RE-MEDIATING NATURE: ENVIRONMENTAL ENTROPY, URBAN PARKS, AND THE BOISE RIVER GREENBELT

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DEDICATION

For Caryn, for her unfailing support, assistance, critiques, and most importantly, love.

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ABSTRACT

Urban greenspaces are integral to the healthy functioning of a city. They provide heat relief, flood prevention, act as sites of community engagement and creation, and are home to charismatic flora and fauna, to name just a few of their roles. However, this importance has not translated to scholarly analysis. This thesis aims to address this shortcoming in several ways. Firstly, it introduces the typology of *environmental entropy*, a framework of analysis that recontextualizes greenspaces as blended landscapes, where nature and culture and human and nonhuman agency equilibrate. Using environmental entropy, the rest of the paper examines urban parks from a historical perspective, tracking the existing scholarship, examining a prominent example of urban park design in the Boise River Greenbelt, and then examines more contemporaneous and international park designs. Using environmental entropy allows for historians, scientists, and policymakers to more clearly communicate their goals and plans for urban greenspaces, which in turn will allow these spaces to cater to the needs of the modern city and its diverse citizens.

TABLE OF CONTENTS

CHAPTER ONE: SEEING THE CITY THROUGH ENVIRONMENTAL ENTROPY

While visiting the City of Boston Archives for the research on this project, I had the opportunity (and the difficulty) of walking some distance from the small building to a nearby bodega for lunch. This short walk brought me into contact with a surprising amount of urban greenspace. To my right was the Rivermoor Urban Wild, an overgrown tangle with barely visible footpaths and a few abandoned camps. Beyond the Wild was the Cow Island Pond, which provided views of resting and preening birds. As wonderful and surprising as these urban natures were, I was most struck with a streetside strip of land, directly left of the sidewalk where I was ambling. Like its neighbor to my right, it was unkempt (more moderately so), and I just so happened to walk by right as it got a haircut (see Appendix 1-2). It was so surprising to see a tiny strip of land, juxtaposed neatly beside a thicket that, in some places, completely overtook the sidewalk, get the attention of a manicure.

What does it mean to be 'natural' in the city? What can we learn from closely examining the ways that we control the natural spaces within our cities? To answer these questions, a new typology is needed. I contend that the concept of *environmental entropy* is one such way to reframe and recontextualize the city and its environment. Environmental entropy is a framework that provides a new way to evaluate and understand urban spaces on a scale that ranges from low environmental entropy to high environmental entropy.

This thesis aims to answer some key questions about the built and nonhuman natural environments. Firstly, this work proposes a new way of viewing urban green spaces and parks by developing a typology called *environmental entropy*. I intend to provide a unifying framework, a helpful term, that allows several disparate or otherwise unconnected disciplines to speak with each other clearly. By using this connective terminology, historians, professionals, and scientists will be able to better frame the environments around them and to understand the cultural and thus deeply historical antecedents to our contemporary spaces.

Secondly, it provides a more universal historiography of parks as an urban phenomenon. Because parks have many local variations and expressions, and because many disciplines have investigated and thought about parks, the extant literature is diffuse and difficult to access. The need for a reevaluation of the historiography is clear- the most recent historiographical undertaking for parks is decades old and fails to consider the environment as a site of agency and as a sociocultural space. Early designers, in their pursuit of rational solutions to the problems that plague cities in every era, turned to parks as one such ameliorative solution but failed to consider deeper values about what "nature" can and cannot do within the city. Likewise, scholarly treatments of cities, parks, and urbanity frequently ignored the environment, despite the deep roots that cities and nature share. Such biases remain entrenched in various literatures, from deindustrialization to zoning laws. Rather than using old categories that reproduce familiar biases, environmental entropy recontextualizes and problematizes current scholarship. By providing a broad overview of historical and design literature and demonstrating how past and future scholarship may benefit from incorporating

environmental analysis, further inquiries into the rich and complex world of urban greenery will be able to proceed with greater nuance and applicability.

Lastly, it provides examples of contemporary parks that demonstrate how environmental entropy can inform and undergird best practices in both design and community involvement by examining notable areas of both highly ordered and highly disordered urban spaces.

Other scholars have utilized environmental entropy as a concept, but their methodologies and applications are much more specific and are thus diametrically opposed to my proposed use. For the sciences, entropy is a concept that is easily accessible and conveys an understanding of the complexity and function of a system, namely in terms of randomness. Writing in 1993, Georg Schulze and Shuji Mori proposed that the combination of entropic theory and evolutionary systems "indicat[ed] that environmental entropy increases will exert pressures on an organism," and investigated the relationship between environmental factors, organism mutation, and complexity in a distinctly scientific and mathematical approach to the concept. Likewise, Wang et al. describe environmental entropy with a primarily scientific lens, incorporating a complex equation to investigate the relationship of the urban environment with excess energy and pollution coefficients. However, their assertion that their model belongs to a "generalized concept of entropy" is more suitable for the purposes of this paper.[1] My usage and intention of environmental entropy is as a highway of sorts, facilitating the

[1] Georg Schulze and Shuji Mori, "Increases in environmental entropy demand evolution," abstract, *Acta Biotheoretica* 41, no. 3 (1993): 149. Qingson Wang, Xuelian Yuan, Chunyuan Ma, Zhen Zhang, and Jian Zuo, "Research on the impact assessment of urbanization on air environment with urban environmental entropy model: a case study" *Stochastic Environmental Research and Risk Assessment* 26 (2012): 444.

flow of information from one discipline to another. In its most abstract fashion, it works like another form of entropy, that of osmosis. Just as water molecules transverse a barrier to equilibrate a cell system, so too will information flow from more scientific disciplines to more humanities-oriented disciplines, and vice versa. The lexical bridge provided by this typology will move away from highly specialized applications and towards greater incorporation as a methodology or lens for various disciplines to incorporate.

Additionally, environmental entropy provides a transverse way of evaluating subjects familiar to contemporary scholarship and culture. For example, the false dichotomy of "wild" vs. "tame." Generally, "wild" spaces are those that are understood to be somehow apart from human activities. Under such a dichotomy, an abandoned lot within the city certainly cannot be understood to be a "wild" place – the remnants of human artifice would seem to complicate and perhaps negate some of the wildness ascribed to such an area, even if it remains obvious that such spaces are a nexus of agency—human and otherwise. Conversely, supposedly "tame" spaces and beings often fail to conform to such labels neatly either. History shows us that bold attempts to overmaster native vegetation and control pesky species oftentimes runs awry, suggesting a quiet tenacity frequently missed by the overly simple title of "tame." Environmental entropy provides a type of freedom from more scientific constructions and their significant cultural baggage. It provides solid footing and clarity in contexts where definitional complexity is high. By recontextualizing familiar categories such as "wild," "tame," or as will be discussed later, "formal" and "informal," environmental entropy allows for more clear understanding between historians, scientists, and planners designing urban green spaces.

At its simplest expression here, the term is an attempt at unifying some of the more complicated and nebulous terms of park vocabulary for greater simplicity. Environmental entropy is a flexible framework, one that is broadly usable to describe the condition of urban greenspaces as we encounter them in our cities and other built environments. Like the entropy of classical physics and thermodynamics, environmental entropy can be conceived of as a sliding scale from high entropy on one side (high disorder) to low entropy on the other (low disorder). Put simply, environmental entropy is a measure of the degree of environmental presence and human interaction in a given space. In truth, there is nothing preventing the term from being applied outside of the city, but for our purposes here we remain within its confines. Low entropic spaces are spaces that are maintained, curated, designed, and implemented with more explicit goals in mind.

History has a flexibility of approach and form that allows scholars to examine macro systems, like cities in their whole sense, to the extremely minute, sometimes an individual neighborhood or a singular urban forest.[2] Cities are *systems*, in that they are agglomerations of interactions and responses to those interactions that, over time, have output effects of their own. They are "hyperobjects"—objects that have a theoretical and philosophical dimension that make them incredibly difficult to quantify, isolate, and

[2] For an excellent environmental history of the city at the macro scale, see Mathew W. Klingle, *Emerald City: An Environmental History of Seattle* (New Haven: Yale University Press, 2007). For more micro studies, see Laura A. Ogden, et al., "Forest Ethnography: An Approach to Study the Environmental History and Political Ecology of Urban Forests," *Urban Ecosystems* 22 (2019): 49-63 and Wendy A. Kellogg, "Nature's Neighborhood: Urban Environmental History and Neighborhood Planning" *Journal of the American Planning Association* 68, no. 4 (Autumn 2002): 356-370.

know completely.[3] At the macroscopic scale, urban environments consolidate the resources of their hinterlands and produce goods and services with greater densities and efficiencies than their rural counterparts. At the microscopic, neighborhood interactions and migrations can reconfigure once static areas into dynamic regions marked by rapid growth, decay, and change. Urban greenspaces are similarly complex systems, wending through the urban interstices at every level, yet these spaces oftentimes remain unacknowledged or under appreciated. Certain disciplines have failed to account for the role that these spaces play in the upkeep and livability of our cities.

In order to change the environmental potential of a location, sometimes great effort must be expended to reshape the land and reorient recalcitrant nature to a new form. Examples abound of this process; take the Public Garden in Boston, part of the famous Emerald Necklace designed by Frederick Law Olmsted. Before the expansion of the city, the arrival of the colonists, or even the influence of the native peoples of the area, receding glaciers reshaped the environment, changing the landscape into a hilly terrain. By the time colonists arrived in Boston, the area that would be the Public Garden was still marshy land just outside the city, proceeding along its own "ecological time," to borrow Zachary J.S. Falck's phrase.[4] By 1794, the marshes had been infilled, and were the site of ropewalks, businesses devoted to the entwining of rope, and by 1837 the area had been leased to the wealthy horticulturalist Horace Gray for use as a public garden,

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[3] Timothy Morton, *Hyperobjects: Philosophy and Ecology After the End of the World* (Minneapolis: University of Minnesota Press, 2013), 3.

[4] For more on ecological time, see Zachary J. S. Falck, *Weeds: A History of Metropolitan America* (Pittsburgh: The University of Pittsburgh Press, 2010), in particular see chapter one, "Urban Growth and Ecological Time," 16-50, for a breakdown of the ways that nature often transcends the chronology and agency that humans tend to ascribe to the city form.

following another round of infilling.[5] After multiple landmaking projects and the significant cost and effort required to grade, plan, and ultimately plant the area, the Public Garden was ready to open in 1862.[6] The effort required to change this space from marshy flats into the Public Garden was intensive, spanning multiple decades, governments, and large infusions of capital. Furthermore, the space has always required an intimate series of relationships to ensure its continuance: horticulturalists, tourists, planners, governmental appropriations, and more, each of which contribute something meaningful and irreplaceable to the Garden in its historic and contemporaneous state. This is the essence of a low environmentally entropic space, one that is carefully managed, created, and maintained for a specific purpose. Every urban area shares a similar story. New York's Central Park required the removal of millions of cubic feet of soil during the grading process, as did Cairo's Azhar Park. Cleanup efforts were needed before Julia Davis Park could be opened in Boise, as the site had been a dumping ground previously.

Spaces of high environmental entropy reside at the opposite end of the spectrum. These spaces are more happenstance, owing as much to biophysical forces as humanity, and have much less intentionality in their construction. There are many existing terms that address these spaces that vary widely by discipline, but not by meaning or intention. For some, these are the sites of deindustrialization; places abandoned once the logic of capitalism ensured that extractive or productive industry was no longer profitable. While deindustrialization has many global examples, a prominent and compelling instance of

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[5] —, *How to See Boston: A Trustworthy Guidebook* (Boston: Macullar, Parker, and Company, 1895), 138. Nancy S. Seasholes, *Gaining Ground: A History of Landmaking in Boston* (Cambridge: The MIT Press, 2003), 169.

[6] Seasholes, *Gaining Ground*, 4.

the transition from industry to wildscape is in the Ruhr Valley in Germany, where a "deindustrial sublime" can be found by walking industrial heritage trails and exploring factories slowly going to seed.[7] For others, these are "orphaned spaces," best understood by artist reimaginings of the environmental past.[8] Spaces of high environmental entropy may also be "wildscapes" that encourage human interaction with nature that is not sanitary and supervised, instead encouraging meaningful play and providing a connection to historical landscapes and activities.[9] These locations, like nineteenth century paintings of ancient ruins reclaimed by the awesome power of nature, inspire us to think about the city form as modified by natural agency, and the everyday interactions between the two that we oftentimes fail to notice. Whether it be in Boston, Boise, or elsewhere, spaces of high environmental entropy, that is, low human management and effort, tend to have similar characteristics. Often, they have successional plant communities, which spring up in absence of—and sometimes despite—human maintenance. These happenstance plants can alter the chemical makeup of the soil and, given enough time, give way to other, more ecologically stable plant communities that arrive once the area has been rehabilitated by nature's agency.[10] Oftentimes, the overgrown spaces within the city that

[7] Stephen High, "Brownfield Public History: Arts and Heritage in the Aftermath of Deindustrialization." In *The Oxford Handbook of Public History,* eds. James B. Gardner and Paula Hamilton (New York: Oxford University Press, 2017), 426.

[8] For more, see *Loving Orphaned Space: The Art and Science of Belonging to the Earth* by Mrill Ingram, 2022.

[9] For play and supervision, see Catherine Ward Thompson, "Places to be Wild in Nature" and Tim Edensor, et al. "Playing in industrial ruins: interrogating teleological understandings of play in spaces of material alterity and low surveillance" in *Urban Wildscapes*, eds. Anna Jorgensen and Richard Keenan (New York: Routledge, 2012).

[10] In *Weeds*, Falck uses several endearing sobriquets, including "happenstance plants," "fortuitous flora," and "urban herbs" in lieu of the more problematic term "weeds." See Falck, *Weeds*, xi.

have been abandoned are ones that have been polluted or have been the site of extraction and depredation.

However, not all spaces of high environmental entropy are created by abandonment and disrepair. These spaces can also be created intentionally, when institutions or governments seek to create "wild" urban spaces for a variety of purposes. Spaces like the Ramble (in Central Park) or the Wilderness (in Franklin Park, in the Emerald Necklace) may seem like areas free of the city they are ensconced in, but they are actually the product of careful planning and implementation by the famed landscape architect Frederick Law Olmsted. The Boise River Greenbelt may seem to be a wild strip bordered by order, but much effort and care was taken to rehabilitate the nature of the river before it could take on a wilder affect. Nevertheless, even as these spaces were polluted and degraded, they were still natural landscapes, signifiers of a particular relationship between the humans within a city and their natural environment.

In contrast, places of low environmental entropy are highly managed for specific characteristics, behaviors, and outcomes. A cemetery, for example, is maintained to provide a calm and tranquil atmosphere to visitors, whereas a public park might be organized in several ways to meet a particular type of recreative need. It must be stressed that there is considerable blending between the two within the variegated fabric of urban spaces. The Boise River Greenbelt, stretching some twenty-five miles in the heart of metropolitan Boise, is unmanaged and has a vibrant selection of wildlife and successional species, despite being so close to the heart of the city. The Greenbelt, a hybrid entropic space, itself links to the other municipal parks of Boise, manicured and managed spaces of low environmental entropy. Pick any city in the world and you can find these same

processes and occurrences adapted to local conditions. The implications of this are simple: highly ordered spaces do not arise *ex nihilo*, but low ordered spaces can, although many spaces that appear unmanaged or "wild" are the result of careful human planning, complicating their status.

The practice of design that is present in many urban green spaces is what creates their complex character. Each space is constructed with stakeholders, constituents, knowledges, and objectives in mind. One result of this varied process is a preponderance of terms that isolate and privilege certain groups and intellectual backgrounds. However, there are very few terms that neatly capture the variety of urban greenery. The closest approximation—urban greenspaces—is cumbersome and fails to deeply examine place and space. An ancient factory, fallen into quiet disrepair and reclaimed by pioneer plants and people is very different than a public garden replete with walks for perambulation and beautiful plantings, and yet both can be considered "urban greenspaces."

Environmental entropy also neatly describes a phenomenon of urban greenspaces, namely, their mutable, interchangeable natures. Parks have a definitional complexity that can muddy the waters when trying to discuss specific forms. For example, Boston Common is widely considered the first public park in America; however, the Common was not created with any modern park design principles.[11] The Common of the mid-to-late seventeenth century would have been a multipurpose place, defined primarily by simple recreation and hard work.[12] In the nineteenth century, this fact remained true, as Frederick Law Olmsted noted that the "word park is applied in a similar loose way to

[11] Michael Rawson, *Eden on the Charles: The Making of Boston* (Cambridge: The Harvard University Press, 2010), 22.

[12] Rawson, *Eden on the Charles*, 28.

various comparatively small public spaces which are otherwise more discriminatingly called Greens, Commons, Squares, Gardens, and Places."[13] Even as late as the 1980s, the park form had many expressions, defined by designer and sociologist Galen Cranz as the "Open Space System," characterized by varied site location and recreational activity.[14]

However, this does not mean, and should not be construed to mean, that there is no connection between different entropic places. Rather, the two are somewhat constitutive, or at least are *entangled* in complex ways. Low environmentally entropic places provide(d) the rationalization for the inclusion of nature in cities. These spaces answer a call, fill a void, or solve a problem using nature as a praxis. Designers have utilized nature and natural spaces to this end for hundreds of years, but are less explicit about their framing, whereas historians are better suited to recognize the change and continuity that exists within these artifacts of design. High environmentally entropic spaces illuminate and inspire low environmentally entropic places and demonstrate their long, complex, and fundamentally important histories. These spaces represent the failures and the remarkable transformative potential that nature has to adapt the city into new forms. As we pass these spaces by, we can't help but wonder how they came to be, and how it is that they remain, in spite of all the many tools and technologies we have at our disposal. In spaces of disordered nature, we see not only glimpses of the sublime or picturesque, as nature reclaims the artifice of man; we are also compelled to see these spaces *as they might be*, reshaped by humanity to, in turn, reshape ourselves.

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[13] Frederick Law Olmsted, *Notes on the Plan for Franklin Park and Other Matters*. Boston Parks Department, Printed for the Department 1886, https://www.biodiversitylibrary.org/item/97901, 14.

[14] Galen Cranz, *The Politics of Park Design: A History of Urban Parks in America* (Cambridge: The MIT Press, 1982), 134.

Environmental entropy is also a powerful "way of seeing" the world and its environments. In a four-part television series entitled "Ways of Seeing" that aired in 1972 the art critic John Berger outlined some of the ways that the introduction of the camera and other technologies of art radically changed the ways that we view the subjects of paintings. For example, a passage of obtuse text describing a painting, rather than creating understanding, instead obfuscates in a process of "mystification."[15] Environmental entropy is rather the opposite of this mystical process, instead providing a unifying clarity between disparate subjects. It allows us to take a larger look at spaces that we consider to be "wild"—like national parks—and contrast them with spaces that are highly managed, like cemeteries. In this example, both are maintained by humans for human use, the simple differential is the policy and scope of the maintenance to be completed between the two.

Environmental entropy also helps clarify a principle of landscape architecture that has not been fully explored in the humanities of nature as a technology. Landscape architecture, a discipline intimately concerned with managing and creating spaces of both low and high environmental entropy, oftentimes faces issues with parochial urban memory. As artist Han Seok Hyun writes "most of the things that we refer to as 'nature' have actually been made by humans in the past 50 years or so."[16] Spaces like the Emerald Necklace or the Boise River Greenbelt, over time, become naturalized by this shortsighted memory, and their relationship to their constituent cities changes as a result.

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[15] *Ways of Seeing*, written by John Berger, produced by Mike Dibb. United Kingdom, 1972, Episode 1, 22:32-25:52.

[16] Han Seok Hyun, Reverse-Rebirth Sculpture, Idaho Botanical Gardens (Boise, ID), Exhibit Text. December 23, 2022.

To many in Boise today, the Greenbelt is a “natural” space, and yet it is a hybrid landscape. The river of the 1800s had completely different flows and characteristics. The greenbelt of the 1960s was a polluted, industrial landscape, certainly a place with limited natural expression. The greenbelt today seems more natural than ever, with wild animals and rambunctious plants carving their own path in the middle of the city. Environmental entropy helps recontextualize these landscapes in light of the significant changes and modulations that they have been subject to. In order to have the Greenbelt, the river had to be constrained, the nature of the area manipulated, and a relationship had to be renegotiated between local humans and their environment. Furthermore, that relationship first had to be defined by extraction and pollution, and only then could the Greenbelt come to exist. Bringing this complicated and interconnected past to the present is the powerful contribution of history to the framework of environmental entropy. Conversely, landscape planning and design provide the praxis and the implementation of these histories for the present.

