisioned by ecologists, anthropologists, sociologists, and other designers and artists. It is not a point-of-sale gallery. Rather, it is a point-of-discussion gallery, focused on the breadth of landscape-related issues. It also houses my antique garden tool collection from the 1700s, 1800s, and 1900s.

GRAVITY

Newton's *Philosophiae Naturalis Principia Mathematica*: The law of universal gravitation according to which each body in the universe is attracted towards another body by a force that is stronger the more massive the body and the closer they are to one another. (Paraphrased from Stephen Hawking, *A Brief History of Time*)

In our studio we acknowledge two universal truths, the first of which is this: a belief in gravity. It begins with this Newtonian object, an apple. This orb that falls to the Earth, touches the ground that is the connective tissue on which we all stand, a plain that unifies us as a society. That's the power of landscape. Land Collective's goal is to create humanist constructs that allow people of very different ilks, say a chemistry professor and a young protestor who wouldn't normally

speak with one another, to sit proximate to each other in a place of our design, and due to the quality and character of our humanist construct, that adjacency supports a conversation, that conversation comes up with an idea, and that idea 10 years down the road saves the world. We will have been successful. Not because we're smart enough to come up with the idea that saves the world, but we are smart enough to come up with human-focused constructs where conversations takes place. And in an era of nationalism and xenophobia, conversations are the most important engagements between human beings, because conversations allow us to realize that we are only separated by minute particles of DNA and cultural nuance. We are more alike than different. We all have beating hearts and working minds. Conversations promote understanding.

LANDSCAP

Noun: Archaic English (mid-1600s) 1. Landscape – The suffix “scape” in “landscape” posits the presence of a unifying principle which positions one view, a bounded landscape, as representative of the larger environment or entire landscape. (Benjamin Lorch, The University of Chicago, *Origins of Media*, 2002)

So, *landscap*, the Archaic English for landscape, or *landskip*, the Archaic Dutch, is defined as the single point of view of the broad horizon, and it's that broad horizon that contains the extraordinary systems—sociology, anthropology, ecology—within which we work. That's the discipline of landscape architecture. But most importantly, the discipline informs the spectrum of our humanity. Landscape architects embrace all of those conditions in the work that they undertake, design problem-solving within that connective tissue. And it's those designed places that are loved of the heart and the mind that will last, regardless of whether they are “natural” environments or whether they are designed social constructs (Figure 1). If people do not love these spaces in the Anthropocene—the period where we are the dominant species and therefore inform *everything*—they go away. Human beings are in control, even when everything is out of control. If we don't define places that are loved, those places will not survive. They will disappear. So, we have to make sure that human beings love these places, this world we live in and on.

I'm an insomniac, a trait I inherited from my late father. As one of the founders of his field of veterinary ophthalmology, he was a perpetual thinker. To combat my insomnia, or to enhance the circumstances of not sleeping, there are three books that I keep by my bedside



FIGURE 1. Lenfest Plaza at The Pennsylvania Academy of the Fine Arts, image © DAVID RUBIN Land Collective 2021.

for late night reading. One is Marcus Aurelius's *Meditations*. My preferred edition is the Hicks Brothers version. These passages in contemporary English remind me that human beings have not changed in 2,500 years. In his diary-like writings, Aurelius expresses love, loathing, fear—a range of emotions. All the things that we do emotively, he did 2,500 years ago on the outstretches of Austria protecting his world from what he did not know. Technology has changed; human beings have not. There is also Juhani Pallasmaa's *The Eyes of the Skin*, which is a treatise challenging form-based architecture. Pallasmaa advises that we should actually remember that it's the human being that engages in architectural construct, and that design should respond in humanist terms. My fear is that landscape architecture is heading toward form-based solutions, not spatially based solutions, because form is an easy response. Defining valued spatial constructs is difficult. And it is within spatial constructs that human beings engage. And finally, *A Brief History of Time* by Stephen Hawking.