Environmental entropy also provides new context for the divide between “formal” and “informal” space that continues to shape the discourses of designers and landscape architects. A formal landscape may be one that is highly managed and controlled, such as Arlington National Cemetery, but it may also be a space of high environmental entropy, such as the fiery cataracts at the Horse Tail Fall in Yosemite National Park. It can also challenge us to reimagine the city fabric: vacant lots have the power to inspire neighborhood or collective action, but formal gardens may also raise unintended questions regarding accessibility and equity not originally intended by their wardens or attendees. Different knowledges, each with their own ways of seeing and conceptualizing

the environment, emphasize and conceptualize similar concepts in radically different ways. As Shen Hou demonstrated in her book *The City Natural,* knowledge of the "value" of plants was highly subjective. For horticulturalists, the value of a plant was in its beauteous flowers, or its potential to be a new and useful strain that benefited society.[17] Knowledges in the nineteenth century allowed for "nature" to be subjected to rationality while simultaneously inspiring and evoking feelings and emotions diametrically opposed to the forces of progress. Thinking using environmental entropy helps elucidate our own contemporary bifurcation between cities and their hinterlands and shows that the two have been connected in environmental thinking for far longer than previously supposed. Nineteenth century thinkers did not have a term for this paradoxical positioning of nature, but environmental entropy neatly links the interstices. Environmental entropy creates the bridge between deeply impactful studies of the contours and features of our most populous areas and critical historical scholarship that demonstrates that the boundary between nature and culture is permeable and subject to change and manipulation. Environmental studies provide a large (somewhat cumbersomely so) umbrella for different disciplines to hang their hat on. For example, the "environment" considered closely by an environmental history of disease etiology can be drastically different from the "environment" that constitutes the social spaces that humans interact in, as might interest a sociologist. More specifically, there are two disciplines that oftentimes consider this word "environment" closely, but with subtle differences that drastically alter the end result, like a submerged stone splits a current into distinct channels; these disciplines are environmental history and urban history. For the

[17] Hou, *The City Natural*, 61-62.

humanities, the opportunity to effectuate real and lasting change in the manner of the more scientific disciplines is a tantalizing one. For more scientific disciplines, better understanding of the inputs and criteria that undergird each and every hypothesis, no matter how impartially crafted, allows for the formulation of more nuanced and just hypotheses.

Applying environmental entropy also allows for the conception of current spaces not only as ordered or disordered with respect to nature, but it also allows for a more incisive historical analysis of how those spaces came to be. For areas with abundant greenspaces, the question concerns less the establishment of new spaces and more the maintenance and accessibility of extant spaces. In places with limited greenspace access, like highly developed metropolises, the historical creation of greenspaces is of great importance—these are often the only green spaces spared by development. Such a principle is well established within the design and architecture literature, but has yet to fully permeate into historical scholarship.[18] As Ogden et al. note, ownership regimes are critical to the success of urban forests, particularly those that are areas of high environmental entropy.[19] More often than not, the green spaces that exist are not the result of happenstance occurrences and developments—they are the result of specific

[18] As urbanization and lack of subsidization increase urban land values, preservation of extant greenspaces and a careful eye for the "neglected" spaces within the city are some ways that affordable and accessible greenspace creation can be affected. Policy protections for existing spaces and subsidization for sustainable development of abandoned land can go a long way in creating a greener future for our cities. In the case of Boise, the 1968 *Comprehensive Plan & Design* clearly stated that the interconnection between Boise State University and the adjacent Julia Davis Park insured against future encroachments.

[19] Ogden, et al., "Forest Ethnography," 53, 55. In particular, they note that the disparate ownership schemes that give rise to high environmentally entropic spaces are at increased risk from development.

policy and specific actions undertaken by individuals and communities.[20] Environmental entropy does not just allow for speculation of how spaces might be organized in the future; it also highlights a common history that all of the parks and green spaces discussed within this thesis share: their inception as dumps and other pollution sites. Across borders and temporalities, communities and individuals have sought to dump and remove waste, searching for what historian Joel A. Tarr calls "the ultimate sink" (e.g. the final and complete resting place of waste and other refuse).[21] As that process inevitably failed, people have time and time again sought to re-mediate their existing relationship with polluted areas by using nature and the park form. The human-led cleansing of these areas is a critically important aspect of the transition from spaces of high entropy to spaces of low entropy—making the nature of these spaces perceptible, knowable, and most importantly, controllable.

The process of urban succession and reclamation demonstrates nature's thrift in repurposing land that humanity has no current use for. Sometimes, the only way to transition a place of low environmental entropy to a higher level is through these successional processes.[22] In other environments, intervention and management is needed to either remediate a negative environmental relationship or to create and maintain an environmental space where none existed previously. Even more importantly, it is telling

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[20] Ellen Stroud made this point powerfully in her monograph *Nature Next Door: Cities and Trees in the American Northeast* (Seattle: The University of Washington Press, 2012), 153. While Stroud was connecting the forests that surround Massachusetts with the cities that are supposedly divorced from them, her assertion that the state's preponderance of trees is not the result of inadvertent individual action applies also to the nature we experience within the boundaries of the city.

[21] Joel A. Tarr, *The Search for the Ultimate Sink: Urban Pollution in Historical Perspective* (Akron: The University of Akron Press, 1996).

[22] Falck, *Weeds*, 53-54.

that many of today's high environmentally entropic places were once barren or polluted landscapes, unable to be remediated except by extreme human management or by nature's gradual remedying of the problem. As unsightly as certain sites may be, they oftentimes act as a prism for the imagination of cities and their inhabitants and can tell us much about the ways that those actors orient themselves to their constructed, inherited, and inherent environments. This thesis will conclude with some specific examples of the transition from spaces of high environmental entropy to low environmental entropy, as well as the destructive intensification of low environmental entropy in the case of Cairo's Ezbekiyya Gardens.

When imagining the sliding scale of environmental entropy, then, two strong polarities emerge. In the extreme, low environmentally entropic spaces are highly ordered, unifying elements of infrastructure or services with recreative amenities, while high entropic spaces tend to flourish where human intervention is at its lowest. With these observations in mind, we can better understand our extant and future park spaces in terms of their intended use and users and recognize new and unique trends in the history of park design.

CHAPTER TWO: A VARIEGATED HISTORIOGRAPHY

Despite occupying the thoughts and careers of urban designers for many decades, urban green space has only recently penetrated current discourses regarding the environment. In particular, the field of environmental history initially neglected these urban nodes as the discipline grappled with questions that were defined in contrast to the seemingly urban-centric problems of the 1970s, with much thought being devoted to "wilderness" and conceptions of nature *a priori* to the messy, polluted, and troubled human world. As William Cronon's *Nature's Metropolis* demonstrated, the interactions between the city and its presumed antecedents are nuanced and complex.[23] However, even in this seminal work of history, the forms of nature within the city are sublimated, ignoring the contribution of urban green spaces to our daily lives and understanding of nature. As Anne Whiston Spirn has noted, the great irony of these designed landscapes is that, when implemented correctly, they become naturalized over time, lending themselves to invisibility.[24] The field of environmental history has become more and more familiar with these environments and their implications for the nonhuman natural world but still exhibits a shyness for the forms that comprise a city. These places have largely been relegated to urban designers, who have constructed many of the structures in common use today: parks, esplanades, courtyards, gardens, and greenways, to name a few. These designers draw upon a disciplinary language and a historic provenance when creating

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[23] William Cronon, *Nature's Metropolis: Chicago and the Great West* (W.W. Norton and Company, 1991).

[24] Anne Whiston Spirn, "Constructing Nature: The Legacy of Frederick Law Olmsted," in *Uncommon Ground: Rethinking the Human Place in Nature*, ed. William Cronon (New York: W.W. Norton and Company, Inc., 1996), 91.

these familiar places, but despite this, environmental history has yet to closely unpack the historical preconceptions and implications contained therein.

As the glow of the postwar boom began to fade, scholars and planners began to analyze cities and their built environments more closely. In particular, scholars and planners focused on urban parks starting in the 1960s. The twin pressures of urbanization and degradation combined with the environmental revolutions of this period changed the ways that nature and wilderness were conceived and inspired the development of the field of environmental history. Urban parks lie at the intersection of environmental questions, societal and cultural values, and design answers. Landscape architects, engineers, entrepreneurs, and many others have discussed the role of parks in the urban fabric, and only recently have historians begun to join the discourse. To complement the dearth of historical research, and to lay the groundwork for future scholarship, this chapter will consult a variety of perspectives to create a historiography with parks at the center, not the periphery. By using the concept of environmental entropy, it is possible to see how designers and professionals aimed to use nature as a technology, to fix the problems of their respective periods. Conversely, historians focused on questions of society and culture, aiming to describe parks in relation to the people and governments that gave rise to them. Both traditions within the historiography fail to capture the nature of parks. Only the synthesis of these two branches can more completely describe what parks meant (and still mean) to urban citizens, and environmental entropy is perfectly suited to unifying these trends.

The picture that emerges from the historical literature surveyed is one that increasingly treats parks as discrete events and locales. Excellent histories exist for many

prominent parks, but these works tend to be subsumed into larger historical themes; treatments are frequently bounded by geographic or temporal groupings, and comprehensive analyses are nearly unheard of. Most importantly, there exists a clear gap in the literature, namely regarding the historic and constitutive relationship between parks and pollution. While many texts highlight the entangled history between the two, their relationship is linear. In such a framework, urban citizens, grappling with attendant issues of urbanization, look to parks as a technology of remediation. However, the intimate and entangled relationship between "nature" as ideology and nature as technology is frequently elided. As subsequent chapters will demonstrate, the relationship between parks and pollution is never one-sided. Rather, it represents a mediation between different possibilities of the urban form viewed through the prism of environmental entropy; which ameliorates the issues of park scholarship by taking seriously the relationships between pollution and parks and develops a terminology to address urban natures that frequently arise as a result of or in contradistinction to polluted or neglected spaces. The following chapter divides the existing scholarship into two disciplines: design professionals and historical analyses and examines how both approaches to the study of parks can be improved by the concept of environmental entropy. Furthermore, by demonstrating the continuities that exist between the two, the groundwork for future collaborations will be laid.

Park progenitors were found in the gardens and estates of aristocracy and monarchy alike, and there is scholarly consensus that these early estates were the initial

iterations of parks as we know them.[25] In looking for a parallel, only these estates and gardens match the identities currently ascribed to parks as managed spaces of nature and recreation. This is not to say that parks and other types of green spaces are endemic to the modern era, but rather that before the seventeenth-century urban green spaces were limited in their form and accessibility.[26] Scholarly analysis that took seriously the role of parks found its inception in the mid-twentieth century, as planners and designers sought to fix the problems that were beginning to plague the modern city. Before this development in the scholarship, explicit analysis of parks was limited. The work that was produced from the late nineteenth through the early twentieth century, such as design documents from landscape architects, design professionals, and managers held that nature and parks were first and foremost critical solutions to pressing urban problems.

For architects of the late nineteenth century and early twentieth century, parks were a footnote in grander narratives. Writing in 1889, architect Camillo Sitte showed little regard for parks in general, instead favoring the happenstance development and harmony found in traditional urban landscapes above all else. Indeed, his perspective was not that of the "historian nor as critic," but rather the seemingly incongruous unity of "technician and artist."[27] For Sitte, the problems of city design and maintenance stemmed

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[25] Jere Stuart French, *Urban Green*: *Parks of the Western World* (Dubuque: Kendall/Hunt Publishing, 1973), 13. Heath Massey Schenker, *Melodramatic Landscapes: Urban Parks in the Nineteenth Century (*Charlottesville, VA: University of Virginia Press, 2009), 10.

[26] For example, some Islamic gardens operated as publicly available parks during holidays or at the behest of the sultan. See D. Fairchild Ruggles, *Islamic Gardens and Landscapes* (Philadelphia: University of Pennsylvania Press, 2008), 112. The same is true for many European parks and gardens.

[27] Camillo Sitte, "The Art of Building Cities," trans. Charles T. Stewart, quoted in *City and Country in America*, ed. David R. Weimer (New York: Meredith Publishing Company, 1962), 250, 275.

from artificiality and rationalism, leading to uniform streets and monotonous cities. Landscape architect Elbert Peets was similarly dismissive of parks, despite his ambivalence toward Sitte. Peets lumped all the variegated greenery of Second Empire Paris parks and gardens in one terse sentence before diving into the design ideologies of Baron Haussmann, the principal architect of the redesign of Paris starting in the 1850s.[28] Peets did appreciate Sitte's sense of the picturesque but ultimately concluded that his time and practice were better suited to art and history, and not the formulation of "architectural principles."[29] While Peets and Sitte both cared little for the park form specifically, they can be described as writing from the perspective of low environmental entropy. Their visions for city development and design-imposed order on disordered spaces, controlling them for human use. Despite the popularity of more hybrid landscapes popularized by famed landscape architect Frederick Law Olmsted (such as the Emerald Necklace, covered more specifically later), the nature of the spaces described by these architects—and many of the designers and professionals that adhered to their principles in later years—was always subordinate and in the background. Scholarship investigating the immediate effects of park design and use in addition to the historical and cultural underpinnings of these urban areas would not develop until the 1960s.

Even as postwar affluence spurred development, the writers and designers of the early 1960s were increasingly pessimistic. What Peets had called the "signs of the coming decay" in 1927 had fully metastasized into deep and intractable problems in a

[28] Elbert Peets, "Haussmann and the Rebuilding of Paris" in *On the Art of Designing Cities: Selected Essays of Elbert Peets*, ed. Paul D. Spreiregen (Massachusetts: The MIT Press, 1968), 138-139.

[29] Peets, "Camillo Sitte" in *On the Art of Designing Cities*, 150.

little over thirty years.[30] Suburbanization, depopulation of city centers, and crime had all taken root in the urban form, and much thought was being devoted to the revitalization and restoration of the city. Jane Jacobs's *The Death and Life of Great American Cities* (1961) was a particularly incisive entry into the discourse, as it is one of the first texts to specifically consider the role that public parks played in the project of restoration.[31] Jacobs echoed the sentiments found within the framework of low environmental entropy, again focusing on the highly ordered writings of designers before her, and held that people and recreative use were the sole determinants of park success or failure.[32] She consistently concluded that multifunctional, integrated, and broadly used spaces were the antidote to the central cause of urban blight—a vacuum of meaningless space.[33] Like the designers before her, Jacobs's view is best encapsulated as promoting spaces of low environmental entropy and high urban order. These carefully controlled and ordered spaces minimized untidy elements of nature to promote broad use and encourage users to engage with safe and surveilled landscapes to more completely integrate the urban fabric and restore a failing neighborhood or city to a healthier condition. What is missing from these accounts is the impact of nature itself. Little if any of these writings are concerned with the plants and animals that make up these spaces, their long history, or the cultural values that underpinned many of their assumptions about the park form. For these and

[30] Peets, "Camillo Sitte," 143.

[31] Writing shortly after Jacobs, planner and landscape architect George F. Chadwick drew and earlier distinction ambiguously to another work in 1952- possibly Geoffrey Taylor's *The Victorian Flower Garden*, but nevertheless, Jacob's work was certainly more widespread and impactful.

[32] Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961), 89.

[33] Jacobs, *The Death and Life of Great American Cities*, 97.

many later designers, the park was perceived only as a technology and cure for urban problems, not as a natural space.

Writing in 1963, Park Superintendent Charles E. Doell held that recreation was the defining purpose of parks, "improved" or otherwise. For Doell, nature was a purely theoretical term, an inherent characteristic of "native" or unimproved land. Certainly, such land was valuable in that it possessed recreative value for activities like hunting, fishing, and hiking, but it was considered to be apart from the city.[34] Doell's principles reinforced the infamous separation between city and country, holding that wild, "native" nature was to be experienced outside the bounds of the city, while rational, orderly, and "improved" parks within the city would address more scientific recreative needs and other "tax-supported services."[35] In contrast to landscape planner and architect George Chadwick's contemporary analysis, Doell failed to think more holistically—the concept of environmental entropy problematizes his neat bifurcation and ordering of city and non-city spaces by demonstrating that "wild" recreative activities can be found anywhere and that management of prominent spaces outside the city defies neat categorization.

Many historians, for their part, have failed to convey that ideas surrounding parks in the nineteenth century were mutable and allowed for considerable variation. The historical legacy of competing forms of park layout and intended use and audience has led to the divide that bisects scholars and designers today across "formal" and "informal" uses—another term for passive and active recreation. In the mid-eighteenth century, cemeteries developed alongside some of the first parks as alternative open spaces; the

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[34] Charles E. Doell, *Elements of Park and Recreation Administration* (Minneapolis: Burgess Publishing Company, 1963), 7-8.

[35] Doell, *Elements of Park and Recreation Administration*, 1.

early park and the cemetery were interchangeable. Early Victorian policy and praxis considered cemeteries and parks together as places for the standard ideals of early park access: physical and mental health, social order (the generation of revenue for park funding schemes or for property owners was exclusively for parks and gardens), and increasing socialization between disparate classes.[36] John W. Reps, writing in 1965, centered their interrelationship and made a direct connection between a cemetery and park development in America.[37] Both were considered "natural" (the *rus in urbe* that mimicked Romantic nature and its aesthetics) and thus conferred the healthful and mental benefits of nature. Both were designed to be accessible to the public, although cemeteries were initially more inclusive. Both were also places of passive and active recreation, although designers and planners have since relegated cemeteries to "passive" recreation. Even though Reps and Doell were contemporaries, their visions of public parks were starkly different, an early example of the divide between design and historical analysis.

The first history to center the park in the analysis was George F. Chadwick's *The Park and the Town* (1966). Chadwick affirmed many of the previously established, technological or professional outlooks of Sitte and Peets, but unified them with the close investigation of the historian to paint a picture of how parks developed nineteenth and twentieth centuries. Chadwick's analysis is liminal in many ways; much of the book is devoted to notable and famed architects and landscape designers like "Capability"

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[36] For more early cemetery-park ideals, see Young, *Building San Francisco's Parks*, 3 and Conway, *People's Parks*, 31. John W. Reps, *The Making of Urban America: A History of City Planning in the United States* (Princeton: Princeton University Press, 1965), 331.

[37] Reps, *The Making of Urban America,* 326.

Brown, John Claudius Loudon, and Andrew Jackson Downing, to name a few.[38] However, Chadwick's analysis demonstrated how the public park movement was "essentially a Victorian idea," borne of notable designers and the rapid industrialization of the late eighteenth and early nineteenth centuries.[39] Chadwick sought to find the point of interconnection between designers that had abandoned the art and design of landscapes in the early twentieth century and social sciences, hoping to silence the detractors of the Victorians as well as outline a plan to fight the "atrophy of park design."[40] While Chadwick's history was an important first step for park historiography, it reproduced previous designers' unilateral views of nature. Interestingly, Chadwick is much closer to environmental entropy as a concept than other historians or designers of this period. His analyses of the ways that various Sublime, Gardenesque, Picturesque, or other culturally constructed landscapes nearly explicated the ways that designers saw their environments and their relationship to those environments. Nevertheless, the subdual of nature in his narrative is in keeping with contemporary scholarship at the time.

Rather than experiencing the beauteous and calming nature of a park, activity and active recreation became the solution. Parks were no longer spaces of passive recreation, characterized by gentle promenading and quiet contemplation of picturesque vistas; the modern park needed to cater to more active interests.[41] As a result, the nature of these

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[38] Each of these designers advanced particular visions of public parks, particularly England and the United States. More specific analysis of their works is beyond the scope of this work.

[39] George F. Chadwick, *The Park and the Town: Public Landscape in the 19th and 20th Centuries* (New York: Frederick A. Praeger, Publishers, 1966), 19.

[40] Chadwick, *The Park and the Town,* 17 and 316, respectively.

[41] Alexander Garvin, "Enhancing the Public Realm" in *Urban Parks and Open Space* by Alexander Garvin, Gayle Berens, et al. (Washington, D.C.:ULI-the Urban Land Institute, 1997), 5.

parks—their designed characteristics and the flora and fauna that inhabited them—changed dramatically. To designers and politicians, the ideals undergirding the modern park had changed. For Guggenheimer, parks needed to be widely accessible to cater to the needs of everyone, most importantly the needs of minorities and individuals who needed space either as a reprieve from impoverished conditions or to keep them from causing damage elsewhere. Guggenheimer's goal was an "almost limitless selection of activities to meet" the interests of "all ages, incomes, and tastes."[42] Conversely, many believed that parks without beauteous nature would fail to inspire users to continue to return. A concrete park with basketball and tennis courts may have been in keeping with Guggenheimer's goals but was antithetical to those held by sociologist Galen Cranz.[43] For Cranz, the preponderance of park forms, uses, and users had led to confusion and degradation of these landscapes. In contrast to Guggenheimer's boundless optimism about new and tailored park forms, Cranz concluded that "there is no universal formula" for park design, rather that thoughtful design and a recognition that parks themselves represent an "accumulated set of intended moral lessons."[44] Nevertheless, restrictions on park design and proscriptions regarding behavior continued to ease as parks increasingly changed their shape and form to fit the urban fabric.

As a result of these many calls to save the city, conceptions surrounding parks during this period both innovated their design, adapting to local conditions, while affirming the larger status quo of designers and planners. Elinor Coleman Guggenheimer, a New York City Planning Commission board member, viewed the principal dangers to

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[42] Guggenheimer, *Planning for Parks and Recreation Needs in Urban Areas,* 28.
[43] Cranz, *The Politics of Park Design*, 138-139.
[44] Cranz, *The Politics of Park Design,* 253-254.

the park system as crime and drugs. These critiques revolved around social issues in and around the park. Her 1969 book *Planning for Parks and Recreation Needs in Urban Areas* located the primary role of parks in the recreative sense and innovated the definition of what constituted a park. Parks were conceptualized as being healthful, although this identity was more as the result of healthful recreational and organizational activity and not the result of contact with nature.

Parks of any size could fulfill a recreative purpose, and an increase in the number of spaces designated as parks simultaneously allowed for large, green, naturalistic spaces in the traditional style of Olmstead while also providing smaller parks that could serve explicitly tailored recreational needs for a neighborhood or district. Smaller parks (referred to as vest-pocket parks or green rooms) were not to be ignored in the scheme of park development as they could fill tailored and specific recreational needs, which government officials like Guggenheimer or managers like Doell supported. Designers were only concerned with the history of park design insomuch as it provided a roadmap of past successes and failures. In designing for the present and the future, these individuals held innovation and flexibility above all else and failed to acknowledge the history that had led to park development in the present. However, the flexibility they touted was a historical continuity (whether they considered it so or not) in addressing the problems of the urban form and catering to the individuals who used these spaces. In essence, these parks were entirely defined by their ability to provide recreation, with design and natural elements providing a naturalizing veneer. These principles are emblematic of the 1960s focus on increasing access through recreation. Geographer Terence Young noted this tension in San Francisco parks as early as the 1890s, but as

seen with Guggenheimer and Doell by the mid-twentieth century the supremacy of recreation had reached its apogee.[45]

By the late 1960s and the early 1970s, then, writings devoted to parks generally adhered to the tradition of architects and designers. As the urban form seemed increasingly fragile, two trends emerged in the literature-designers continuing to address contemporaneous problems and historians beginning to investigate more closely the development and trajectory of the parks movement. Writers during this time frequently cast the role of parks within larger societal conflicts and transformations and used the identity of the park as the medium to express these larger issues. The leading wisdom at the time was that these problems could be solved with the introduction of a space that provided a reprieve from them, one that utilized scientific knowledge and technology to restore the urban dweller. Not only is this a foundational principle in urban park design, but it is also a shared continuity that spans the history of parks.[46] Historians, designers, and sociologists agree that one of the primary motives of the early park movement, both domestically and internationally, was for reasons of health.[47] Despite designers being more focused on the uses of their respective spaces in early literature, there has been a resurgence of foregrounding the healthful aspects of these urban green spaces, a trend that substantiates the writings of early park designers' intentions.

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[45] Young, *Building San Francisco's Parks*, 204.

[46] Galen Cranz, *The Politics of Park Design: A History of Urban Parks in America* (Cambridge, MA: The Massachusetts Institute of Technology, 1982), 5. Carolyn Merchant, *Major Problems in Environmental History* (Lexington, MA: D.C. Heath and Company, 1993), 414. Young, *Building San Francisco's Parks*, 5. Olmstead, *Writings on Landscape, Culture and Society*, 45.

[47] Conway, *People's Parks*, 50-53. Young, *Building San Francisco's Parks*, 2-3. Olmstead, *Writings on Land*scape, Culture, and Society, *129.* Fisher, "Nature in the City", 27.

Like Peets and Sitte before him, landscape architect Jere Stuart French, writing in 1973, located the progenitor of the public park system in the ancient city, particularly the Roman agora, to justify a self-admittedly spurious claim in the name of revitalizing the modern city. French highlighted how both the agora and public parks catered to civic and democratic values, although his comparison was specifically advocative—the agora was markedly different from the parks of French's era.[48] French was motivated in much the same fashion as other park designers and managers at this time.[49] He began his analysis of urban parks by intoning that "the American city is in trouble." [50] For these architects the trouble was caused by increasing industrialization, suburbanization, and loss of civic values—many looked to urban parks as spaces that were symptomatic of urban blight as well as spaces that could save the imperiled city. French's concerns about the health and longevity of the city closely mirrored nineteenth-century concerns. He railed against the "intolerable levels of noise, drab, colorless vistas and dangers—real dangers—of every conceivable dimension."[51] This remains a continuity throughout conceptions of urban parks. Scholars still identified parks along nineteenth century ideals regarding health and wellness resulting from exposure to nature and green spaces. French, however, criticized the naturalistic and pastoral parks of the nineteenth century as being escapist.[52] The problems associated with urban living were consistent in both the nineteenth and twentieth centuries; Guggenheimer similarly noted that "the urban dweller is…the victim

[48] Jere Stuart French, *Urban Green: City Parks of the Western World* (Dubuque: Kendall/Hunt Publishing Company, 1973), 7.
[49] French, *Urban Green*, 3.
[50] French, *Urban Green*, 3.
[51] French, *Urban Green,* 3.
[52] French, *Urban Green*, 24

of frustration, of traffic congestion on the streets and pedestrian congestion in stores and office buildings, of noise and air pollution, and of tension and delay."[53] Ultimately, what had changed was the solution.

By the 1980s parks had become fully contested spaces. Budgetary cuts had decimated park funding, and the resulting lack of maintenance and care precipitously increased the rate of degradation, crime, and drug use in parks. Even the most famous parks were not safe.[54] Others witnessed transgressively open or social activities undertaken within park grounds.[55] The increasing amount of open space and a broadening of the traditional park activities roster simultaneously affirmed their recreative role and wrought their irrelevance due to their lack of vision and meaning.[56] Fear was becoming an increasingly identifiable aspect of the park as illicit activities and undesirable groups increased. Sociologist Galen Cranz, writing in 1982, noted that "urban parks were under attack."[57] The combination of lack of funding paired with an increase in inappropriate use was a problem that led many to suggest the dissolution of parks in favor of more productive and safe land use. Designers, like Alexander Garvin, identified the problem in changing governmental policy in the post-WWII era.[58] Galen Cranz and Michael Boland identify this trend as a "cycle of abandonment" wherein disrepair leads to disuse in a positive feedback loop — expanding on Cranz's initial 1982 analysis to

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[53] Guggenheimer, *Planning for Parks and Recreation Needs in Urban Areas,* 26.

[54] Lynden B. Miller, *Parks, Plants, and People: Beautifying the Urban Landscape* (New York, NY: W.W. Norton & Company, 2009), 9.

[55] Sources and scholars frequently list sexual intercourse as one such act. For example, see landscape architect Garrette Eckbo, *Urban Landscape Design,* 99, who lists "making love" as one such social activity.

[56] Cranz, *The Politics of Park Design*, 138-139.

[57] Cranz, *The Politics of Park Design*, viii.

[58] Garvin, "Enhancing the Public Realm", 2.

encompass more recent trends.[59] However, there is consensus that the problem of parks was exacerbated by a marked increase in use and a simultaneous decrease in funding. The principal problem of park design at this time was addressing these twin dynamics.

Cranz similarly noted the transition in her characterization of this period as "the Recreation Facility" and holds that the emphasis on bureaucratization over idealism led to a loss of authority and prestige, which in turn led to the loss of park funding in the 1980s.[60] Cranz's sociological approach neatly periodizes the broad sweep of park history in a way that many authors fail to but in turn, fails to create clear delineations between early parks and gardens. It should be noted also that her analysis of the modern park system creates a categorization that may only apply to parks of a certain size or pedigree. The focus on recreation created design and budget externalities that would be answered starting in the 1980s and with consequences and benefits that reverberated throughout the ensuing decades. Once the question of what the park was for was answered, access became the metric of success. Questions of use and access have always been part of the discussion regarding urban parks. As we have seen, the story of parks has generally been one of increasing access over time, with modern designs favoring accessibility as the primary solution to parks being deemed irrelevant. However, the story of the urban park is also one of restriction to access. There have always been the "correct" park users and the "incorrect" park users. Some activities are always sanctioned, such as recreation or contemplation; others are always prohibited, such as drug use.

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[59] Galen Cranz and Michael Boland, "Defining the Sustainable Park: A Fifth Model for Urban Parks" *Landscape Journal* 23, no. 2 (2004): 106.

[60] Cranz, *The Politics of Park* Design, 107-109.

Historian Hazel Conway in 1991 made a unique distinction regarding the park movement in Britain in the early 1800s by categorizing park access schemes as private, semi-public, and public. Currently, public parks are the most familiar form, but private and semi-private parks each carry implications for later urban park movements. Park ideology developed concurrently with these schemes and over time access became critical to understanding these green spaces. Conway's access analysis represented a change in the view of park accessibility. Designers and design histories had focused on implementing changes that increased the accessibility of the park as a technical issue. Conway presented a historical and political analysis of access as a function of law, politics, and economic considerations. Rosenzweig and Blackmar in 1992 similarly presented an analysis of the accessibility of Central Park through time that took some, but not all factors into consideration. For example, many workers were unable to visit Central Park in the 1860s, however, the workers themselves were not prohibited from access (and indeed, in part were its target audience).[61] This accessibility is best understood as *de jure* vs. *de facto* accessibility, where parks are open to all, but the exigencies of urban life ensure that some are precluded. Colin Fisher in 2011 noted that, despite their excellent research, Rosenzweig and Blackmar's analysis could have been more inclusive and radical.[62] Indeed, their analysis focused exclusively on people and not nature and thus sanitized the biotic aspects of the park.

Conway's analysis extended beyond access and policy. Following in the footsteps of Reps, she highlighted the initial interchangeability between parks and cemeteries.

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[61] Roy Rosenzweig and Elizabeth Blackmar, *The Park and the People: A History of Central Park* (Ithaca, NY: Cornell University Press, 1992), 6-7.

[62] Fisher, "Nature in the City," 30-31.

Conway's analysis pays only cursory attention to the development of cemeteries but itself illuminates a key difference in American and British historiography: American scholars more frequently highlight the shared origins of cemeteries and parks, presumably because of the comparative lack of park history on the American continent. Terence Young noted the presence of early cemeteries but also notes their lack of representation at the national level.[63] It is interesting that, in studies more devoted to the *history* of parks, credence is given to these early cemetery influences. Designers and urban planners, however, omit this shared lineage and opt solely to track the development and design of parks as parks in pursuit of addressing pressing problems. In *Urban Greening* (2005), designer Peter Shirley's essay "The Urban Park" distinguished between formal and informal landscapes (differentiated by recreation) but reflected a modern view that cemeteries and parks have different purposes.[64] Despite addressing cemeteries as green spaces, Shirley reflects a modern separation between the park and the cemetery. Evaluating these spaces through the lens of environmental entropy would have presented a different picture: as ordered and controlled spaces of nature, parks and cemeteries often emerge as spaces of low environmental entropy, blurring the lines between the two. As park ideologies developed, a growing focus on active rather than the more traditional passive recreation outstripped the activities commonly associated with cemeteries, which had previously been interchangeable with parks. Simultaneously, the development of large, publicly available parks signified the end of informal cemetery recreation. Current literature does not

[63] Young, *Building San Francisco's Parks*, 1.

[64] Peter Shirley, "The Urban Park," in *Urban Design: Green Dimensions* by Cliff Moughtin (2nd ed. Jordan Hill, Oxford: Architectural Press, 2005), 77-92.

include cemeteries within the denomination of "park" and fails to examine the close relationship between the two in early park development.

As historians began taking seriously questions of environment and nature in their scholarship, the design historiography continued to specialize. Starting in the latter half of the twentieth century, many scholars and designers were rediscovering the great projects of Olmsted and developing a deepening appreciation of his and his son's contributions to the field of landscape architecture.[65] As environmental historians were beginning to analyze the connections between the city and the country, urban planners were discussing what they considered to be a next step in multipurpose park design: so called "greenways." It is interesting to note that greenways feature prominently in the urban planning and design literature but have not yet been discussed within the historical literature. Writing in 1995, scholar and landscape architect Julius Gy. Fabos noted that the greenways movement was relatively recent, only a decade old at the time of writing.[66] The greenway literature needs to be brought into the park historiography to broaden the discussion. A greater analysis of greenways also carries interesting ramifications for Boise and its Greenbelt.

To urban planners, the first greenway was Boston's Emerald Necklace. As early as 1990, greenways literature cited Frederick Law Olmsted and his contemporaries as the first instances of comprehensive greenways design.[67] While the definition and scope of

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[65] Anne Whiston Spirn, "Constructing Nature: The Legacy of Frederick Law Olmsted," in *Uncommon Ground: Rethinking the Human Place in Nature*, ed. William Cronon (New York: W.W. Norton & Company, Inc., 1996), 92.

[66] Julius Gy. Fabos, "Introduction and overview; the greenway movement, uses and potentials of greenways," *Landscape and Urban Planning* 33 (1995), 1.

[67] Fabos, "Introduction and Overview," 3.

these greenways varied across the authors surveyed in the special issue of *Landscape and Urban Planning*, most authors agree that these linear urban parks provide interconnections in the city, fight urban problems, create habitat and space for human and nonhuman animals, and highlight their positive impacts.[68] However, unlike the developing park literature at the time, the greenways movement was more nebulous. Fabos ultimately introduced a tension into the greenways concept and literature, noting that greenways are at once deeply natural—part of "nature's super infrastructure"—while also noting the power of design to "reclaim or provide access" to that infrastructure.[69] For Fabos, greenways were indeterminate spaces, what we can understand as spaces of mixed or hybrid environmental entropy. By linking areas of low environmental entropy with areas of high environmental entropy, greenways interconnected the two areas in a complex system. What is ironic is that the contributors to this special issue of *Landscape and Urban Planning* disdained the parks in lieu of greenways, even as they had prominent examples of park systems effectuating the very same interconnective functions.[70] This tension not only touches on the city-country divide, but it also encompasses the parks literature as well. The greenways literature also demonstrates a key difference between planning praxis and the historiography of urban parks. Writers like J. Ahern described the importance of greenways and other linear parks because of their interconnective potential, as they fight "land degradation, urban expansion and

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[68] Fabos, "Introduction and Overview," 6-7. Robert M. Searns, "The evolution of greenways as an adaptive urban landscape form," *Landscape and Urban Planning* 33 (1995), 68.

[69] Fabos, "Introduction and Overview," 7-8.

[70] Most specifically, the Emerald Necklace in Boston, which was first and foremost a park system.

uncontrolled land use change."[71] For landscape architects and planners, nature was a way of seeing and consolidating the urban environment to respond to the pressures that modernization (and its attendant sprawl in the 80s and 90s) were exerting upon the city. Building on the legacy of the landscape architecture, these designers saw nature and natural spaces like parks as responses to urban problems.

What is interesting is that, for these planners, greenways were not parks in the traditional sense; even though greenways were listed as providing ecological niches, recreational amenities, and offering historical and cultural values, they were separate. Designers noted that the nineteenth century park had served the urban dweller well, but that new technologies and techniques were needed to combat the decentralization of the American city, one that was assaulting the primacy of centralized parks and their recreative amenities.[72] Nevertheless, the similarities between greenways and parks, which are even used interchangeably in several of the articles in the special issue, suggests that the two should be considered together when evaluating the historiography of urban parks and their many forms.

More specifically, the integration of the greenways literature into the broader scholarship deepens the historiography in important ways. For architects and designers, like Fabos and Robert M. Searns, the first greenway was the Emerald Necklace in Boston, itself a system containing large parks and parkways that united them. In his article "The Evolution of Greenways as an adaptive urban landscape form," Searns periodized the development of greenways into three generations: Axes and Parkways

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[71] Jack Ahern, "Greenways as a Planning Strategy," *Landscape and Urban Planning* 33 (1995), 138.

[72] Fabos, "Introduction and Overview," 7.

(pre-1700s-1960), Trail-oriented recreational greenways (1960-circa 1985), and the Multi-objective Greenway (1985-). He touted the San Antonio Riverwalk as a pivotal generation two greenway that catered to pedestrian "use, movement, vision-experience and linkage."[73] However, Searns failed to mention the Boise River Greenbelt in his discussion of generation three greenways, which were landscapes that addressed not only beautification and recreation but also "wildlife [needs], flood damage reduction, water quality, education, and other infrastructure."[74] Given the scope and temporality of his analysis, this oversight failed to highlight an important example of a successful greenway for designers to emulate. As chapter three of this thesis will demonstrate, these varied objectives were part and parcel of the creation of the Boise River Greenbelt, suggesting the need to incorporate a prominent Boise landmark into the discussion. Additionally, the Greenbelt and the Emerald Necklace's formal classifications as "linear parks" or "park systems" suggests that greenways are best considered as yet another category of urban park.

These designers were responding to contemporaneous issues and future problem mitigation; historians took different approaches to understanding these issues more broadly. Hazel Conway demonstrated that parks in England were not as publicly available in their earliest iterations. However, most American cemeteries and Central Park were open to public use and recreation from the very start, and the explicit class restrictions were limited.[75] In San Francisco, parks were intended for the "eminently

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[73] Searns, "The evolution of greenways as an adaptive urban landscape form," 68.
[74] Searns, "The evolution of greenways as an adaptive urban landscape form," 68.
[75] Reps, *The Making of Urban America,* 326. Young, *Building San Francisco's Parks*, 9.

respectable" or the "adult community who demand a first-class reception."[76] Terence Young later noted that the transition from the Romantic to the Rationalistic functionality of parks in the 1890s changed the emphasis on park users from "individuals to groups of users."[77] This is in concurrence with sociologist Galen Cranz's periodization of the reform park starting in the 1900s. These parks focused on organized and structured play for children or working-class men.[78] Heath Massey Schenker's 2009 analysis in *Melodramatic Landscapes: Urban Parks in the Nineteenth Century* is an analysis of social and cultural values applied to the park within a class-oriented structure. She discussed the explicitly monarchical or aristocratic element of the pre-park and nineteenth century park eras. These "bourgeoise" landscapes were "one means by which the new bourgeois social order asserted itself."[79] Schenker contended that urban parks have been defined by their open access to leisure but noted that leisure itself has defined the role of social identity and thus class. In her analysis, park access was concurrently developed alongside industrialization and the broadening of the social classes, in contrast to other scholarship.[80] Explicit class framing of urban parks is not well represented within the literature but is developing. Esther Da Costa Meyer's analysis of the development of the Second Empire Paris park system contains a similar framework of analysis. Both Schenker and Da Costa Meyer outlined class and class concerns as the primary

[76] Young, *Building San Francisco's Parks*, 83.
[77] Young, *Building San Francisco's Parks*, 11.
[78] Cranz, *The Politics of Park Design*, 61.
[79] Schenker, *Melodramatic Landscapes,* 17.
[80] Schenker, *Melodramatic Landscapes,* 177.

motivating factors within the designs of Napoleon and Baron Haussmann for Parisian greenery.[81]

An explicit class analysis seems to be accessible for understanding Second Empire Paris but is less well-represented within the American literature. However, recent scholarship has begun to address this dearth. Rosenzweig and Blackmar's seminal history of Central Park, *The Park and the People: A History of Central Park,* was a break from normal design and urban history. Their analysis highlighted the social and cultural inputs in shaping the history of the park, seeking historical understanding rather than a technical prescription. Rosenzweig and Blackmar's analysis reviewed the implicit class stratification that is present in Central Park, particularly access to the park by different classes, but shies away from the explicit class framework employed by Schenker.[82] Lorene A. Platt's 2013 essay "Planning Ideology and Geographic Thought in the Early Twentieth Century: Charles Witnall's Progressive Era Park Designs for Socialist Milwaukee " drew upon an explicit class framework when analyzing various park structures of Milwaukee in the late nineteenth and twentieth centuries. Lorne analyzed the differences between the commercial "beer gardens" frequently used by working-class immigrant communities and the elite Olmsteadian, rural park system that was present. Lorne's analysis evaluates the extent that socialistic goals united with (and reshaped) traditional park design in the context of Milwaukee's increasing industrial issues and

[81] Esther Da Costa Meyer, "Mass-Producing Nature: Municipal Parks in Second Empire Paris" in *Public Nature: Scenery, History, and Park Design* ed. Ethan Carr, Shaun Eyring, and Richard Guy Wilson (Charlottesville, VA: University of Virginia Press, 2013). Schenker, *Melodramatic Landscapes*, 34-35.

[82] Rosenzweig and Blackmar, *The Park and the People*, 529.

political attempts to solve them.[83] Most recently, historian Colin Fisher has contributed to park, environmental, and labor history with his book *Urban Green: Nature, Recreation, and the Working Class in Industrial Chicago*. Fisher's analysis specifically homes in on class and racially differentiated park activities, showing that promenading was an elite, white activity until it was co-opted by more affluent African Americans in Chicago. Just as Lorne demonstrated in Milwaukee, Fisher showed that more commercial activities, like "pleasure grounds" or beer gardens, were frowned upon and even outright banned in some instances.[84] Most importantly, Fisher demonstrated that urban natural spaces, which included many parks, were integral to the ways that immigrant and minority communities contextualized and imagined themselves. Nevertheless, an explicit class framework is a still developing area of discourse—Schenker, Lorne, and Fisher only published their works within the last ten years, the most recent being *Urban Green* in 2015. Given the tension between class, race, and access within and outside of nineteenth century parks and the sociopolitical context that informed their creation and maintenance, class-oriented histories of urban parks are a burgeoning area of scholarship.

In addition to the class analysis of park discourse, there is developing scholarship regarding race and racial access to park grounds. Colin Fisher, in his 2010 essay "Race and U.S. Environmental History," analyzes the history of segregation and the lack of access to national and urban parks to advocate for an increase in the scholarship

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[83] Lorne A. Platt, "Planning Ideology and Geographic Thought in the Early Twentieth Century: Charles Whitnall's Progressive Era Park Designs for Socialist Milwaukee." *Journal of Urban History* 36, no. 6 (November 2010): 771–91.