It is here where I want to apologize to Dr. Faber for appropriating the world of physics as a means of describing the human condition. I think Hawking actually wanted to be a landscape architect. He didn't realize this lofty goal in his lifetime. I want to explain to you why I believe this to be so. Hawking's life mission was to unify the general theory of relativity with quantum theory, anticipating that the point of tangency or overlap would describe everything (Figure 2). And it's that union that I think is most important. In *A Brief History of Time*, Hawking describes the general theory of relativity beginning with a

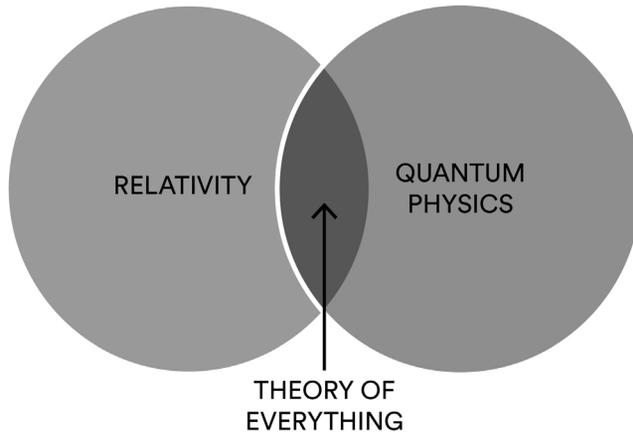


FIGURE 2. Diagram of Hawking’s unification of the General Theory of Relativity with Quantum Theory to realize the Theory of Everything.

momentary flash of light, and an acknowledgment that the speed of light is the one known constant. It’s the thing that moves out in all directions simultaneously at a constant known speed (Figure 3). As such, you can map its progress in time as it emanates spherically through space. As it moves through time, you can slice the sphere to measure its diameter as it gets larger and larger (Figure 4). If you draw those slices and connect their perimeters, the resultant diagram describes what Hawking identifies as the “future light cone.” All of the things contained within that ever-expanding sphere are a part of the future flash. Conversely, all the incidents that led to the instigation of that momentary flash of light are part of the “past light cone” (Figure 5). But what is so fascinating to me is everything *outside* of the past and future light cones is the elsewhere of *P*, the elsewhere of the Present, which I think is really wonderful (Figure 6). The elsewhere of *P* is the vacuum between all other past and future moments. The things that did not inform what happened, and do not inform what will happen. And it’s that vacuum that I want you to appreciate.

Using the past and future light cone diagrams, we can map the cone on a plane where the flash is the point of tangency. Acknowledging, as Einstein did, that everybody experiences time differently, we can begin to see something that describes each of us. We each understand time differently; each of us has these momentary flashes of light that define the present and inform the future. If we map these to the plain of landscape—the connective tissue that unifies us, that thing on which we all stand—then as we move through time, the ultimate goal is the unification of those mapped spheres describing our future (Figure 7a).

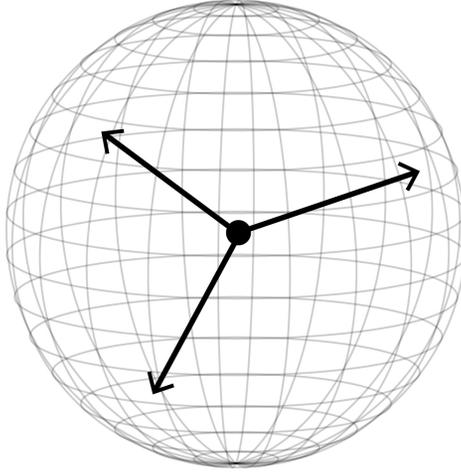


FIGURE 3. Hawking's explanation of the General Theory of Relativity begins with a momentary flash of light. The speed of light is the one known constant, moving out in all directions simultaneously informing a sphere.

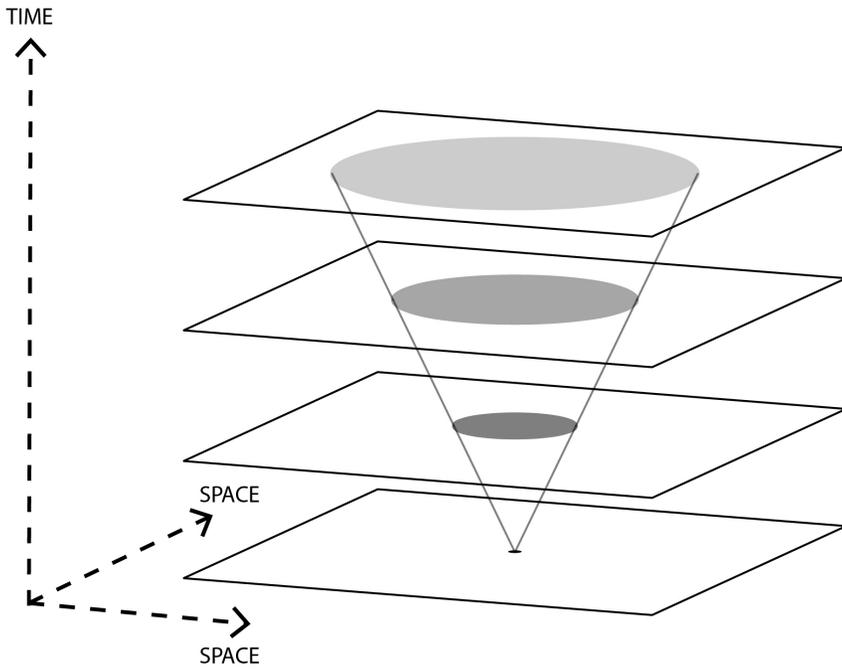


FIGURE 4. Diagram of a flash of light progressing through time as it emanates spherically through space. Slicing the sphere as it gets larger informs the shape of a cone.

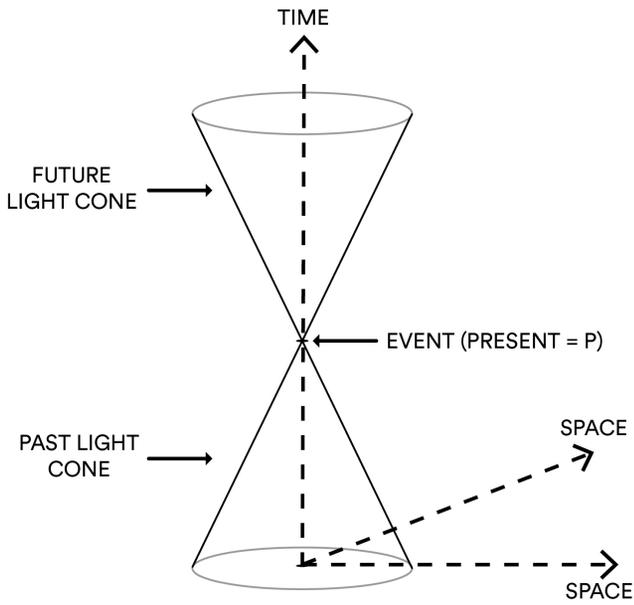


FIGURE 5. The flash Event with its past light cone and corresponding future light cone.

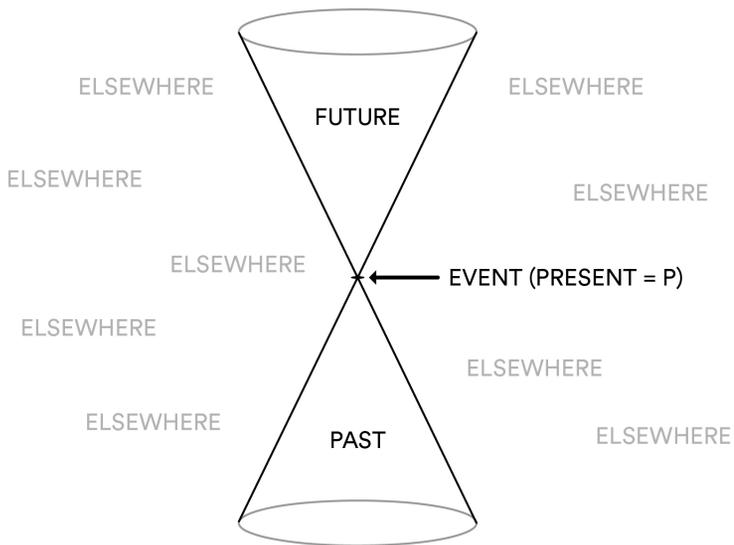


FIGURE 6. Diagram of the elsewhere of P , everything outside of the past and future light cones.