[84] Colin Fisher, *Urban Green: Nature, Recreation, and the Working Class in Industrial Chicago* (Chapel Hill: The University of North Carolina Press, 2015), 44.

dedicated to this line of historical inquiry.[85] Indeed, a racial analysis of parks is lacking in the literature, despite the rich and deep discourses provided by the environmental justice movement is intimately concerned with the racial dimensions of pollution and environmental equity.[86] Jere Stuart French briefly mentioned the closing of parks to maintain racial or heterosexual segregation but did not expand on his analysis, an unfortunate continuity with many park histories.[87] In their analysis of Seneca Village, a mixed community that predated the creation of Central Park, Rosenzweig and Blackmar identify the criticality of race to the identity of the village and how Seneca itself was conceptualized. Fears about racial commingling and intermixing contributed to the desire to see the land "improved."[88] Despite these analyses, the representation of racial discourse in park history is limited and is another area for further inquiry.

Environmental entropy, as a transverse method of evaluating natural spaces, provides an axis for further scholarship to build upon. Because it encourages the reevaluation of prosaic and oftentimes neglected spaces, environmental entropy fosters analysis of spaces closest in proximity to historically marginalized communities—the decreased access to natural spaces and increased incidence of Superfund cleanup sites in relations to these communities is well documented in the environmental justice

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[85] Colin Fisher, "Race and US Environmental History," in *A Companion to American Environmental History*, ed. Douglas Cazaux Sackman (Chichester, Wiley-Blackwell, 2010), 108.

[86] Robert d. Bullard, "Introduction" in *The Quest for Environmental Justice: Human Rights and the Politics of Pollution*, ed. Robert Bullard (San Franscisco: Sierra Club Books, 2005), 3.

[87] French, *Urban Green*, 127.

[88] Rosenzweig and Blackmar, *The Park and the People,* 89.

literature[89]—while simultaneously addressing the disjunction between different cultural interpretations of "nature," and the role that the nonhuman natural environment plays. The "nature" of an affluent white family will differ considerably from the environment of marginalized and low-class communities, both physically and culturally.

The current outlook for parks combines the recreation or use-oriented approach perfected in the 1980s with the more ecological and environmental sentiments that inform our understanding of climate change. Modern parks occupy a dual role: on the one hand, they are designed with current best design practices involving stakeholder and community interaction and use, accessibility, and recreation in mind and on the other, these parks are increasingly designed as green networks that have distinct ecological or agricultural roles to fill.[90] By the 1990s, park designers were reevaluating the role of parks within an integrative and unified system. In 1997, Alexander Garvin recontextualized the Emerald Necklace park system designed by Olmsted in this approach.[91] As early as the 1960s, some design authors had linked integrated park systems within larger city formation schemes. What had been a radical approach to city formation (advocated by Jere Stuart French) was now becoming more mainstream.[92] It is important to note French's specifically civically oriented bent, which presents a neat through-line between the democratically oriented writings of Olmsted in the mid nineteenth century and into today's debates regarding environmental equity and equity of

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[89] Robert D. Bullard, "Environmental Justice in the Twenty-First Century" in *The Quest for Environmental Justice: Human Rights and the Politics of Pollution*, ed. Robert D. Bullard (San Francisco, CA: Sierra Club Books, 2005), 21.

[90] Shirley, "The Urban Park", 82.

[91] Garvin, "Enhancing the Public Realm", 5. Cranz and Boland, "Defining the Sustainable Park", 112.

[92] French, *Urban Green*, 40.

access. Rather than an entire reorganization of the city system, the focus was on the creation of neighborhood and democratic dynamics centered around parks. These internally oriented neighborhoods would foster civic engagement and growth founded on the community developed by a shared green space.

Whereas the original Romantic ideal for parks produced the *rus in urbe* style (a large block of "nature" within the city), more recent scholarship has recontextualized the park as an integrative and multifunctional space for design and its history. As more and more designers are prioritizing sustainability as a key feature of modern parks, there has been a push for increasing integration between city and country at every level to address both human and natural needs.[93] Urban planner Cliff Moughtin, in 2005, divided then current approaches to city design into organic and mechanistic, and argued that it is within these organic cities that holistic, sustainable, and integrated parks fulfill their city niche.[94] Modern parks are now placed within their larger context in ways that the early parks were not, and only recently scholarship has started to demonstrate the changing ways that parks have been connected to their surrounding areas. As historian Joel A. Tarr holds, landscapes like Central Park are within a much larger urban sprawl; a climate simultaneously divorced from the previously established environmental baseline and yet inextricably part of the city, a system which is inherently environmental at its core.[95] This entangled nature is closely aligned with environmental entropy, as both seek to reevaluate the city and natural forms within these landscapes. Indeed, the romanticized notion of the

[93] Shirley, "The Urban Park", 81 and 86.

[94] Cliff Moughtin, *Urban Design: Green Dimensions* (2nd ed. Jordan Hill, Oxford: Architectural Press, 2005), 104-110.

[95] Tarr, "The City as an Artifact of Technology and the Environment," 147.

rural or pastoral style defined the nature of park as antithetical to the city while failing to recognize the deep entanglements that resulted from the use of nature as a technological appendage to the urban fabric. Modern scholarship now seeks to place the park within these larger ecological and varied uses in a movement towards holistic understanding.[96] Ironically, this emphasis on holism can be traced back to the influence of Gilbert White and the arcadian movement of the late eighteenth century—which in turn inspired much of the nineteenth century Romantics—albeit with less emphasis on natural harmony and a greater emphasis on scientific ecological integrationism.[97]

Ecological integrationism can be found in Galen Cranz's and Michael Boland's 2004 Essay "Defining the Sustainable Park: A Fifth Model for Urban Parks." This is a continuation of the previously established framework employed by Cranz in her 1982 book *The Politics of Park Design: A History of Urban Parks in America*. Cranz and Boland added the Sustainable Park to encompass trends in park design from the 1990s onward to the existing framework laid out by Cranz in 1982. These "sustainable parks" emphasized the "integration of appropriate technologies... and sustainable construction and maintenance practices" that in turn "emphasiz[ed] the ecological value of parks." In their quantitative and sociological analysis, Cranz and Boland identifed self-sufficiency, urban integration, and changing aesthetic forms. [98] Cranz and Boland also note reclamation as a critical aspect of the new park design. The reclamation of polluted and derelict locations offered new opportunities for the creation of park land, closely aligning

[96] Shirley, "The Urban Park," 81.

[97] Donald Worster, *Nature's Economy: A History of Ecological Ideas,* 2nd ed. (New York, Cambridge University Press, 1994), 18.

[98] Cranz and Boland, "Defining the Sustainable Park," 104-106.

with the transition from spaces of high to low environmental entropy.[99] In the years following 2000, scholars increasingly embraced a more multifarious definition of a park. Whereas early histories and designs sought to implement changes and track consistencies, modern scholarship seeks to change the base structure of the park and advocates for a new, historically informed flexibility. This approach is nearly identical to the "urban wildscape" movement that has been developing in recent years.

These "urban wildscapes" combine elements of previous park design sensibility with more recent goals of ecological protection and integration and are best thought of as spaces of high environmental entropy, reclaiming areas left to them. The wildly disparate ways in which these areas change and fail to change is a ripe area for environmental entropic analysis. Designers Marian Tylecote and Nigel Dunnett identify the unity between the "history (natural and cultural), biogeographical conditions, [and] urban surroundings and social context" as critical elements of a rewilding project in Sheffield.[100] The emphasis on reintroducing local biota and fauna is partly a design sentiment and also a sustainability and biodiversity concern.[101] These tenets are indicative of the change in the conception of parks and urban wild spaces over time. Ironically, the "wild" approach that would have been so antithetical to the scientific and technological sentiment (but in concordance with the aesthetic sentiment) of Olmsted is a truer expression of the *rus in urbe* design philosophy. Now "nature" with all its quirks

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[99] Cranz and Boland, "Defining the Sustainable Park," 113.

[100] Marian Tylecote and Nigel Dunnett, "Enhancing Ruderal Perennials in Manor Fields Park, Sheffield: A New Park on the 'Bandit Lands' of Urban Green Space Dereliction" in *Urban Wildscapes* eds. Anna Jorgensen and Richard Keenan (New York, NY: Routledge Taylor & Francis Group, 2012), 145.

[101] Tylecote and Dunnett, "Enhancing Ruderal Perennials in Manor Fields Park, Sheffield", 141.

and flaws is being integrated into urban spaces to blur the line more fully between city and country.

With an increasing focus on integration and an emphasis on community, the modern urban park movement has created new dimensions for the public park to occupy: community nucleation sites, vital infrastructure, or the foundational structures of cities.[102] The ecocities movement advocated for by environmental writer and engineer Richard Register also emphasized an ecological and integrative approach to the construction of new cities. Much like Moughtin and Shirley in *Urban Design*, Register located new park systems and green spaces directly integrated into buildings or city structures, further blurring the line between design, ecology, and architecture.[103] The "arcology" (architecture and ecology) advocated for by Register unified the city system into an organic and self-contained system.[104] While the complete unification would drastically change the role and identity of parks, the city system itself would still have ample amounts of green space and nature.[105] While being the most radical approach to city and park conceptualization, Register's plan has yet to be adopted by the design community or within the scholarly discourse, which is still concerned with less extreme iterations of low environmental entropy. However, it is fully representative of the newest trends in park design that focus on ecology, interrelationship between park and city, and the development of sustainable systems in the face of growing climate change, a perfect

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[102] Shirley, "The Urban Park," 82. and Richard Register, *Ecocities: Rebuilding Cities in Balance with Nature* Rev. ed. (Gabriola Island, BC: New Society Publishers, 2006), 115.

[103] Shirley, "The Urban Park," 82.

[104] Register, *Ecocities*, 189.

[105] Register, *Ecocities*, 189 and 320.

example of design using high environmental entropy.[106] It is interesting to note that environmental entropy is uniquely situated to "see" the city in ways much more radical than other disciplines. This tension is between the integration of the park system into the fabric of the city (as seen with modern sustainable and ecological integration) versus the integration of the city system into the park form. This can be as radical as the arcology plan advocated by Register or can be of a more standard form (the polynucleic) advocated for by Moughtin in 2005 or by French in 1973.[107] The idea of these macroscopic integrative systems is a consistent theme throughout park design. As seen with Olmstead, French, Register, and Moughtin, there has been consistent historical support for parks to be the centerpieces of city design. The change over time has been the extent to which the city itself is to change around its parks.

This has not repudiated the need for the experience of the more traditional nature experience within the city but rather, it has problematized the old system of park development and the efforts of large-scale oriented conservationists. The "wild," "natural," and "untrammeled" wilderness of the parks and areas that persisted outside the city privileged middle class earners and white families, to the detriment of people and plants in the city. Guggenheimer held that contact with the natural environment ought to be *outside* the city instead of experiencing nature within the bounds of an urban park.[108] Cranz also noted this as a defining feature of the reform era park, with "neighborhood parks" designed for "frequent and regular use" and "rural park[s] for holidays."[109] Recent

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[106] See Cranz and Boland, "Defining the Sustainable Park: A Fifth Model for Urban Parks."

[107] Moughtin, *Urban Design,* 110. French, *Urban Green*, 85.

[108] Guggenheimer, *Planning for Parks and Recreation Needs in Urban Areas,* 43.

[109] Cranz, *The Politics of Park Design*, 82.

scholarship has questioned the separateness of the city and county, and municipal and larger parks. Ethan Carr noted that the park design encompasses all landscapes, ranging from highly designed urban parks to the maintained landscapes found in national parks.[110] This is also emblematic of recent trends in environmental history that blur the distinction between city and country. William Cronon questioned the traditions inherited from the Romantic thinkers of the nineteenth century when analyzing this concept in *Nature's Metropolis: Chicago and the Great West.* [111] Historian Ellen Stroud pointed to the interrelationship between city and environment (both constructed or otherwise) that has concurrently developed within the field of Urban Environmentalism.[112] Sociologist Hillary Angelo, writing in 2017, identified the resilience of the city-country dynamic as a "romanticization" of constructed "natural" spaces that are set apart from the city itself (the Romantic approach to nature). These spaces are simultaneously used to demarcate the boundary of the city as well as reinvigorate it by introducing "natural" areas.[113] Angelo further held that these integrative greening movements affirm the very dynamic they seek to disrupt, and are used as an ideological tool to rationalize urban development by "corporations, communities, foundation and government[s]".[114] As parks become increasingly integrated with the cities they were previously considered apart from, their

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[110] Ethan Carr, "Introduction" in *Public Nature: Scenery, History, and Park Design* ed. Ethan Carr, Shaun Eyring, and Richard Guy Wilson (Charlottesville, VA: University of Virginia Press, 2013), 1-2.

[111] William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York, NY: W. W. Norton & Company, 1991), 9.

[112] Ellen Stroud, "Dirt in the City: Urban Environmental History in the Mid-Atlantic." *Pennsylvania History: A Journal of Mid-Atlantic Studies* 79, no. 4 (Autumn 2012): 433-437.

[113] Hillary Angelo, "From the City Lens toward Urbanization as a Way of Seeing: Country/City Binaries on an Urbanizing Planet." *Urban Studies* 54, no. 1 (2017): 167.

[114] Angelo, "From the City Lens toward Urbanization as a Way of Seeing," 167.

internal logic becomes subsumed in a new, flexible, and integrated approach to urban green spaces. Environmental entropy helps to examine the interrelationship between city and country and shows how highlighting these interconnections are critical for urban and rural environments.

One opportunity and challenge that surrounds park historiography is the variety of disciplines that one must consult in order to gain a full understanding of the subject. Even for an interdisciplinary field such as environmental history, having to consult a variety of disparate sources, such as urban planning journals, sociological histories, design documents, as well as formal historical monographs, is a difficult task. For example, Joel A. Tarr's urban history chapter "The City as an Artifact of Technology and the Environment" devotes just one paragraph to urban parks, only citing Olmsted before moving onward.[115] The challenge presented revolves around how to unify and synthesize all of these different disciplines into one coherent narrative. The opportunity is that environmental historians and urban environmental historians are well positioned to create meaningful and impactful scholarship in this area in the years to come. As a ubiquitous urban phenomenon, parks not only have a rich history to uncover, but a fascinating and largely unexplored international historiography, from Mexico to Cairo and beyond.[116]

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[115] Tarr also cites Rosenzweig and Blackmar's *The Park and the People* for authority, but makes no other mention to urban parks despite their intimate connection to the sanitary movement that Tarr discusses in depth shortly thereafter. See page 151.

[116]See Emily Wakild, "Naturalizing Modernity: Urban Parks, Public Gardens and Drainage Projects in Porfirian Mexico City," *Mexican Studies/Estudios Mexicanos* 23, no. 1 (Winter 2007), 101-123 and Cameron Rashti, "The Development of Azhar Park" in *Cairo: Revitalizing A Historic Metropolis*, Staphano Bianca and Philip Jodido, eds (Turin: Aga Khan Trust for Culture and Umberto Allemandi, 2004), 149-163.

While the interconnected disciplines of urban studies, environmental history, and park design have all influenced each other, the connection to urban parks has only recently come to the fore. Because so many polluted sites are remediated into parks or open space areas, understanding urban pollution may help provide the context for which areas need remediation, which communities are affected by the presence of waste, and what remediation and restoration looks like for those communities. Histories abound of sites of pollution or pollution specific histories. Conversely, specific histories regarding urban parks and the city form are commonplace. What is rare, then, are histories that examine the profound connections between these areas, and their constitutive natures. Remediation and recreation projects such as the reclamation park project AMD&ART in Pennsylvania and deindustrialized parks in Europe present compelling examples that parks and pollution may be growing ever closer in the years to come.[117] Lastly, park histories tend to be constructed with very specific site or temporal restrictions. For notable park histories bound by geography, we need look no further than Terence Young's *Building San Francisco's Parks*, Cynthia Zaitzevesky's *Frederick Law Olmsted and the Boston Park System*, or Rosenzweig and Blackmar's *The Park and the People*. The only comprehensive park histories to have been published are decades old.[118] New, holistic, and comprehensive histories are needed, ones that incorporate environmental

[117] T. Allen Comp, "From Environmental Liability to Community Asset: Public History, Communities, and Environmental Reclamation" in *The Oxford Handbook of Public History,* eds. James B. Gardner and Paula Hamilton (New York, NY: Oxford University Press, 2017), 207-216. Steven High, "Brownfield Public History: Arts and Heritage in the Aftermath of Deindustrialization" in *The Oxford Handbook of Public History,* eds. James B. Gardner and Paula Hamilton (New York, NY: Oxford University Press, 2017), 423-444.

[118] Chadwick's *The Park and the Town,* Cranz's *The Politics of Park Design*, and Conway's *Victorian Parks* are 57, 41, and 32 years old respectively.

entropy to examine not only the ways in which these spaces are constructed and maintained, but the cultural values that underpin their purposes and the relationships they foster between humans and their environment.

CHAPTER THREE: CONSTRUCTING MODERNITY: DESIGN AND DEVELOPMENT ALONG THE BOISE RIVER GREENBELT

"*The world is not an aggregation of things, but rather a symphony of relationships between many participants that are altered by the interaction."*[119]

The Boise River Greenbelt is multifaceted. As an area of raucous plant growth amidst a developing metropolis, it is a hybrid between city and nature. What is the nature of the river today? It seems to be unclear. The clicking spokes of a bike passing by and the keening call of a red-winged blackbird weave together in a trilling call-and-response. Did the city make the river? Did the river make the city? The answer is obscured by the interrelationship between the two. As described by the designer Anne Whiston Spirn, landscapes "blur the boundaries between the human and the nonhuman."[120] The indeterminacy of this relationship along the Greenbelt makes it difficult to reconcile the two. Once, when walking by the riverbank, I came across a rusted, overgrown sign. My initial reaction was disappointment, frustration even, that the nature of the river was disrupted. And yet it had been adopted by various species for their own purposes, none of which were concerned with my human conception of nature. Perhaps that sign belonged there more than I did.

Taking the Boise River Greenbelt, a 25-mile designed linear park system in Boise, Idaho, as an illustrative example, this chapter will bring these nature and design into greater dialogue and will examine their intersections with and implications for the

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[119] Andreas Weber, *Matter and Desire: An Erotic Ecology,* trans. Rory Bradley (White River Junction, VT: Chelsea Green Publishing, 2017), 5.

[120] Anne Whiston Spirn, "Constructing Nature: The Legacy of Frederick Law Olmstead," in *Uncommon Ground: Rethinking the Human Place in Nature*, ed. William Cronon (New York, NY: W.W. Norton & Company, Inc., 1996), 111.

environment with regards to recreation, beautification, and urbanity.[121] In an era where greenspaces across the world are being asked to take on powerful new identities, understanding their constructed nature has never been more important to establish their future.

Understanding the design and development of the Greenbelt first requires a grasp of the development of urban parks and cities. As a linear park, the Greenbelt falls neatly into urban park historiography. The earliest parks were found in the gardens and estates of European aristocracy and monarchy and were generally reserves for hunting and class-differentiated recreation.[122] Over time, park standards came to romanticize and then reproduce the rapidly disappearing arcadian countryside, and nowhere was this more prevalent than in England. By the end of the eighteenth century, arcadian naturalism had become the dominant park design, with notable parks like Hyde, Victoria, and Birkenhead increasing in visitorship as enclosure reduced the number of available commons. Early park design in America drew heavily on the precedents established by these European parks and combined them with Romantic or Transcendentalist morals to create the earliest parks as they appear today.[123] Nowhere is this more evident than in the

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[121] See appendix for historical and current map of the greenbelt.

[122] Jere Stuart French, *Urban Green: City Parks of the Western World* (Dubuque, IA: Kendall/Hunt Publishing Company, 1973), 13. Heath Massey Schenker, *Melodramatic Landscapes: Urban Parks in the Nineteenth Century (*Charlottesville, VA: University of Virginia Press, 2009), 10.

[123] Traditional parks in the style of designers like James Loudon or Frederick Law Olmstead have a variety of titles ascribed to them. Historian Terence Young's *Building San Francisco's Parks: 1850-1930* describes them as "Romantic." Designer Jere Stuart French described them as "English" parks in his book *Urban Green: City Parks of the Western World*, while historian John Dixon Hunt preferred the term "picturesque" in his essay "The Influence of Anxiety: Keeping Europe in the Picture in North American Landscaping." Historian Heath Massey Schenker frames these parks as "melodramatic" in his book *Melodramatic Landscapes: Urban Parks in the Nineteenth Century*. Colin

work of Frederick Law Olmstead, the influential designer of Central Park in New York City and the founder of the discipline of landscape design. Olmstead's vision was greatly informed by his experiences in European parks.[124] His fondness for Birkenhead Park, for example, was for its rustic beauty, its intelligent design, and its accessibility as the "People's Garden."[125] Olmstead's design of Central Park demonstrated it could be "a more ambitious park and boulevard system with multiple functions inside cities" and could teach "Americans to see the social and moral values of parks."[126] These values were instilled using a combination of romanticized nature molded by design principles, such as using trees to mask the borders of the park to present the illusion of nature in the city, *rus in urbe*, that defined the Romantic style. These parks functioned as a counterpoint to increasing industrialization and its attendant health concerns while simultaneously idealizing nature in opposition to the city. For the designers of these urban parks, the intention was to demonstrate that "[c]ities, representing the essence of modern civilization, should become well-planned, integrated wholes in which humans

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Fisher labels them as "Victorian" in his essay "Nature in the City: Urban Environmental History and Central Park." Despite the lexical variety, each title refers to a well understood style and execution of public parks in nineteenth century American and European design. While no explicit historiographical work addresses the variety of these terms they all describe important facets of Romanticism and thus a foundational principle for urban park design.