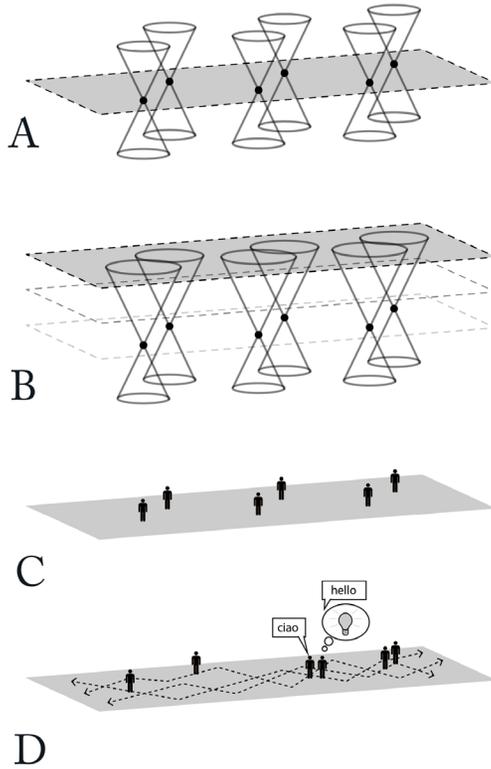


FIGURE 7. Individual moments mapping events are distributed on a common plane representing time. As the future light cones of each event enlarge, they eventually intersect. That intersection unifies the unique events into a common experience, increasing the prospect of communication between each event. Those singular events can be interpreted as individuals unified on the common ground of landscape.

Eventually, there is a moment of tangency and overlap that represents the union of those expanding spheres (Figure 7b). These become the opportunity for connection and conversation, and the spark of expanding light in the present moment becomes the potential spark of connection (Figure 7c).

The study of quantum physics focuses on the anticipated patterns found within a seemingly random expression of atoms and subatomic particles. While mapping the randomness over time, predictable

patterns begin to emerge. Human beings are not dissimilar. We move through time in seemingly random patterns, but actually we are fairly predictable as we move from home to work, or work to school, with the occasional diversion to the cleaners, food mart, or coffee shop. When you consider that each of these future light cones might represent us, and we marry the general theory of relativity to the patterned randomness of quantum physics, you find opportunities for serendipitous encounters fostering unanticipated conversations that come up with the big idea that saves the world (Figure 7d)! One moves through time, responds to the quality and character of a well-designed space, meets another human being in that context, and says “Hello,” and a conversation begins. That’s why Hawking wanted to be a landscape architect. This is actually what I do, and it’s kind of wonderful. Hawking defined a wonderfully poetic description of the things that I do. So, it’s that flash of light—that thing that resonates from within us moving out in all directions—that has the prospect of fostering conversation through serendipitous encounter. I am a secular humanist, and I know that there is the light within each of us that defines us as individuals, and when you can work as a landscape architect to unify those flashes of light, incredibly powerful, beautiful things happen.

Our studio’s second universal truth is this—Mean People Suck. Right?! For us, meanness is actually the deprivation of kindness, and so our goal as landscape architects is to promote kindness through conversation and understanding. I think there are many more voices that allow for kindness in the context of what we do, and we have to recognize that meanness has come about as a result of the polarization of peoples. We have forgotten some of our population along the way. They are disenfranchised by homogeneity. More people live in cities than ever have in the history of mankind, by choice and by fact. Those who live in cities choose or need to live within diversity in dynamic, gritty, verve-filled environments in which we as citizens thrive, where creativity happens, and where culture is uplifted. It’s that grittiness, perhaps, of dynamic urban life that smooths out the rough edges and allows us to move more fluidly with and between each other. In the context of city life, one has to tolerate, adapt, and engage. Isolation within the spaces between cities—in “the elsewhere of *P*”—has created a vacuum in our society, and between us as citizens.

This vacuum is impactful. Our presidential leaders are elected into power by both popular vote and by the Electoral College, an institution which was originally intended to balance urban and rural representation. But more people live in cities than ever have in human history; fewer live in more homogeneous rural areas. And in our

lifetime, we have seen two popular presidents lose their elections in a political landscape of polarization, and the vacuum is ever increasing.

Ambrogio Lorenzetti's 1338 fresco, *The Allegory of Good Government*, resides over elected officials to this day, where they meet and govern in Sienna's town hall. My bastardized Latin here reads, "Where justice rules, the people shall be governed by the common good." And the common good is the common ground. I had the opportunity to participate in my first gathering of the Mayors' Institute on City Design in 2013. I was the sole landscape architect brought in amongst building architects, economists, and planners to discuss the challenges faced by elected mayors from a variety of urban environments, from small hamlets to major metropolises, from Sunset, Arizona to Baltimore, Maryland. I was offered three minutes to describe what I do as a landscape architect, to try to alter the impression of these elected officials away from the progressive verb of *landscaping* or thoughts of curb appeal. So I showed them my hometown, our hometown, Philadelphia, as a Nolli map, which typically describes the fabric of the city representing private structures as black and public areas as white. However, I inverted it, and I put a red line around a central portion of the city that avoided the rivers and focused on a large portion of the grid, and quantified it, acknowledging that the total acreage within that red zone is 4,285 acres: buildings represent 1,704 acres and my area of expertise, which is everything else, is 2,581 acres. There is far more connective tissue than built form. Building architects design buildings for specific types of people; landscape architects design spaces between those buildings, and sometimes on top of them, and the constituency informed by that area is significantly broader. I helped the elected officials see that modifying the connective tissue—landscape—is the least expensive, most impactful, most equitable means by which to positively inform the greatest number of constituents. And, by the way, those constituents vote! Suddenly those mayors had lightbulbs going off above their heads—you could see it in their faces—as they realized that affecting the public realm could actually change their capacity to govern in the best possible way: they could get reelected. It was so cool to watch in real time. Especially in an era when more and more have less and less, landscape is the most equitable environment in which to effect positive change for the breadth of communities.

In the English language, we often use the word *landscape* to describe a spectrum of thinking. We use the phrase *the economic landscape* to describe the breadth of opportunities and constraints associated with the sine curve of commerce. In the lexicon of governance, you will often here the phrase *the political landscape* to describe the spectrum of thinking, from conservative to progressive, or the

environment of debate regarding leadership. But landscape is something more than a noun qualified by an adjective. Landscapes themselves are inherently politically charged. Landscapes are incredibly powerful tools and are representative of culture in every respect. We identify ourselves in context with landscape, acknowledging that the quality and character of our place of origin is an important description of ourselves—an identifier. We define our nation in the setting aside of stretches of land—each distinct and memorable—in the form of local, state, and national parks. We manipulate the land to conform to and represent our ideals.

Figures 8a and 8b are two images of the same place, Chiswick House, a recently refurbished estate you can still visit in London. In Figure 8a, we see the property in 1707, and in Figure 8b, the same estate in 1730. Something happened between those two dates such that the landscape *and* the house were completely rewritten. It was the Age of Enlightenment in England, a period of time when the Whig Party was increasing its political will after the death of Queen Anne and parliamentary representation—a representation of the people—became more powerful. The Whigs were seeking a language to represent themselves in the context of cultural identity. Until this time, the English had adopted the fashion of France, including the parterre garden, highly stylized controlled nature, with horticultural arabesques, distant views, and endless vistas requiring a vantage point from above: complete control over nature by a single individual. England had adopted the language of monarchs in the form of parterre gardens and other landscape elements that described something very different than the ideals of the Whigs.