[124] Colin Fisher, "Nature in the City: Urban Environmental History and Central Park," *OAH Magazine of History 25*, no. 4 (October 2011): 28.

[125] Frederick Law Olmstead, *Writings on Landscape, Culture, and Society,* ed. Charles E. Beveridge (New York, NY: Literary Classics of the United States, 2015), 41.

[126] Shen Hou, *The City Natural:* Garden and Forest *Magazine and the Rise of American Environmentalism* (Pittsburgh, PA: The University of Pittsburgh Press, 2013), 5.

and nature coexisted side by side."[127] In this way, parks were both a source of and response to modernity.

Underpinning this integration ethic was the subtle influence of several intellectual movements of the nineteenth century, which I broadly codify as the Romantic movement. While the modernity of the city and the progress it represented would be central to urban life moving forward, designers sought to counteract the negative influence of industrialization by incorporating nature and its positive effects into the city form. Romantics, Transcendentalists, and nature lovers alike saw in untrammeled, wild nature the qualities that the city lacked: purity, morality, spirituality, and beneficence. Paintings like Thomas Cole's *The Course of Empire* and Romantic writings like George Perkins Marsh's *The Earth as Modified by Human Action* idealized the arcadian and pastoral nature of ages past and contrasted it—sometimes violently— with the progress and implied evil of modernization. The earliest park designs sought to unify and purify the city by emulating a particular kind of nature, recontextualizing the idealized—and culturally constructed—pastoral landscape design.

However, by the mid-twentieth century, parks had undergone a drastic transition. Instead of Olmstead's landscape of "tranquility and rest to the mind,"[128] contemplative of the majesty of nature and devoid of the exertion that plagued industrial society, urban parks just eighty years removed had become contested sites of activity. The "loss of idealism" resulted in a commensurate "loss of authority and prestige," which was

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[127] Hou, *The City Natural,* 128.

[128] Frederick Law Olmsted, "Public Parks and the Enlargement of Towns" in *Civilizing American Cities: A Selection of Frederick Law Olmsted's Writings on City Landscapes*, ed. S.B. Sutton (Massachusetts: The MIT Press, 1971), 81.

reflected in park budgets.[129] Sociologists Galen Cranz and Michael Boland later contextualized this trend as a "cycle of abandonment," wherein disrepair leads to disuse in a positive feedback loop. Budget cuts for parks ranged from the world-renowned Central Park to the municipal, like Idaho's Parks and Recreation Department, and resulted in a transition in the role that urban parks were to play.[130] Fueled by falling post-World War II governmental spending, the increasing popularity of play activities, and expanding suburbanization, recreation became the measuring stick for the success of the urban park. Sanctioned activities included organized sports, healthful and rigorous exercise, and active community participation. However, social discontent and lack of maintenance also contributed to an increase in drug use, crime, and littering in parks. While the urban dweller was still "the victim of frustration, of congestion on the streets and pedestrian congestion in stores and office buildings, of noise and air pollution, and of tension and delay" from the time of Olmstead onward, the modern solution was the creation of "almost limitless selection[s] of activities to meet" the interests of "all ages, incomes, and tastes."[131] Journalist Jane Jacobs's *The Life and Death of Great American Cities* devoted an entire chapter to the "uses" of neighborhood parks (as opposed to the "experiences" a park provides). Jacobs claimed that "[p]arks are not automatically anything" and that "people…confer use on parks and make them successes—or else

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[129] Galen Cranz, *The Politics of Park Design: A History of Urban Parks in America* (Cambridge, MA: The Massachusetts Institute of Technology, 1982), 107.

[130] Randy Stapilus quoted in David Proctor, *Pathway of Dreams: Building the Boise Greenbelt* (Boise, ID: Ridenbaugh Press, 2016), 130.

[131] Elinor C. Guggenheimer, *Planning for Parks and Recreation Needs in Urban Areas* (New York: Twayne Publishers, Inc., 1969), 26 and 28.

withhold and doom parks to rejection and failure."[132] Jacobs was in concurrence with a larger design movement that was attempting to address the dual problems of budget and safety in urban parks at a time when even the most famous parks were not safe from disrepair and crime. Rather than experiencing the beauteous and calming nature of a park, activity, and active recreation arose as the solution to these problems.

It was no longer sufficient to simply have a "sylvan setting;" urban parks needed to adapt.[133] As use and demand increased, the value of the park would increase, which would in turn increase collected tax revenues from adjoining areas and supplement park budgets for maintenance and upkeep. Another benefit of increased users was increased supervision, ensuring that park activities remained appropriate and sanctioned. While some designers have periodized a different form of the park beginning in 1965, the importance of recreation had been fully established as a central tenet of park design and use and continues to shape discourse to this day.[134]

Throughout this period, the Boise River was wending its course through the Snake River Valley Basin. Flowing down from the Sawtooth Mountains, the river accumulated snowmelt as it flowed into the Boise Valley, gradually becoming the Snake River, the tributary of the Columbia River. Unlike other more charismatic rivers, the

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[132] Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY: Random House, 1961), 92 and 89.

[133] Alexander Garvin, "Enhancing the Public Realm" in *Urban Parks and Open Space* by Alexander Garvin, Gayle Berens, et al. (Washington, D.C.:ULI-the Urban Land Institute, 1997), 5.

[134] Designer and sociologist Galen Cranz characterizes the park system from 1965-1990 as the "Open Space System," but her framework remains largely the same for urban parks during the construction of the Greenbelt and still highlights the importance of recreation to urban parks as a central organizing tenet. See Cranz, *The Politics of Park Design*, 135-154.

Boise River was characterized by reliable periods of flooding and recession. Historian Susan M. Stacy simply noted that "[s]ome years the [river] brought more water, others less" and the river's meandering created islands and bars between these seasonal flows.[135] Despite several notable instances of flooding in the early years of the city, the power of the river served to irrigate and occasionally inundate developing farmland. Like the river that sustained it, the city of Boise gradually developed from agrarian to industrial production. Throughout the early and mid-twentieth century, this industrialization tied the city and the river together in a new relationship, that of the "sink" or dumping ground.[136] The city, in pursuing extractive resources such as grazing, gold, and lumber, developed industry to accommodate such practices. All along the river, specialized businesses and warehouses were developed to meet the growing demands of the city. Quarries, slaughterhouses, steelworks, machine shops, and many others utilized the site of the river as a dumping ground.[137] Indeed, many of Boise's current park sites were dumping areas in support of industry and private interest, thanks to their proximity to the river. In a vicious cycle, Boiseans consigned their natural spaces within the city to pollution precisely *because* their aesthetic and cultural values did not deem these areas worthy of projection—degraded spaces were justified by the dregs that were dumped

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[135] Susan M. Stacy, *When the River Rises: Flood Control on the Boise River 1943-1985* (Boulder, CO: Institute of Behavioral Sciences-University of Colorado, 1993), 1-2.

[136] Daniel S. Smith and Paul Cawood Hellmund, eds. *Ecology of Greenways: Design and Function of Linear Conservation Areas* (Minneapolis, MN: University of Minnesota Press, 1993), 32-33.

[137] Jennifer Stevens, "'This ain't going to be a lunch bucket town' The Life of a City and Boise's Shifting Identity: 1900-2018." In Idaho Humanities Council Connected Conversation, Boise Idaho, June 9th, 2020. https://www.youtube.com/watch?v=pczmSEaBtKY, 13:14. Proctor, *Pathway of Dreams*, 37.

therein. These urban spaces were low environmentally entropic spaces, highly ordered with a specific environmental relationship in mind. Time and again, industry proved to be the more potent cultural value, representing "progress and advancement" for Boise and Idaho writ large.[138] Even seemingly natural features of the city, such as Logger Creek, were in actuality the arterial channels of the early city.[139] Industrial order—and thus low environmental entropy—degraded the city and its environs. Julia Davis Park was both a "City dump" and an "illicit dump," serving both private and public use.[140] A riverside corner of Municipal Park was a city dumping site starting in June 1935.[141] Shoreline Park was the site of the Clements cement plant and still contains an excess of spilled concrete from prior operations.[142] The center of downtown was only slightly removed from slaughterhouses, heavy construction, gravel excavation, steel production, and an iron foundry, among others.[143] These multifarious uses all contributed to a river that was derided by the local population. Much like other modernizing cities had done, Boise sacrificed parts of its environment to industrialize. Such a relationship between modernization and industry had historic and toxic implications for the river. To remake the river, its physical and cultural environment would need to be reoriented.

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[138] In this instance, a burgeoning local dairy industry was the subject, but the same could be said of many of Boise's industrial antecedents. "Idaho Real Estate" *Evening Capital News,* January 4, 1920.

[139] Jim Witherell, *History along the Greenbelt: an Idaho Centennial Project of the Ada County Centennial Committee* (Boise, ID: Ada County Centennial Committee, [1990?]), 48.

[140] William Onweiler, interviewed by Troy Reeves. McCall, Idaho, June 19, 1998. Witherell, *History along the Greenbelt*, 83.

[141] Proctor, *Pathway of Dreams,* 39.

[142] Proctor, *Pathway of Dreams,* 43.

[143] Stevens, "'This ain't going to be a lunch bucket town,'" 13:45.

The creation of the Greenbelt Park, like any other politically complex project, involved the confluence of several important factors. In key treatments of the history of Boise or the Greenbelt, these factors have been emphasized differently. The earliest history of the Greenbelt is Susan M. Stacy's *When the River Rises*, a history of the Boise River and flood control projects alongside it. Stacy's accounting of the Greenbelt project stayed closely tailored to the institutional dynamics of Boise, the Bureau of Reclamation, and the Army Corps of Engineers as the city developed and grew alongside the floodplain of the river. Local historian J. Meredith Neil, in an unpublished manuscript of the development of metropolitan Boise, contrasted the environment and urbanity in analyzing the ways that Boiseans chose to develop their city. Most recently, journalist David Proctor produced a political history of the Greenbelt that focused on the Greenbelt Commissioners and key political actors to understand how the project grew into the feature it is today.[144]

Each of these histories takes seriously the growth of the city as it relates to the development of the Greenbelt. Stacy held that the floodplain and the "riverfront park environment" simultaneously developed due to a mixture of preexisting urbanization, civic pride, changing environmental ethics, and developer and federal assistance.[145] Neil was even more convinced about the positive relationship between the environment and Boise, even claiming that "[a] case could be made that the Boise area over the past fifty years…has still marked a net improvement in the environment," with the "remarkable

[144] David Proctor, *Pathway of Dreams: Building the Boise Greenbelt* (Boise, ID: Ridenbaugh Press, 2016).

[145] Stacy, *When the River Rises,* 125.

renaissance" beginning with the Greenbelt.[146] Proctor was perhaps the most strident in his characterization of the Greenbelt as the originator of "Boise's latter-day quality of life" beginning with the completion of the Greenbelt. He also characterized the development of the Greenbelt definitively as "not a government project," eliminating much of the nuance that Stacy had previously established.[147] Each of these treatments failed to seriously consider the environment of the river holistically. Neil and Proctor both missed key aspects of the development of the Greenbelt. Thinking with environmental entropy allows for the importance of remediation—physical and cultural—of the river to come to the fore.

Despite this, the dynamic influence of civic cleanup and civic participation, noted by many of the Greenbelt Commission members, played an important role in the establishment of the Greenbelt. Sarah Graddy, in her Master's thesis "Creative and Green: Intersections of Art, Ecology, and Community," notes that "[i]f citizens are not involved in remediation efforts, it is unlikely that they will either be aware of them or help to prevent such exploitation of local resources in the future."[148] She also stated that "[t]he best remediative response to polluted sites, then, involves not only science but art."[149] Writing in 2005, Graddy demonstrated that these projects often contributed to "not just the restoration of the local environment but also residents' sense of community and place."[150] Susan Stacy aligned with this sentiment in her historical treatment of the

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[146] J. Meredith Neil, *City Limits: The Emergence of Metropolitan Boise, 1945-2001* (United States, *n.p.* 2008), 5.

[147] Proctor, *Pathway of Dreams*, 8-9.

[148] Sarah E. Graddy, "Creative and Green: Intersections of Art, Ecology and Community," Master's thesis, University of Southern California, 2005, 23.

[149] Graddy, "Creative and Green," 24.

[150] Graddy, "Creative and Green," 24.

Boise River, writing that the changing "aesthetics of the river" helped "stimulate new community attitudes toward the river." Graddy's analysis in part captures the importance of viewing the river through the lens of environmental entropy. To transform the riverbank from a site of industry and low entropy to a more naturalized, high entropy space, several things had to happen. Local industry, the source of and justification for the degradation of the river had to be relocated; citizens had to perceive a problem with the river and advocate for its resuscitation; and government policy and design practice needed to be leveraged to decide would follow in its stead. Like modernizing cities before it, Boiseans chose a park to succeed the area, transforming the landscape from low environmental entropy to high environmental entropy in the process.

The local "sense of place" was heavily informed by the pollution and dumping that took place along the banks of the river. Given the lack of federal standards mandating clean water, and Boiseans' decidedly anti-regulation and anti-government stance, the river, the common resource of the city, became a catch-all for depredation. Private and industrial dumping of all kinds occurred on the river. Private dumping left "trash, tires, refrigerators," cars, and "piles and piles of old fences;" local food processors dumped waste products including sugar extracts, blood, milk, and offal into the river.[151] Occasionally, the river ran red with dumped blood from nearby slaughterhouses, and discarded fats coagulated on its surface. Local and private dumping was common enough behavior that Kathleen Day—a Greenbelt Commissioner— "couldn't convince this rancher that he shouldn't pollute…because I owned [the river] as much as he did. I could

[151] Elizabeth Van Zonneveld interview, 12.

not get that concept across to him" at a local meeting.[152] Even city actions resulted in pollution being dumped into the river, as former Greenbelt Commissioner Alice Dieter noted "the city was hosing all of the animal cages in the zoo…into the lagoon,…and that flushed into the river."[153] Even when the Lander Street Sewage Treatment plant began treating wastewater in 1955, it discharged treated sewage and chlorine into the river. During low flow periods, these products would build in the riverbed and create hazardous conditions for swimmers below Julia Davis Park.[154] Despite local inaction regarding pollution remediation, recreative activities did continue in areas where the environmental conditions were more conducive, particularly in the areas above heavy dumping sites. Today, the Greenbelt has been fully remediated of its pollution, and its tributaries are beginning to follow suit. However, that remediation involved cleansing the nature of the river and creating a new local relationship to it. Boiseans had known their river as a waste and a dumping ground, but they eventually came to know it through nature and recreation instead.

The creation of the Greenbelt necessitated that the river and the city be reshaped. However, Boise adopted designers and planning reluctantly. While many decades of urban planning had reconstituted cities such as San Francisco and Chicago, Boise only obtained its first city master plan in the 1960s and the city of Boise itself did not hire an urban planner until 1965.[155] By 1968, former city planner Arlo Nelson had

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[152] Kathleen Day, interviewed by Troy Reeves, Madison, Wisconsin, September 19, 1998, 4.

[153] Alice Dieter, interviewed by Troy Reeves, Boise, Idaho, July 20, 1998, 6.

[154] Stacy, *When the River* Rises, 69-70. Proctor, *Pathway of Dreams*, 39. Alice Dieter interview, 5.

[155] Neil, *City Limits*, 16, 111. For a more comprehensive accounting of city development in the United States, see John W. Reps, *The Making of Urban America: A*

resigned from his position with the city and had founded the design firm Planning and Research/West. Nelson and other designers drew upon the discipline of landscape architecture, which was now a fully-fledged practice, complete with values, knowledges, and heuristics. For these designers, many aspects of the development of the Greenbelt were familiar praxis. Trends within park design had shifted the practice away from the contemplative, "passive" uses outlined by Olmstead. "Modern" parks and green spaces were still needed to create beauty but were increasingly aimed at developing the city and providing recreative amenities for its citizens. In drawing on these common themes, they reflected many of the sensibilities of previous park designers, aiming to incorporate and modernize the themes of Frederick Law Olmsted, whom they quote for authority early in the report. The planning documents relating to the Greenbelt are of primary importance because they represent the cultural values, judgments, and attendant technologies that created conditions on the Greenbelt. Urban and industrial development can help remind us that "urban memory is quite short" for design continuities and the sublimation of landscape into cultural memory.[156] Nearly one hundred years after the development of Central Park, designers continued to see parks as a solution to some of the "inherent urban complexities" faced by modernizing cities.[157] In these parks, nature was but one of

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History of City Planning in the United States (Princeton, NJ: Princeton University Press, 1965).

[156] Claire Campbell, "Whatever Happened to Pleasant Street? Rediscovering and Urban Shoreline," *Environmental History* 25 (2020): 146. The myopic memory of urban dwellers can be see in Spirn, *Constructing Nature*, 104, wherein several famous works of design by Olmstead have come to be naturalized in the eyes of modern citizens. See also Han Seok Hyun, Reverse-Rebirth Sculpture, Idaho Botanical Gardens (Boise, ID), Exhibit Text, December 23, 2022.

[157] Arlo Nelson et al. *The Boise River Greenbelt: Comprehensive Plan & Design*, (Boise, ID: Joslyn & Rentschler Printing, 1968).

the tools available to create landscapes that were favorable for human interaction; for the Greenbelt, just as in the design of Central Park, plants and foliage were important "device[s] for reducing noise as well as to screen and beautify…areas."[158] Such designs are in keeping with Olmsted's desire that the "evil" of artificial city life be addressed not with individual instances of beauty—such as a "little violet or a great magnolia blossom"—but rather as "scenery," in particular a rural landscape that could never appear in the city without the expertise of the artist, in this case the landscape architect.[159] For Arlo Nelson and the authors of the PR/W report, such scenery was of the utmost importance. By successfully changing the environmental entropy of the areas along the Greenbelt, Boise could advantage human and nonhuman communities alike.[160] Previous areas of low environmental entropy, such as "truck terminals, warehousing" or more egregiously, "light industrial and heavy equipment storage," were confusing and needed to be changed using the natural environment.[161]

Like architects before him, Gordon Bowen, the head of the Parks Department during the construction of the Greenbelt, wrote that trees, in addition to providing shade and beauty, also had important roles to play by "muting noise, absorbing dust, and…in various ways minimizing or reducing the effects of pollution."[162] Although Bowen was discussing street tree planting, he clarified that the value judgments he ascribed to trees

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[158] Nelson et al, *The Boise River Greenbelt*, 24. *Boise River Today*, directed by Bill Onweiler. Boise, ID. 1970.

[159] Frederick Law Olmsted, *Notes on the Plan for Franklin Park and Other Matters.* Boston Parks department, Printed for the Department 1886. https://www.biodiversitylibrary.org/item/97901. 42-43.

[160] Nelson et al., *The Boise River Greenbelt*, 18, 26.

[161] Nelson et al., *The Boise River Greenbelt*, 26.

[162] Gordon S. Bowen, *Street Trees in Boise, Idaho (*Boise, Idaho: City Park Department, 1973), 1.

were "an opinion from the standpoint of their value to man."[163] Throughout his report, Bowen frequently recommended trees for parks where they would be unfit for street planting. Even a tree that has favorable characteristics, such as the "well-shaped" and "attractive" Kimberly Blue Ash was rated lower due to its "little variation in character in growing season" and its unreliable foliage. An exotic species, the Flowering Ash, was not rated but "appears to have all the advantages of Kimberly Blue Ash with a few plusses besides" and was thus "a suitable candidate for further trial."[164] In selecting particular traits for both street and park plantings, Bowen illuminated the different priorities for management and designing for the many contexts that inform green spaces. Bowen's selections and criteria reflected a precedent established by Olmstead with the remediation and reconstitution of the Boston Fens and Riverway project, with both selecting a variety of exotic and natural plants to effectuate their designs.[165]

Bowen's recommendations strictly delineate between trees suited for parks and trees more suitable for street use and fall directly in keeping with pre-established principles for park and city design. For the needs of the city, nature was carefully implemented and codified to ensure that damage was not done to public or private property and to address problems. For example, the Kentucky Coffee Tree may not be suitable for sidewalks or medians due to nuisance fruit pods but could be feasibly implemented in public parks.[166] For public parks, more rambunctious species of flora were acceptable for their beauty and ability to make a stark impression and were knowable to Boiseans in this fashion. Thus,

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[163] Bowen, *Street Trees in Boise, Idaho.*
[164] Bowen. *Street Trees in Boise.*
[165] Sprin, "Constructing Nature," 101-108.
[166] Bowen, *Street Trees in Boise*.

city parks and the Greenbelt sought to leverage beauty and variety for human perception, perambulation, and recreation, while city streets needed trees "sufficiently inured to urban conditions such as fumes, drought, and root compaction," as much a technological fix as the others suggested by the comprehensive plan for the city.[167]

In other instances, more drastic landscaping was needed to "make a visual statement" along the Greenbelt. That statement was the obstruction of the "dead fields" and "office development" that would otherwise have disrupted the view over the river. [168] Discussions regarding how much landscaping the river needed were ongoing throughout the project. Bowen "liked grass and earth berms, the committee liked the natural look." These disagreements were an "ongoing controversy" over manicuring the Greenbelt like the park system or leaving it "natural."[169] Park, nature, and city all were subject to design. For example, the extant plant materials along the belt were "of questionable value" thus representing the need to modify nature to effectuate human design. [170] Because these plant materials did not adequately screen or provide the correct natural beauty, they needed to be corrected to aid the Greenbelt. Extant materials that were not meticulously maintained or apportioned were wild and unusable land, as seen in Julia Davis Park before cleanup efforts began.[171] Overgrown and unattractive land did not serve an Olmsteadian or a modern park purpose and was thus polluted and generally unused.