In the observable patterns of 18th-century culture as realized in the Grand Tour, serendipity or planning brought two men together in the abstract context of ancient, republican Rome, and like those random happenings I represented to you moments ago, when two thoughtful figures come together, sometimes a great idea is formed. Watercolorist and set designer William Kent (Figure 9) and the Third Earl of Burlington, Richard Boyle, a leader of the Whigs (Figure 10), together invented a language for the Whig Party and a new representation of governance. The Earl's house at Chiswick was transformed from a Jacobian Manor to a Roman temple-like structure. Critically challenged as being too small to live in, too large for a watch fob, it was a republican symbol positioned at the center of a narrative in a verdant garden setting. In its new incarnation, the French-style parterres were erased for an expanse of lawn with statutory strategically placed at the end of ellipses. In this case, in Kent's new construct, Caesar and Pompey are confronted by Cicero, Cicero representing democratic principles—the

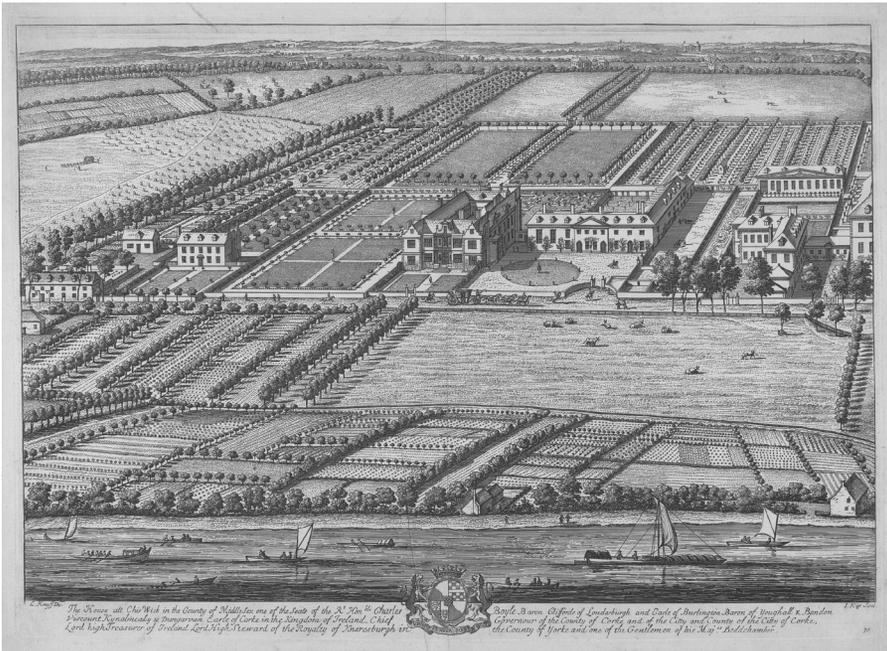


FIGURE 8a. *The House at Chiswick in the County of Middlesex* by Leonard Kniff, 1707, collection of the author.



FIGURE 8b. *Chiswick House, View of the Cascade*, Royal Collection Trust / © Her Royal Majesty Queen Elizabeth II 2019.



FIGURE 9. Portrait of William Kent by Bartholomew Dandridge, circa 1736, oil on canvas, National Portrait Gallery London, published with permission.



FIGURE 10. Portrait of Richard Boyle, 3rd Earl of Burlington, by George Knapton (1698–1778), © The Devonshire Collections, Chatsworth. Reproduced by permission of Chatsworth Settlement Trustees / Bridgeman Images.



FIGURE 11. The Rousham “Eyecatcher” by William Kent, image by the author.

voice of the people—and Caesar and Pompey representing the empirical powers. Throughout the landscape we have a language of Roman temples and obelisks—a reincarnation of a fantasy republic.