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[167] Bowen, *Street Trees in Boise*.
[168] Elizabeth Van Zonneveld interview, 29.
[169] Proctor, *Pathway of Dreams,* 54-55.
[170] Proctor, *Pathway of Dreams,* 28.
[171] Alice Dieter interview, 5.

Using techniques like grading, filling, manicuring, and planting, designers sought to create parks in keeping with the best practices of park use, namely, for recreation. At a time when suburbanization was redistributing citizens and their recreative desires away from the city and towards National Parks, designers at the firm Planning Research/West (PR/W)—headed by Arlo Nelson—envisioned a park system that catered to almost any recreative need and centralized recreation as a distinctly "park-like" activity.[172] Decades after the earliest parks were founded, key periods of park design values remain entrenched: Elizabeth Van Zonneveld lamented the loss of "the passive use and the passive atmosphere of the river belt" caused by excess bike traffic despite the pivotal role recreation played in the creation of the Greenbelt system.[173]

Regardless of the long history of urban design completely reshaping and dominating spaces for various uses, the designers recognized the power of the Boise River in interesting ways within the *Comprehensive Plan*. Given the extensive development that the plan calls for, it is tempting to consider the Greenbelt to be a wholly designed landscape, like the larger parks that were and are interlinked by the Greenbelt. There was a disconnect between the intentions of the PR/W report and the politicians who implemented it that revolved around design, nature and culture. Alice Dieter stated, "I don't think [the Greenbelt Commission] recognized the possibility of really making it…what it should have been, which would have been a flood basin," with wide enough setbacks to allow "the river to have its course through town."[174] This paean to the "wild" river fails to recognize that the behavior of the Boise River had already significantly

[172] Alice Dieter interview, 18.
[173] Elizabeth Van Zonneveld interview, 7.
[174] Alice Dieter interview, 7.

deviated from its historic manner with the construction of the Arrowrock and Lucky Peak dams, but is neatly understood in the context of Romantic park design and ideologies. In this instance, the river would appear to be unmanaged, but would still ultimately reflect the desires and designs of the Boise population. PR/W recognized the importance of the flow of the river as a key and ultimately recommended further adjustments to the flow rate of the river, already one of the most controlled rivers in the country, to ensure that "stagnation and pollution" were discouraged.[175]

The PR/W report recognized the power of the river, at times attempting to overmaster it and at other resigning themselves to its course. Plans were made to correct water flow "where stagnation occurs," to promote "more spectacular parts of the [r]iver," and highlight the need to manipulate the alignment between Municipal Park and the river due to "high water" encroachment.[176] The relationship between these complications and nature is clear: an environmental problem has created a snag, and design and labor will correct it to allow for advantageous human use. However, the dynamics of this relationship are not as one-sided as they appear. This is best illuminated by the "sympathy of design" concept employed in the report. Not only does this embody an internal consistency along the length of the Greenbelt, stated as "a coordinated concept which will require design sympathy with the Greenbelt", but it also refers to the reshaping of the contours of the built environment of Boise as well: "the general encouragement of sympathy in design can now be pursued" to "recapture…rather delightful river land use activities," reshaping streets and city layout in the process.[177]

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[175] Stacy, *When the River Rises, xxii*. Nelson et al. *The Boise River Greenbelt,* 11.
[176] Nelson et al., *The Boise River Greenbelt*, 28.
[177] Nelson, et al., *The Boise River Greenbelt,* 6 and 18 respectively.

The report even decried the grid pattern that, rather than being "designed with the Greenbelt in mind," worked "against the natural advantages that are apparent."[178] In the eyes of these designers, *all* landscapes, built or otherwise, would need to be sublimated into the Greenbelt to create a modern, urban city. Had these designers thought more holistically, using environmental entropy, they may have recognized the irony and tension inherent in a sympathetic design that decried the very nature of the river.

The ways that these designers conceptualized urban design and modernity through the prism of park space and greenery were in many respects emblematic of the tumult of the late 1960s. The introduction of the report, which advocated for action to avoid the "loss of valuable assets in other areas" by developing the Greenbelt, reflected traditional worries, such as the need for beautification of polluted or undesirable areas for recreation and the increasingly negative public perception of parks. Additionally, it reflected the pressure to modernize and develop, a "prime priority" in more populous urban centers.[179] Even more illustrative is the call for an extension of the Greenbelt beyond the confines of the river. The resulting unified and blended landscape would similarly emulate the efforts of these larger cities.[180] The unification of the Boise landscape with the Greenbelt has only grown with time, as the "Ribbon of Jewels" project has increasingly created green spaces interlinked via the route of the Greenbelt, and is itself an emulation of the Emerald Necklace park design pioneered by Olmstead in the 1880s. Park design has many continuities throughout American history, but key differences have created subtle and powerful variations on these familiar forms. While the leveraging of natural elements for

[178] Nelson, et al., *The Boise River Greenbelt*, 26.
[179] Nelson, et al., *The Boise River Greenbelt*, 6 and 19 respectively.
[180] Nelson, et al., *The Boise River Greenbelt*, 25.

human use has remained constant, the recreative impulse gained primacy in the early twentieth century and remains an important aspect of park design today. Designers in 1968 drew upon traditional park design values when creating the plan for the Greenbelt but found that both the city and the natural environment had to be redesigned to create a more modern, urban city. In a period defined by high modernist design and rational planning, designers also conceived of nature as a modernizing element, aesthetically affirming modernity while supposedly neutralizing its harsher effects.

While Boise was grappling with environmental conditions upon the river, it was also wrestling with ideas regarding the future of its development. As described by historian Jennifer Stevens, "[v]isions for a vibrant downtown and a halt to sprawl began in the late 1960s."[181] Seeing the changing conditions across the country, Boise began evaluating plans for central development. One such plan, the "Comprehensive Plan for Ada Country," reflected a post-World War II design consensus that centered parks as community nucleation sites. The plan calls for neighborhoods that were small in size and "centered [on] an elementary school and park." However, the plan failed and "added a major impetus to…urban sprawl."[182] Boise did not acquire a master plan for the city until it contracted with Atkinson and Associates in 1963.[183] The Atkinson plan was the first recommendation of a Greenbelt for the city. Unlike the "belated response" in Boise to national urban trends, the Greenbelt was a much more consistent process.[184] Former city Councilman Bill Onweiler noted that his "first trade in politics" was the development of

[181] Jennifer Stevens, "Feminizing the Urban West: Green Cities and Open Space in the Postwar Era, 1950-2000," PhD. Diss., University of California, Davis, 2008. 176.
[182] Neil, *The Emergence of Metropolitan Boise,* 98.
[183] Neil, *The Emergence of Metropolitan Bosie,* 98.
[184] Neil, *The Emergence of Metropolitan Boise,* 79.

the Greenbelt instead of a contested improvement district in downtown Boise.[185] The Greenbelt succeeded where downtown renewal faltered. J. Meredith Neil characterized the urban renewal movement in Boise as a two-part process beginning in 1965: "The first originated in 1965…by 1975 they were on the brink of real success. The second urban renewal…spanning the decade after 1975…failed to achieve its objective."[186] Jennifer Stevens wrote that during this period, Boise's struggle for urban vision "had crept into other policy issues."[187]

The completion of the Greenbelt in July 1975 presents an inflection point for these two periods; as an initiative that sought to create a more modern Boise, the Greenbelt represents the success of the earlier urban renewal movement. Jennifer Stevens also highlights the "the merging of urban and environmental concerns" in the advocacy for a regional Greenbelt in San Francisco, demonstrating the consistency with which urban development and nature progressed hand in hand.[188] The reticence for urban development on the part of Boise leaders was at times directly opposed to the arguments regarding the Greenbelt, namely its modernizing influence. Onweiler's video made several appeals to modernity in its advocacy for further construction of the Greenbelt, and the PR/W report also tied Greenbelt development and city development together.[189] A letter from the Ada County Fish and Game League advocated that the Greenbelt become a "full-length theme" of the community and create "a capital city of unusual

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[185] William Onweiler interview, 2.
[186] Neil, *The Emergence of Metropolitan Boise,* 109.
[187] Stevens, "Feminizing the Urban West," 198.
[188] Stevens, "Feminizing the Urban West," 198.
[189] Nelson et al. *The Boise River Greenbelt,* 6.

distinction."[190] The success of the Greenbelt project resulted in a "morphing of industry" and "an emphasis on amenities that [catered] to white-collar workers."[191] Whereas the Greenbelt was conceived, constructed, and completed in the span of twelve years, many urban renewal projects foundered in the interim. For example, the construction of the Towne Square Mall spanned over two decades despite ardent support from the city of Boise.[192] Despite calls to develop downtown as the center of the city, Boiseans instead found more support for the Greenbelt.[193] Even more telling, the modern organization of the city is structured around the Greenbelt, much as outlined by the Planning Research/ West plan.[194] By viewing the river as a site of high/hybrid environmental entropy and by changing local relationship to the river, the Greenbelt project reshaped the very character of the city of Boise. Just as Central Park became a centralizing force for New York, so too did the Greenbelt help establish the identity of Boise as a city.[195]

Many sources claim that recreation *itself* was the driving force behind the creation of the Greenbelt, with Susan Stacy asserting that that "urban change…began with the public's recreational interest in the river," a sentiment echoed at length by David Proctor.[196] While this may be true for the arguments made in favor of establishing the Greenbelt, the reality of activities on the river shows that community participation

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[190] Stanley Burns, in Proctor, 56.

[191] Jennifer Stevens, "'This ain't going to be a lunch bucket town,'" 27:15.

[192] The mall and downtown development are covered extensively in J. Meredith Neil in *City Limits*, most closely 92-132 and 245-259.

[193] Neil, *City Limits*, 124.

[194] Arlo Nelson et al. *The Boise River Greenbelt,* 13.

[195] Elizabeth Van Zonneveld interviewed by Troy Reeves via telephone, July 27, 1998, 18. Arlo Nelson et al. *The Boise River Greenbelt: Comprehensive Plan & Design*, (Boise, ID: Joslyn & Rentschler Printing, 1968), 6.

[196] Stacy, *When the River Rises,* 67. Proctor, *Pathway of Dreams,* 36.

increased only *after* the river was cleaned and the project had begun and the local relationship to the river had begun to change. The 1967 guidelines for the Greenbelt, submitted by Parks Director Gordon Bowen, relegated the Greenbelt to *interconnecting* sites of recreation. These small parks were to be situated at regular intervals and "did little more than connect parks of larger or smaller size used in traditional ways."[197] Proctor's assertion that "[i]t was recreation…that caused the dominoes to fall," that is, it was recreation that established the Greenbelt, fails to recognize the role that design and planning played in the creation of a Greenbelt conducive to recreation.[198] Prior to the Greenbelt, recreation on the river was limited in its scope. Elizabeth Van Zonneveld, a Greenbelt Commissioner, described part of her position as providing "the support that was necessary in a city that wasn't…accustomed to the idea of the river being any kind of recreation facility…It was just a river in the middle of town."[199] While some of the more daring swimmers in the non-polluted portions of the river would occasionally jump into the river from a bridge near a train trestle, recreation was limited enough that even as late as 1965, when remediation was underway, widespread use was still unthinkable.[200]

Early pollution concerns and lack of civic investment ensured that the river retained its primary role as a source of water for irrigation and a dump to be avoided until remediation could be completed. However, by 1970, recreation had become synonymous with the Greenbelt. The PR/W plan concluded that "the adoption of the Greenbelt design" was contingent upon "excit[ing] the imagination of the community to the extent that the

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[197] Neil, *City Limits,* 145.
[198] Proctor, *Pathway of Dreams,* 36.
[199] Elizabeth Van Zonneveld interview, 3.
[200] John Heimer, in Proctor, *Pathway of Dreams*, 40.

impact…will be apparent."[201] This point, which immediately precedes a subsection on pollution, clearly implied that the community investment in recreation along the river would increase only after preliminary remediation efforts have demonstrated what the Greenbelt could become. Councilman Bill Onweiler's video "Boise River Today" closely followed this ethic boosting for the Greenbelt. Onweiler tied the city to the river, and the river to recreation. The video notes that the "largest city in Idaho" ought to develop a large greenspace—a "publicly owned golf course"—which would, in turn, be cointegrated with the Greenbelt and other parks alongside the river. The video lays out several recreative areas and amenities, all in pursuit of "complete recreation" as "a beneficial stimulus to south and east Boise."[202]

Onweiler's argument was simple. Boise was an expanding city and needed natural spaces; nature and river access were key to recreation; recreation was needed *both* to be modern and to escape modernity. As for perpetuating modernity, Onweiler claimed that "populous areas of our country" (i.e. cities) are "busy building" amenities "so as to induce the exclusive urban dweller."[203] Boise was uniquely suited to enticing the urban citizen because of its access to water, in which resided "man's greatest desire for recreation."[204] Onweiler's characterization of parks and park spaces (like the Greenbelt) was representative of the recreative impulse that was aiming to create neighborhoods, parks, and other urban areas to meet the needs of modern life. A walking tour book published in 1979 partly classified the Greenbelt as a "gigantic public right of way" and

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[201] Nelson, et al. *The Boise River Greenbelt*, 11.

[202] *Boise River Today*, directed by Bill Onweiler. Boise, ID. 1970. https://www.youtube.com/watch?v=jmI22Q_Wjvw. 2:25.

[203] *Boise River Today,* Bill Onweiler, 2:51-2:56.

[204] *Boise River Toady,* Bill Onweiler, 3:16-3:50.

proudly declared that "[n]o other city in the nation has a Greenbelt system so commercially undeveloped."[205] Despite being a highly designed landscape, the concept of "development" mattered more as defined by the tension between commercial engagement and private recreation. These representations powerfully imply a repudiation of the *rus in urbe*, Olmsteadian park, which by the 1960s had long been derided for its passive activities like strolling or contemplating. Conversely, Onweiler also claimed that the Greenbelt and its parks provided a space to "commune with nature." Echoing concerns raised by residents of industrializing cities nearly one hundred years removed, Onweiler held that parks served as a place where "we each can get away" from "speed, mechanization, and sounds of today's world."[206] Authors Vicki Johnson and Patricia Mickelson concurred with Onweiler and concluded that the "intentional underdevelopment" of the Greenbelt was in response to "the bustle of city living."[207] In so doing, these authors appealed to the developing zeitgeist of environmental conservation that fueled many of the community organized cleanups of portions of the Greenbelt, using recreation as a lens to contrast private greed and public use.[208] Ironically, the former site of damaging urban industry came to represent the amelioration of other urban troubles, erasing the polluted fountainhead of the early history of the

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[205] Vicki Johnson and Patricia Mickelson, *Nine Walking Tours of Boise* (Boise, ID: Boise Walking Tours, 1979), 75.

[206] *Boise River Today,* Bill Onweiler, 5:50-6:18.

[207] Johnson and Mickelson, *Nine Walking Tours of Boise*, 75.

[208] Johnson and Mickelson, *Nine Walking Tours of Boise*, 75. Elizabeth Van Zonneveld claimed that there were volunteer cleanup efforts on the Greenbelt, but also held that private actors did not cooperate at various stages of the project, see pages 4 and 12.

Greenbelt.[209] "Seeing" the Greenbelt solely as a space of high environmental entropy ignores the historical legacy and considerable effort that was needed to change the nature of the river. That the "nature" of the Greenbelt was human designed and created did not weigh heavily on Onweiler, Johnson, or Mickelson. In actuality, their visions all required that humans and nature coequilibrate—a blended landscape of human and natural agency. The Greenbelt would come to be a hybrid of low and high environmental entropy.

Daniel G. Line's statement that the "development of" the Greenbelt "was started as an effort of concerned citizens and community leaders to preserve a place for traditional exercise and recreation-oriented activities" is a neat periodization of the river. As seen with the pollution on the banks of the river and with the appeals for recreation in the PR/W and Onweiler document, recreation was important to the Greenbelt, but mostly developed *as a result* of the project. Line accurately captures the recreative nature of the river in his analysis but fails to fully capture the historical underpinnings of its role.[210] It should be noted that, while Line was not a historian and was not making a historical argument, his thesis demonstrates the centrality of recreation to the Greenbelt as a key aspect of its identity. Line claimed that in order for the Greenbelt to continue to develop, the public needed to be able to perceive the benefit of the Greenbelt. Unlike Onweiler's appeal for recreation and natural enjoyment, Line focused almost entirely on active

[209] The erasure of historical space in favor of extant activity is well considered within deindustrialization scholarship. Further investigation of the intersection between nature, deindustrialization, and greenwashing history is needed, and Boise presents an interesting case study.

[210] Daniel G Line,. "The Boise River Greenbelt: Perceived Benefits and Problems Associated with the Pathway as a Place for Activity." Master's thesis, Boise State University, 1996, 12.

"exercise and recreational activities" as the future of the Greenbelt.[211] In just thirty years, the Greenbelt had undergone a transformation in purpose that reflected the development of the urban parks movement and had proved that urban memory was still ephemeral.

The development of the Greenbelt sought to leverage natural characteristics—flow, flora, and fauna—for human use. The once meandering river was constrained and modified to suit the needs of a growing city. Once the river was managed, growing industrial and private use despoiled and polluted the river and created a visual and olfactory blight on the town. Seeking to address the poor conditions of the river and advocating its potential, government, industry, and private citizens labored to create a linear park system. In so doing, they created a system that catered to the dominant understanding of park use: recreation. As time has progressed, people have associated the development of the river with concurrent development of recreational interest. This is not the case, but it does represent an important trend in urban park historiography. Recreation has been a powerfully represented aspect of park use since very early on in park planning but has dominated the development of parks due to the funding it provides. Park planning may always need to account for the economic prospects of a given park for its neighborhood or constituents but modernizing parks will *need* to do more. Without deconstructing the underlying principle of "nature as recreation," parks will fail to fully engage their biotic communities and their cities. Environmental entropy provides a lens to deconstruct and reconstruct healthier and more diverse greenspaces.

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[211] Line, "The Boise River Greenbelt," 49.

Sarah Graddy noted in 2005 that "the burden of addressing enormous ecological problems has been ceded to our local communities, and local communities have responded."[212] While the response in Idaho was previously mitigated by local reticence regarding governmental oversight, current efforts have revolved around Boise's robust park system, demonstrating the new affinity that residents have for their urban parks. In 2004, Caldwell residents created art honoring the native life of Indian Creek (a tributary of the Boise River), and the Indian Creek Writers Collaborative produced a book that told the history of the creek and advocated for its uncovering and restoration in a fashion similar to the Greenbelt.[213] As of 2015, Indian Creek has been uncovered and restored, and now flows unobstructed for several blocks. Even despite a somewhat arduous process, the restoration is anticipated to bring annual revenue of $1.5 million to the city of Caldwell and has created a "renaissance of downtown" urban renewal.[214] The Greenbelt also provides an example of a park designed to accommodate the needs of the city with a limited budget. Barring any increases in park spending, parks will need to transition from highly maintained landscapes (such as the traditional Olmsteadian park) to lower maintenance, "natural" parks. The relative lack of maintenance means that the Greenbelt will not fall into disrepair because of budgetary shortfalls. Boise's accidental use of environmental entropy, seeing the river and the landscape created by designers in

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[212] Graddy, "Creative and Green," 2.

[213] The Indian Creek Writers Collaborative, *Rediscovering Indian Creek: The Story of Our Region,* eds. Rochelle Johnson and Christina F. Watson (Caldwell, ID: Caxton Printers, 2004), 50-54.

[214] Dean Gunderson, "Daylighting Caldwell" in *River By Design: Essays on the Boise River, 1915-2015,* eds. Todd Shallat, Colleen Brennan, and Mike Medberry (Boise, ID: Boise State University Center for Idaho History and Politics, 2015), 109.

and around it, succeeded in creating a modern city while also taking seriously the environs within and outside designer's control.

While the Greenbelt has been managed according to this principle for decades, parks everywhere are making this transition and are afforded more opportunities for unique growth as a result.[215] Throughout its history, the Greenbelt presents compelling examples of the changing currents of park design and urban green space. The original design for the Greenbelt was *reactive*, responding to modernization within and outside the city of Boise, and was leveraged to create a "modern" city. Within the city would be an extensive park system that, like other modern metropolises, would use nature to combat the supposed ills of the city. However, the Greenbelt today retains a complicated relationship with the city and park design trends in the abstract. Certainly, there is a continuity in the Greenbelt as a centralizing and modernizing influence on the city of Boise. However, the park itself now unintentionally represents some of the current "best practices" of park design for the twenty-first century. While continuity exists in the intentional underdevelopment of the Greenbelt, the underlying ethic has changed.