Kent went on to design Rousham, a highly charged political construct. In the distant landscape of the estate’s prominent vista, Kent took a working mill and clad it with a gothic temple façade, and in the greater distance, he formed the “Eyecatcher”—a kind of ruined triumphal arch positioned within the adjacent property’s barley fields, inferring England as the inheritors of Roman republicanism (Figure 11). My husband and I had the opportunity to walk out into that barley field and take this picture of the arch. You can clearly see it is a stage prop, like a picture frame set on a hillside mantel. That’s what William Kent did. The English landscape is a stage set repositioning England and peoples’ understanding of it. And, it really is this thin thing. The Eyecatcher is veneer, if you will, an application describing the relationship between republicanism and self-governance.

VENEER

Noun: A thin decorative covering of fine wood applied to a coarser wood or other material.

Verb: Cover (something) with a decorative layer of fine wood.

In the decades surrounding the construct of these two instrumental English landscapes, our country was founded, so it’s no wonder we live

with the language of government buildings looking like Roman temples, and we have adopted *lawn* into our national vocabulary, even though we shouldn't have, given our temperature range and rainfall—generally too hot, too dry. But, as in England, these republican symbols, as important as they are in describing our vision of ourselves, are equally thin, equally veneer. In the volatile times in which we live, as aspects of environment, ecological and political, become more polarized, one can see just how thin it really is. It is as vulnerable as any tabletop veneer. It is easily damaged beyond repair—beautiful on the outside, vulnerable on the inside. It is easy to expose the roughhewn composition beneath that veneer. So, in the context of public protest and the relationship that we have to our own landscape, we use these environments to express ourselves for good and for bad (Figures 12 and 13). The environment in which we engage with each other is indeed a representation of ourselves. How we use it becomes incredibly important to the description of our own society, whether good or bad. We engage each other in the context of those ideals, which is why landscape is an incredibly powerful tool and informs how people engage with each other.

So, when you think about the broad horizon view, that spectrum of our own society in the context of the connective tissue, you have to remember that there are many voices out there. Some of challenge. Some of resonance. To be resilient, they need to be as diverse as any of the ecological environments that we hold dear. The vulnerability and polarization that we see in our environmental challenges now parallel the challenges we face in how we speak with one another. And we have to remember that in describing environments in which conversations can take place they need to be as resilient and adaptable in their capacity to hear all voices, as any diverse ecological system. In doing so, it can be incredibly powerful as a tool to uplift culture and form an extraordinary idea.

THE ASSIMILATIVE CAPACITY OF HUMANS

Phrase: The ability of human beings to tolerate and to heal themselves; the capacity to receive toxic conditions without deleterious effects and without damage to life.

When more people live in cities than they ever have in human history, it becomes incredibly important to recognize that urban areas are a place of great conversation and opportunity. Polarization and extremes are issues to which we have to be equally attentive, whether in the context of ecology or the sociology of our own self-governance. We



FIGURE 12. Women's March on Washington, D.C., January 21, 2017, © Erin Alexis Randolph, reproduced with permission.



FIGURE 13. Charlottesville Torch March, August 11, 2017, © Stephanie Keith, reproduced with permission.

have to be mindful of those left behind or who choose isolation. “The Elsewhere of *P*” is a vacuum where no oxygen exists, where the breadth of conversation is lost. How do we ensure that no one is left behind?

For me, the big questions end up being: What is the assimilative capacity of human beings? Where is that tipping point at which we cannot move forward anymore? How do we stabilize ourselves in the context of conversation where opportunities and ideas are heard, not just listened to? And in those conversations, we leave no one behind to allow for the vulnerabilities of dissonance and polarization. We must always remind ourselves of this great blue orb, our Earth, and the fragility of it, and we have to remember at the forefront of our brains that we are the species that makes every decision for every other living creature on this planet, and that if we want to be successful, we have to love and appreciate ourselves and the capacity to do good in the context of all that we understand. Because in the end, we are extremely small and irrelevant. We have to make our own relevance in the context of the galaxies that surround us. And so, with that, I invite you to believe in gravity. Thank you.