One way to understand this continued relevance over many decades is the Greenbelt's unique blend of environmentally entropic spaces. As a dump and waste site, the river had a toxic, high entropic relationship with the rest of Boise, acting as a sink. With the help of designers and local activists, however, the perception of the river eventually began to change as remediation efforts began to clean the banks and clear the waters. However, the space as it existed and still exists is a hybrid landscape. While maintained plantings and

[215] For low acquisition and maintenance costs on the Greenbelt, see Neil, *City Limits*, 149-150.

paved paths ring the outside of the park, unmanicured and less managed flora provide homes to a diverse range of fauna, including rare birds and even water mink. This hybridity has ensured the success of the Greenbelt through many of the crises that designers and planners were grappling with when the project was completed. Instead of highly ordered, low entropic spaces causing the vacuum borderlands that concerned Jane Jacobs, the Greenbelt has rather been a centralizing space for the city of Boise. Instead of being a filthy, dangerous dump, the river remains central to its home community as the site of many types of recreation, river-floating being one notable example. Seeing the Boise River Greenbelt as a hybrid landscape points the direction for future designers and historians of the city to understand how parks can be developed that simultaneously address city problems and respond to other, more macroscopic concerns. If every city had a park system that provided recreational amenities, wildlife refuge, and a centralized transportation route, they would be well on their way to creating a more holistic and well-rounded environment for their citizens. Given that the Greenbelt started as a remediation project, it also points the way for other cities to adapt their own spaces to emulate the success of the Greenbelt. As chapter four will explore more deeply, cities all over the world have made effective use of these spaces to cater to their citizens. Seeing landscapes through the lens of environmental entropy is the first step in that process.

Understanding the history of the Greenbelt helps contextualize these current trends for urban park design and environmental consciousness. The flexibility of greenways and greenbelts is their ability to “create connected networks of open space that…include more

traditional nonlinear parks and natural areas."[216] While the conception of the Greenbelt was not originally designed with this purpose in mind, the Boise Parks and Recreation "Ribbon of Jewels" initiative serves as an allusion to the work of Olmsted and represents a growing conceptualization of urban spaces as increasingly interconnected. As Cranz and Boland note, the new "Sustainable Park" features green infrastructure, ecological restoration, and is part of the larger urban system.[217] Simply put, urban parks retain many of their lauded characteristics but are now able to proactively address some of the ills that are plaguing the modern city. Parks are rewilding brownfield sites, creating heritage tourism, rehabilitating degraded areas, and are responding to climate and city needs.[218] Greenways especially can address important issues of recreation while simultaneously providing needed space for conservation and preservation of key wildlife and habitat that are unique to the city. As urbanization continues to disrupt the biotic communities that are native to a given region, "greenways may be the last realistic option for land

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[216] Daniel S. Smith and Paul Cawood Helmund, eds. *Ecology of Greenways: Design and Function of Linear Conservation Areas* (Minneapolis, MN: University of Minnesota Press, 1993), xi.

[217] Galen Cranz and Michael Boland, "Defining the Sustainable Park: A Fifth Model for Urban Parks" *Landscape Journal* 23, no. 2 (2004): 103.

[218] Steven High, "Brownfield Public History: Arts and Heritage in the Aftermath of Deindustrialization," in *The Oxford Handbook of Public History,* eds. James B. Gardner and Paula Hamilton (New York, NY: Oxford University Press. 2017). 423-444.

T. Allan Comp, "From Environmental Liability to Community Asset: Public History, Communities, and Environmental Reclamation" in *The Oxford Handbook of Public History,* eds. James B. Gardner and Paula Hamilton (New York, NY: Oxford University Press. 2017), 207-216. Cranz and Boland, "Defining the Sustainable Park," 103-104. Menno Schilthuizen, *Darwin Comes to Town: How the Urban Jungle Drives Evolution*, (New York, NY: Picador, 2018), 231-241. Smith and Helmund, *Ecology of Greenways*, xiii.

conservation" and can link country to city, city to waste site, and serve as homes for local flora and fauna.[219]

[219] Smith and Hellmun, *Ecology of Greenways,* 9.

CHAPTER FOUR: CONTEMPORARY PARKS, APPLICATIONS, AND IMPLICATIONS

"*Nature herself has met many of the problems that now beset us, and she has usually solved them in her own successful way. Where man has been intelligent enough to observe and emulate nature he, too, is often rewarded with success."*[220]

Having explored environmental entropy as an ideology and examined its potential impact on the historiography of parks, this chapter concludes by examining several contemporaneous examples of public parks and how environmental entropy might frame our thinking about what these spaces do and explores their environmental relationships. As previously demonstrated with the Greenbelt, environmental entropy can elucidate some of the best design practices of parks in the past and can outline trends or spaces that may be ripe for park development. In looking for exemplars among park designs, it seems fitting to begin with the work of the progenitor of landscape architecture – Frederick Law Olmsted and the Emerald Necklace in Boston.

Despite imposing skyscrapers and architecture, Boston is home to some of the most impressive urban greenspaces in the world, yet the idea of Boston as a uniquely "green city" is a contested one. In the heart of the city lies the Emerald Necklace, a designed park system that contains several notable, and well-loved, parks and places including the Boston Common, the Public Garden, Olmsted Park, Jamaica Park, the Arnold Arboretum, and Franklin Park. What is most striking about the park system in Boston is that many of the city's parks were developed to renegotiate Bostonians' relationship with the land. As a uniquely *constructed* city, Boston's development was

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[220] Rachel Carson, *Silent Spring* (Boston: First Mariner Books, 2002), 81.

predicated on technology and an agreeable area that enabled subsequent generations of Americans to grow and create land and respond to the environments around them. Roughly 14,000 years ago, the retreat of glaciers on the North American continent intimately shaped the area that would be Boston. As the glaciers retreated, sea level rise gradually progressed until the city's notable preponderance of peninsulas was created.[221] The steady progress of the glaciers deposited shale and other gravel in the area, and the immense downward pressures created a low, hilly landscape that was interspersed with isolated lakes and boggy marshes. Many of these hills, called "drumlins," were cannibalized by the city to fill land or create new settlements, but many hills remain today.

The relationship between colonial and early Boston to the environment was complicated. On the one hand, as described by colonial governor John Winthrop, the surrounding environs were a "hideous and desolate wilderness."[222] Within the deep and expansive forests of North America lurked dangers and opponents alike and clashes between Boston colonists and the native Massachusetts people only heightened the dangers present in the hardscrabble life that colonists led. Colonists were no strangers to the land and frequently interacted with the natural environment in and around the city.

Boston initially had few options for greenery. Although the city was home to a robust horticultural culture, the only public spaces for the enjoyment of nature were the Boston Common and the Public Garden. The Common, dating back to the original

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[221] Michael Rawson, *Eden on the Charles: The Making of Boston* (Cambridge, MA: The Harvard University Press, 2010), 8-9. Nancy S. Seasholes, *Gaining Ground: A History of Landmaking in Boston* (Cambridge, MA: The MIT Press, 2003), 2.

[222] William Bradford, *History of Plimoth Plantation* (Carlisle: Applewood Books, 2010), 95.

common founded in 1630, had only recently been transformed into a purely recreative space; the landscape's long history and association with labor meant that it was a loved, if imperfect public space, and is often cited as America's first public park. Alternatively, there was the Public Garden, which changed from foul mudflats to ropewalks to a public garden from 1820 through 1837. The Boston Common was a particularly important early greenspace. While the Puritans found recreation distasteful, they employed the Common in a variety of ways, such as pasturing cows, beating rugs, and otherwise relating to the land as much through work as certain sanctioned forms of leisure, as historian Michael Rawson has demonstrated.[223] Over time, however, the Common began to take on more characteristics of a public park. After the forbiddance of cow pasturing on the Common in 1830, the area became increasingly associated with more casual recreational activities, hosting music, itinerants, youths, and many others in the late nineteenth century.[224]

By the 1850s, urbanization, and industrialization had transformed the city. Owing to decades of successful landmaking projects, Boston had drastically increased its acreage. Simultaneously, large infusions of immigrants drastically increased the population density of the area, creating living conditions that were less than ideal. As the dreams of the yeoman farmer of old were fading, many were faced with the problems of the city that needed remediation. Urban workers were faced with tenement housing, poorly implemented sewage systems and leaking cesspool wastes, the din of industrial machinery and the clangor of horseshoes on cobblestone, and bituminous smoke and

[223] Rawson, *Eden on the Charles*, 28-29.
[224] Olmsted, *Notes on the Plan of Franklin Park and Related Matters*, 97.

soot, which fouled the air and choked the lungs.[225] The burgeoning urban park movement presented a solution to these problems.

One critical aspect of the public park system in Boston was the explicit linkage and entanglement of nature and pollution in the burgeoning park system—even excellent environmental histories and urban environmental histories have failed to deeply explore this interconnection.[226] The initial settlement of Boston was quite small, and yet by the late nineteenth century had developed extensively using a variety of fill techniques. One underemphasized quality is that the filling and development of this land was also a remediation of the environmental characteristics of the area to suit the needs of the growing city and its population. To create the Public Garden, the ropewalks near the edge of the city had to be removed, and the marshes they adjoined needed to be filled.[227] As

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[225] For smoke and smog in the city, see Joel A. Tarr, *The Search for the Ultimate Sink: Urban Pollution in Historical* Perspective (Akron: The University of Akron Press, 1996), 278. For horses, see Catherine McNeur, *Taming Manhattan: Environmental Battles in the Antebellum City* (Cambridge: Harvard University Press, 2014), 119. In addition to aural depredations, the horse population of many of the largest cities contributed to significant olfactory issues.

[226] For more treatments of the role of nature within cities see *The City Natural:* Garden and Forest *Magazine and the Rise of American Environmentalism* by Shen Hou, Colin Fisher's *Urban Green: Nature, Recreation, and the Working Class in Industrial Chicago*, and Peter S. Alagona's *The Accidental Ecosystem: People and Wildlife in American Cities*. These texts provide more standard environmental histories of greenspaces and biotic communities within and without the city itself. For urban histories that address pollution and the city more specifically, see: Jennifer Light, *The Nature of Cities: Ecological Visions and the American Urban Professions*; Joel A. Tarr *The Search for the Ultimate Sink: Urban Pollution in Historical Perspective;* and Martin Melosi, *The Sanitary City: Urban Infrastructure in America from Colonial Times to the Present*. Exemplary treatments of urban and environmental history together are Zachary J. S. Falck, *Weeds: An Environmental History of Metropolitan America*; Catherine McNeur, *Taming Manhattan: Environmental Battles in the Antebellum City*; and Ellen Stroud, *Nature Next Door: Cities and Trees in the American Northeast*. The explicit link between nature and pollution remediation projects remains largely unexplored.

[227] —, *How to See Boston: A Trustworthy Guidebook* (Boston: Macullar, Parker, and Company, 1895), 138.

with many of the parks of the Emerald Necklace, areas of high or extremely high environmental entropy needed to be remediated into orderly urban spaces to align with the interests of the city. Similarly, one inciting reason for the creation of the Back Bay Fens was to address the foul sewage that was being dumped into the reservoir from the Muddy and Stony Brook rivers. After the passage of the Park Commission Act of 1875, the Board of Park Commissioners promptly set out to determine locations best suited to their diverse objectives. While the commissioners listed many factors, project and improvement costs, ease of access, and natural beauty, special attention was paid to the "sanitary conditions" of these sites.[228] The approval of Back Bay Park in 1877 was contingent solely upon the remediation of a befouled basin, one that received the effluent dumped into Stony Brook and the Muddy River, both of which emptied into the noxious Back Bay.[229] In an era where municipalities carried little debt and faced state-led budget constraints, projects that could address pressing issues simultaneously would have been prized.[230] Project and cost efficiency were of the utmost importance: concerns regarding appropriations slowed the construction of the Back Bay Fens and demonstrated that, even if the park was to remediate the nature of the area, the logic of capital still held considerable sway over the process.[231]

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[228] Franklin Park Coalition Bulletin (FPCB): *The First Report of the Boston Park Commissioners, 1876*, January 1981, Box: 6. Landmarks Commission reference library, 5210.008. City of Boston Archives.

[229] Seasholes, *Gaining Ground*, 215.

[230] Gregory Kaliss, "Three Olmsted 'Parks' That Weren't: The Unrealized Emerald Necklace and Its Consequences" *Historical Journal of Massachusetts* 43 (Winter 2015), 57.

[231] Norman T. Newton, "Olmsted's Work in Boston," in FPCB: *Index to Boston Park Reports 1875-1900*, May 1982, Box: 6. LCRL, 5210.008. CBA. 6-7.

Olmsted and the park commissioners were in concurrence about the importance of sanitary reforms being interlinked with the establishment of public parks. Traditionally, pollution cleanup and remediation were private issues. Citizens were expected to dispose of their wastes and account for their animals, creating a diverse waste economy.[232] Lower-class citizens scrounged through trash, resold ashes, and privately contracted with merchants to remove their wastes. A combination of the sanitary reform movement (beginning in London with Edwin Chadwick), developing theories of disease transmission—in particular the miasmatic theory of disease—and technological and infrastructural improvements in sewage piping and treatment, all contributed to an increasingly close focus on municipal measures to respond to pollution and waste that neatly interlinked with growing social unrest surrounding the urban living conditions and the growing popularity of the parks movement.[233]

When addressing refuse, effluent, or other wastes, parks were physically and morally combating the negative effects of an industrializing Boston. Park commissioners noted that the Back Bay Park project was one of "prime necessity" to address the pollution that was creating sanitary issues, and noted that no park, however, "beautiful and extensive," would be enough to overcome this necessary cleanup.[234] As one of the jewels in the Necklace, Franklin Park was specifically sited to be close to the industrializing neighborhoods of Jamacia Plain and Roxbury Gardens. The park commissioners carefully considered the accessibility of the park to these neighborhoods

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[232] For more on this waste economy, see Susan Strasser's work, in particular *Waste and Want: A Social History of Trash*.

[233] The shift from private to municipal waste treatment and remediation is extensively covered in Melosi's *The Sanitary City*.

[234] FPCB, *The First Report of the Boston Park Commissioners 1876*, 5.

at their inception and their development in the process of siting Franklin Park. The immigrant factory workers of these areas were in prime need of relief and recreation and Olmsted himself sought to specifically target these workers with his projects throughout the U.S.[235] Indeed, when a park system was proposed, its necessity was directly tied to the anticipated expansion of Boston in the decades to come.[236]

Even as late as 1997, pollution remediation remained a critical aspect of park maintenance and management for the future. The 1997 Master Plan for the Emerald Necklace mentioned pollution remediation efforts for every single park listed in the Necklace, with efforts ranging from water filtration, seepage reduction, and the recreation of historic and picturesque ponds at many locations.[237] Ultimately, pollution remediation was an expedient political project for the park commissioners. On the one hand, it addressed concerns regarding public health, taking one nature of the city—the effluent from its organic and inorganic processes—and replaced it with nature that was antithetical and healthful. It also made use of visually unappealing spaces that were unlikely to be positively developed, were able to be cheaply acquired, and would benefit citizens physically, morally, and financially.[238]

More recent parks demonstrate the flexibility of form that will be needed for future urban greenspaces. For example, the "Copenhill" project in Denmark is one such example of a multifaceted park design that strikes along the axis of environmental

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[235] Richard Heath, *The Playstead in Franklin Park: One Hundred Years of Dedication to the Youth of Boston,* May 1989, Box: 6, LCRL, 5210.008, CBA, 2.. FPCB, *The First Report of the Boston Park Commissioners 1876*, 3.

[236] *The First Report of the Boston Park Commissioners, 1876*, 4.

[237] *Emerald Necklace Master Plan: Back Bay Fens to Jamacia Park*, March 1997, Box 6, LCRF, 5210.008. CBA, 2-3.

[238] FPCB, *The First Report of the Boston Park Commissioners, 1876*, 6-7.

entropy. Located in Copenhagen, the Amager Bakke Park is a low environmental entropy space, a landscape that unifies recreation with environment and addresses the needs of the modern city as both an amenity and as infrastructure—the park is also a municipal solid waste power plant.[239] In many ways, the story of the Copenhill Park and its recreational area is familiar to the history of park design and development. Like much of the built lands that would ultimately become the Public Garden in Boston, industrial expansion in Copenhagen saw the creation of several artificial islands close to the center of the city. In the 1920s, the area that would become the Amager Bakke Power plant was a dumping ground. Ultimately, power plants were constructed in the area: one biomass and one incineration plant, which would ultimately become the "Amager Incineration" plant that existed from 1970 until replaced by the Copenhill in 2017.[240] Historic photos of the area show that it was certainly an area of high environmental entropy, with the fields adjoining the dump left fallow and subject to the designs of the local biotic community (see Figure 1).

[239] Cogeneration is the simultaneous production of heat and electrical power for use.

[240] An official history of the Copehill does not currently exist. For background information I draw on Ulrik Kohl's "The Copenhill Crisis: The Dark Side of Planning the Greenest Waste-Fired Power Plant Ever Seen," Master's thesis, Malmo University, 2018, 24-26.

Figure 1: the landfill at Krudttarnsvej was only a short distance from the dumping grounds where the Copenhill is currently located. In the foreground, several species of weeds and flowers proliferate, while the berms in the midground show evidence of human refuse. By the 1970s, this relationship between residents of Copenhagen and the land had been radically altered.*[241]*

[241] Larsen Ernst Nyrop, *Landfill at Krudttarnsvej*, August 22, 1907, Town Hall Manager's Meeting, 1919: 0343F00089, Copenhagen Museum.

Figure 2: A view looking north towards downtown Copenhagen from the upper floors of the Copenhill. Aside from the recreative amenities provided by the hill itself, the environmental entropy of the area has been completely reshaped. Urban residents' proximity to playgrounds, several parks, and a marina ensures access to the recreative amenities traditionally associated with urban life without the disorder and "wildness" that other greenspaces have. Spaces of low environmental disorder project modernity.[242]

Completed in 2019, the Copenhill boasts a considerable number of recreational amenities—the website lists eleven distinct activities that can be pursued "in the way that [the individual user] wants."[243] On the one hand, the project demonstrates considerable continuity in modern park design ethics, as the park was designed not only to efficiently produce energy but also to become a landmark, a centralizing force for the city of Copenhagen.[244] As a space that is infrastructural, recreational, and environmental, the Copenhill challenges the arbitrary city-country dynamic and proves rather that park space can be a mix of low and high environmental entropy elements.

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[242] Cabstarcz, *Elektrarna v Kodani*, August 6, 2020, Accessed February 22, 2023.

[243] "Welcome to Copenhill," Copenhill, accessed February 7, 2023, https://www.copenhill.dk/. "Rooftop Park," ARC, accessed February 7, 2023, https://a-r-c.dk/amager-bakke/groen-rekreativ-tagpark/

[244] "About Amager Bakke," ARC, accessed December 31, 2022. https://a-r-c.dk/om-arc/presse/om-amager-bakke/

The Copenhill is an excellent example of many of the most positive aspects of modern park design laid out by designers, and represents continuity in park design over time; the website for the Amager Bakke project lists population growth, and recreational access, and compares the scope of the project at the international scale.[245] In yet another continuity, Copenhill is a waste-to-energy plant, again demonstrating one of the dominant roles of parks throughout their histories as spaces of remediating the urban form and human interactions with their built environments.[246] Despite the presence of plantings and other traditional park elements on the site, the Copenhilll project is certainly a space of low environmental entropy: one that controls and remediates the nature of the surrounding city into a more usable form, designed to serve particular design goals, namely the generation of useful energy and the provision of recreational services to the city of Copenhagen. Interestingly, the Cophenhill itself has a historical continuity, one that demonstrates that even parks constructed in the past can be viewed through the lens of environmental entropy.

Riverbank State Park in New York is an urban park that rests atop a sewage treatment plant, with park structures residing on rooftop plates that shift with the

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[245] "About Amager Bakke," ARC, https://a-r-c.dk/om-arc/presse/om-amager-bakke/. Galen Cranz and Michael Boland, "Defining the Sustainable Park: A Fifth Model for Urban Parks," *Landscape Journal* 23, no 2 (2004): 113. The Copenhill's three-dimensional geometry allows for corridor design like that hearkens to the greenways literature or the framework outlined by Cranz and Boland while also contributing to a multifacted, art-natue continuum.

[246] Portugal Architecture News, "BIG-Designed Copenhill / Amager Bakke Wins World Building of the Year Award for 2021," World Architecture Community, December 6, 2021. https://worldarchitecture.org/article-links/emcpe/big-designed-copenhill-amager-bakke-wins-world-building-of-the-year-award-for-2021.html

building, and was completed in 1993.[247] As spaces of low environmental entropy, parks like Riverbank and the Copenhill cater most intensely to recreation and community access. While both contain spaces of ordered plants— several paths of the Copenhilll and the gardens and Olmstead-esque "picnic area"—their primary purpose is to provide recreation and facilities for their surrounding communities.

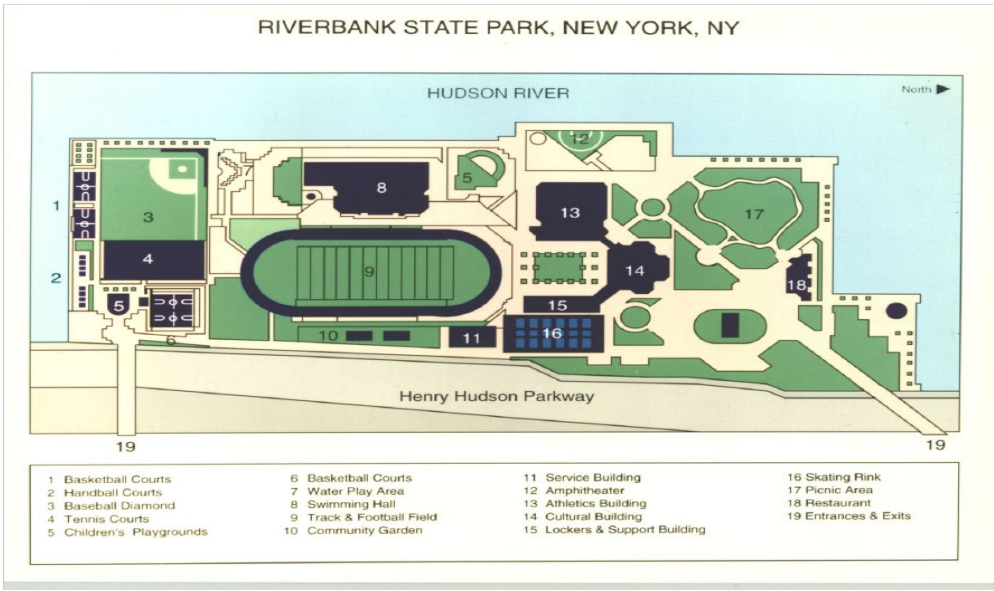

Figure 3: Riverbank State Park-note the picnic area in the upper right, and the intense blend of recreational activities—a prime example of low environmental entropy.[248]

While projects like the Copenhill and Riverbank State Park seek to directly address their communities' need for nature and services in tandem, other projects cater to more natural and ecological goals. The New York High Line, completed in 2009, is one

[247] Gayle Berens, "Riverbank State Park" in *Urban Parks and Open Space* by Alexander Garvin, Gayle Berens, et al. (Washington: The Urban Land Institute, 1997), 183.

[248] *Riverbank State Park Map.* New York State Department of Parks, Recreation and Historic Preservation, Accessed February 22, 2023.

such example of the transition between a space of extremely low environmental entropy, a rail line, into a space of much higher entropy that produces another hybrid landscape. After the previously established rail line became associated with high levels of casualties, authorities in early twentieth-century New York elected to elevate trains above street level. Starting in 1933 and continuing until the late 1980s, the High Line facilitated the movement of millions of tons of meat, dairy, and produce.[249] As the line fell into disuse and traffic ultimately ceased, the tracks were reclaimed by various weeds and other successional plants (figure 4). After the line was slated for demolition, a coalition of local residents and organizations—the Friends of the High Line chief among them—banded together to rehabilitate the landscape of the rail line. The landscape that emerged is a mix of low and high environmental entropy. Many of the areas of the park and plantings take inspiration from the successional communities of plants that had taken up residence at the High Line before the park was constructed.[250] Nevertheless, these highly environmentally entropic plants and spaces thrive in part because of low environmental entropy practices like design and garden planning to ensure resilience. Even the High Line website notes somewhat ironically that "these landscapes don't just happen on their own."[251] Thinking about these spaces in terms of environmental entropy demonstrates the importance of

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[249] "History," High Line, accessed February 7, 2023. https://www.thehighline.org/history/

[250] Horticultural director Eric Rodriquez noted in an interview that the plant communities at the High Line require less maintenance than other gardens. See Adrian Higgins, "The High Line has been sidelined. When it reopens, New Yorkers may get the park they always wanted" *Washington Post,* June 24, 2020. https://www.washingtonpost.com/lifestyle/home/the-high-line-has-been-sidelined-when-it-reopens-new-yorkers-may-get-the-park-they-always-wanted/2020/06/23/5e2a59e0-acd1-11ea-94d2-d7bc43b26bf9_story.html

[251] "Gardens," High Line, accessed February 15, 2023, https://www.thehighline.org/gardens/.

creating environmentally hybrid landscapes that combine design and nature. However, designers and planners must be cognizant of the long history of park design and recognize that successful parks frequently displace and gentrify areas—the High Line is no different, as the immense success of the project has led to skyrocketing property values and expulsion of lower-income families from the area.[252] Combatting these issues will require foresight and community engagement to ensure that any environmental spaces produced or remediated are equitable and just.

Figure 4: A photo of the reclaimed High Line after it fell into quiet disrepair. In this state, this is a space of high environmental entropy, one that despite historical and contemporaneous pressures to reshape the area created a new character for itself. That local character inspired and eventually became incorporated into the High Line Park's final iteration.[253]

[252] Laura Bliss, "The High Line's Next Balancing Act," *Bloomberg*, February 7, 2017. https://www.bloomberg.com/news/articles/2017-02-07/the-high-line-and-equity-in-adaptive-reuse

[253] High Line, *Looking north along the High Line at 14th Street*. Accessed February 22, 2023.

Figure 5: The High Line now brings in millions of visitors annually. After much investment and remediation, the former rail line is now a hybrid space, blending aspects of high environmental entropy in its plantings and maintenance with organized garden plantings and an organized travel path dotted with art and hedged by businesses.[254]

The sliding scale of environmental entropy also allows for global comparison, and it can shed light on the negative consequences of an extremely low environmental entropy transition. To illustrate this, take the case of Ezbekiyya Gardens in Cairo. Hundreds of years of Egyptian adaption, maintenance, and control established a particular relationship, a cycle, with the Nile River. The Nile travels thousands of miles until it eventually joins the Mediterranean Sea. Each year, floods from the Nile escaped the banks and inundated the surrounding areas, enriching the soil with the nutrient-rich

[254] Nathan Wong, *NYC Public Spaces.* Accessed February 22, 2023.

silt the river accumulated as it wound and wend its way towards the sea. The Nile was worshipped as a deity, a bringer of life, and was the central spatial organizer of the region for thousands of years.[255] The cycle was completed when the water receded from the alluvial lands back to the river. This cycle began to change under the rule of Pasha Muhammad Ali in the early nineteenth century. Ali had aspirations to "modernize" Cairo and enacted several reforms intended to bring the country to the forefront of the world, enough to rival any European nation. To that end, one such reform was of the environment, the cycle of Cairo itself. As the waters of the Nile receded, they left fetid pools and chocked canals that fouled the city. Ali ordered these areas to be cleaned, establishing a new relationship between Cairo and its riverine companion.[256] However, in the nineteenth century, the combination of British colonial water control policy and a pivot towards cotton monocropping created pressures on the available water supply. Lack of water meant that spaces that were already at risk, primarily urban greenery projects, became even more at risk and blighted. In the 1890s, increasing water shortages ensured that urban green space was limited and witnessed the concurrent desertification of the areas surrounding Cairo.[257]

Nevertheless, some greenery persisted. In the case of the Ezbekiyya Gardens, the existence of a popular pond may be traced as far back as Fatimid rule. Under the Mamluks, what had once been a popular watering hole, fed by seasonal overflows from

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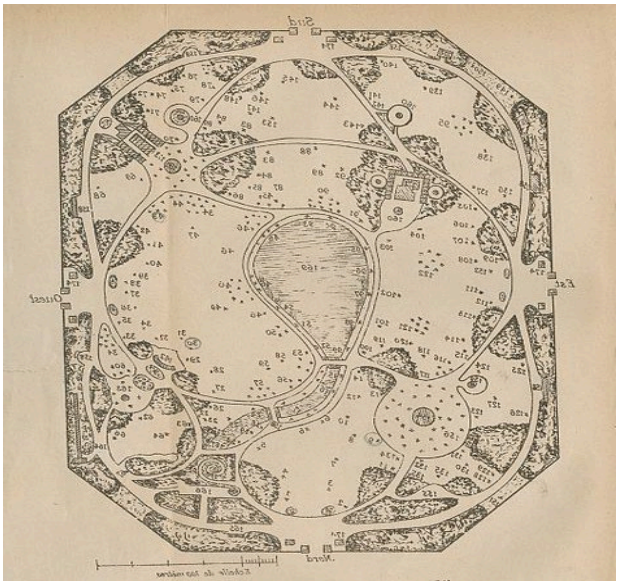
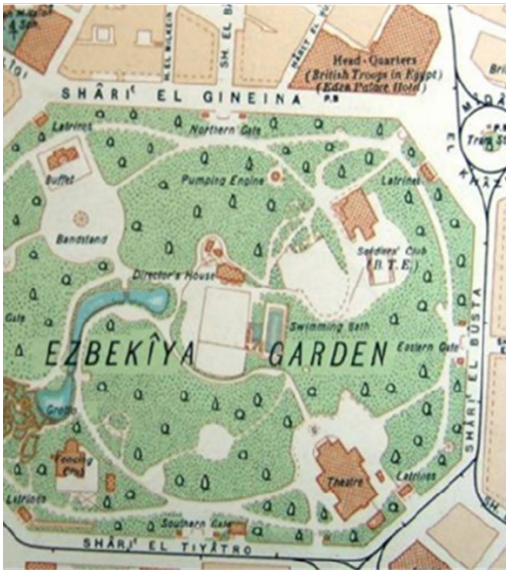
[255] Ansari Mojtaba, Ali Akbar Taghyaee, and Hadi Mahmoudi Nejad, "Cultural Beliefs Regarding Persian Gardens with the Emphasis on Water and Trees," *African and Asian Studies* 7 (2008): 104.

[256] D. Fairchild Ruggles, *Islamic Gardens and Landscapes* (Philadelphia: University of Pennsylvania Press, 2008), 169. Janet L. Abu-Lughod, *Cairo: 1001 Years of the City Victorious* (Princeton: The Princeton University Press, 2018), 92.

[257] Abu-Lughod, *Cairo*, 66 and 74.

city canals became polluted and dangerous. With remediation efforts provided by Emir Ezbek, after whom the gardens were christened, the area was established the area as a *waqf* (a kind of use-right privilege in Islamic law), ensuring communal rights and improvements to the area with stone walkways. Further water flowed into the gardens via an interconnection with the Nasiri Canal.[258]





Figures 6/7: Historical and design maps of Ezbekiyya Gardens. The furthest left is the original design document drafted by Gustave Delchevalerie in 1889. Note the axial frame of the park—an emulation of the chahar bagh garden design—combined with curvilinear paths and edge plantings popular in park design at the time. The map on the right, from 1927, shows a consistent level of vegetation in the blended landscape, which contains a theatre, fencing club, and a buffet. This park/garden was a low environmentally entropic space, ordered for human use.[259]

[258] D.S. Margoliouth, *Cairo, Jerusalem, and Damascus: Three Chief Cities of the Egyptian Sultans* (New York: Dodd, Mead and Company, 1912), 215. Ruggles, *Islamic Gardens and Landscapes*, 169.

[259] Gustave Delchevalerie. *L'Ezbekieh – Parc paysager public au Caire* in *Gardens of Cairo,* January 1, 1899. Rare Books and Special Collections Library. The

However, by the mid-twentieth century, the environment of Cairo experienced by Egyptians was undergoing a sea change, wrought by increasing disillusionment.[260] The latter half of the nineteenth century saw the transition away from gardens like Ezbikiyya representing progress as bourgeoise pleasure gardens-particularly with the implementation of gas lighting under Isma'il Pasha. What had begun as a symbol of modernity in the city soon became a signifier of negative change, itself an allegory for the crises facing Cairo in the latter nineteenth century as urbanization encroached upon the once-famous gardens.

Even as Cairene governments enacted projects of modernization, they failed to preserve green spaces within the city. On the one hand, city expansion without concurrent development of greenspaces ensured a lower ratio between the two. On the other, urban expansion and lack of protective municipal or legislative statutes ensured that the few greenspaces that remained in Cairo saw the consistent encroachment of settlement and industry.[261] Without protective policy in place, the low environmental entropy of the gardens increased at an extreme rate, with nearly all of the garden's original greenery lost to the city form.

American University in Cairo – Wikimedia Commons, accessed February 22, 2023 (left). Survey of Egypt, 1927 in R.S. Hamdy, M.M. Abd El-Ghani, T.L. Youssef, and M. El-Sayed. "The floristic composition of some historical botanical gardens in the metropolitan of Cairo, Egypt." *African Journal of Agricultural Research* 2, 11 (November 2007): 616.

[260] Elizabeth M. Holt, "From Gardens of Knowledge to Ezbekiyya after Midnight: The Novel and the Arabic Press from Beirut to Cairo, 1870-1892," *Middle Eastern Literatures* 16, (2013): 232.

[261] James Moore, "Making Cairo modern? Innovation, urban form and the development of suburbia, c. 1880-1922," *Urban History* 41, no 1. (2014): 85.

Figures 7/8: Ezbekiyya gardens in Modern Cairo. The photograph on the left dates to 2007, when considerable losses of area and greenery had already taken place. The picture on the right dates to 2022, when little remains of the gardens. Moving away from the more blended low-entropic space of the park and garden at Ezbekiyya has destroyed greenery in an already parched landscape.[262]

As these examples demonstrate, creating effective and sustainable urban greenspaces is a difficult task. It is not sufficient to create or maintain spaces of pure low or high environmental entropy, but rather designers and planners should be cognizant that the most successful landscapes, like the Emerald Necklace, combine elements of both, alongside a careful understanding of the history and development of these places. For their part, environmental historians need to continue the dialogue with the urban professionals that will ultimately give shape to these landscapes. Without scholarship

[262] 2007 photo courtesy of R.S. Hamdy, M.M. Abd El-Ghani, T.L. Youssef, and M. El-Sayed. "The floristic composition of some historical botanical gardens in the metropolitan of Cairo, Egypt." *African Journal of Agricultural Research* 2, 11 (November 2007): 616.

analyzing and problematizing projects using urban and environmental history, current projects run the risk of reproducing historical issues or failing to create spaces that are meaningful to the communities they serve.

These spaces are critically important to the functioning of the urban fabric and denizen. Speaking with historical continuity established by the previous sections of this work, parks are widely considered to be beneficial. For tired and stressed citizens, they offer open space, beautiful views, and the experience of nature that many might consider "biophilic," that is to say, intrinsic to the human experience.[263] Recent scholarship from the fields of ecopsychology and occupational medicine has indicated a growing consensus that use and exposure to green spaces is physically and mentally beneficial. In their study of the impact of access and use of green spaces, Turunen et al. concluded that simple access to and views of green spaces is carried no correlative weight with reduced medication use, but ultimately found that increased use and visitations to these areas "were associated with less frequent use of psychotropic, antihypertensive and asthma medications."[264] Recent studies of *shinrin-yoku* (forest bathing) conclude that exposure and immersion in green spaces comes with an attendant reduction in heart rate and blood pressure, increased relaxation, and note positive effects on mental health, particularly anxiety.[265]As for the benefits to the city form, parks provide relief from the urban heat

[263] E. O. Wilson's book *Biophilia* (1984) first popularized the concept of an innate need to interact with nature.

[264] Turunen et al., "Cross-sectional associations of different types of nature exposure with psychotropic, antihypertensive and asthma medication," *Occupational and Environmental Medicine* 80, no. 2 (2023), 117.

[265] For physical benefits, see Margaret M. Hansen, Reo Jones, and Kirsten Tocchini, "Shinrin-Yoku (Forest Bathing) and Nature Therapy: A State-of-the-Art Review" *International Journal of Environmental Research and Public Health* 14, no. 8 (2017): 47. For more psychological benefits, see Tasuhio Kotera, Miles Richardson, and

island effect, porous soil for runoff absorption, habitat for plants and animals, and spaces for citizens to gather and practice that most critical praxis of city maintenance: communal organization and relaxation.[266]

Another important aspect of urban environmental history and environmental entropy is their recentering of the urban green spaces in the environmental narrative. For many years, much effort has been dedicated to the conservation and preservation of "natural" areas outside of the city. Every year, thousands of visitors drive to and experience Yellowstone National Park, an area much beloved in the United States. The costs, both financial and environmental, to access these charismatic spaces, however, frequently go unnoticed. Accessing many of these national parks is a tall order for historically marginalized communities that frequently lack the resources or the time to visit such locations. Nevertheless, for decades these large areas commanded significant portions of the environmental literature. It is high time that the urban landscape is recentered. If the national parks are inaccessible, then urban and metropolitan parks should be diverse and charismatic enough to fill those niches for those who cannot afford the costs of travel. Instead of large tracts of distributed land, we should strive for urban areas of that blend high and low environmental entropy to provide quality environments

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David Sheffield, "Effects of Shinrin-Yoku (Forest Bathing) and Nature Therapy on Mental Health: A Systematic Review and Meta-analysis" *International Journal fo Mental Health and Addition* 20 (2020): 357; their review of studies concludes that the positive effects of tree bathing are promising, but come with a medium-high risk of assorted biases.

[266] S.J. Livesley, E.G. McPherson, and C. Calfapietra, "The Urban Forest and Ecosystem Services: Impacts on Urban Water, Heat, and Pollution Cycles at the Tree, Street, and City Scale" *Journal of Environmental Quality* 45, no. 1 (2016): 119-124.

for biodiversity, cater to human needs, and seek to remediate the negative consequences of industrialization or climate change.

Thank you for taking the time to read this. When was the last time you went for a walk in the park?

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CBA: City of Boston Archive.

LCRL: Landmarks Commission Reference Library.

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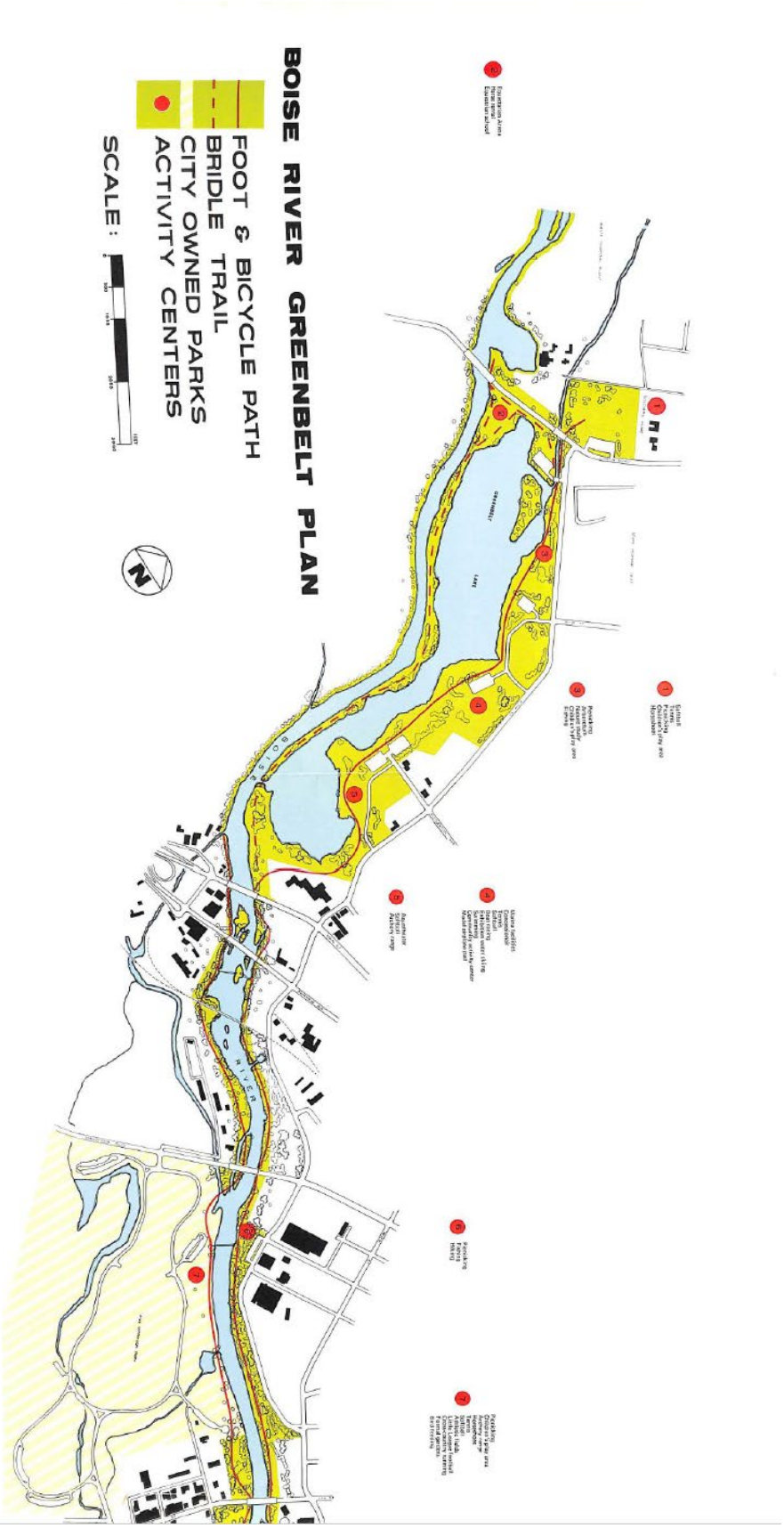
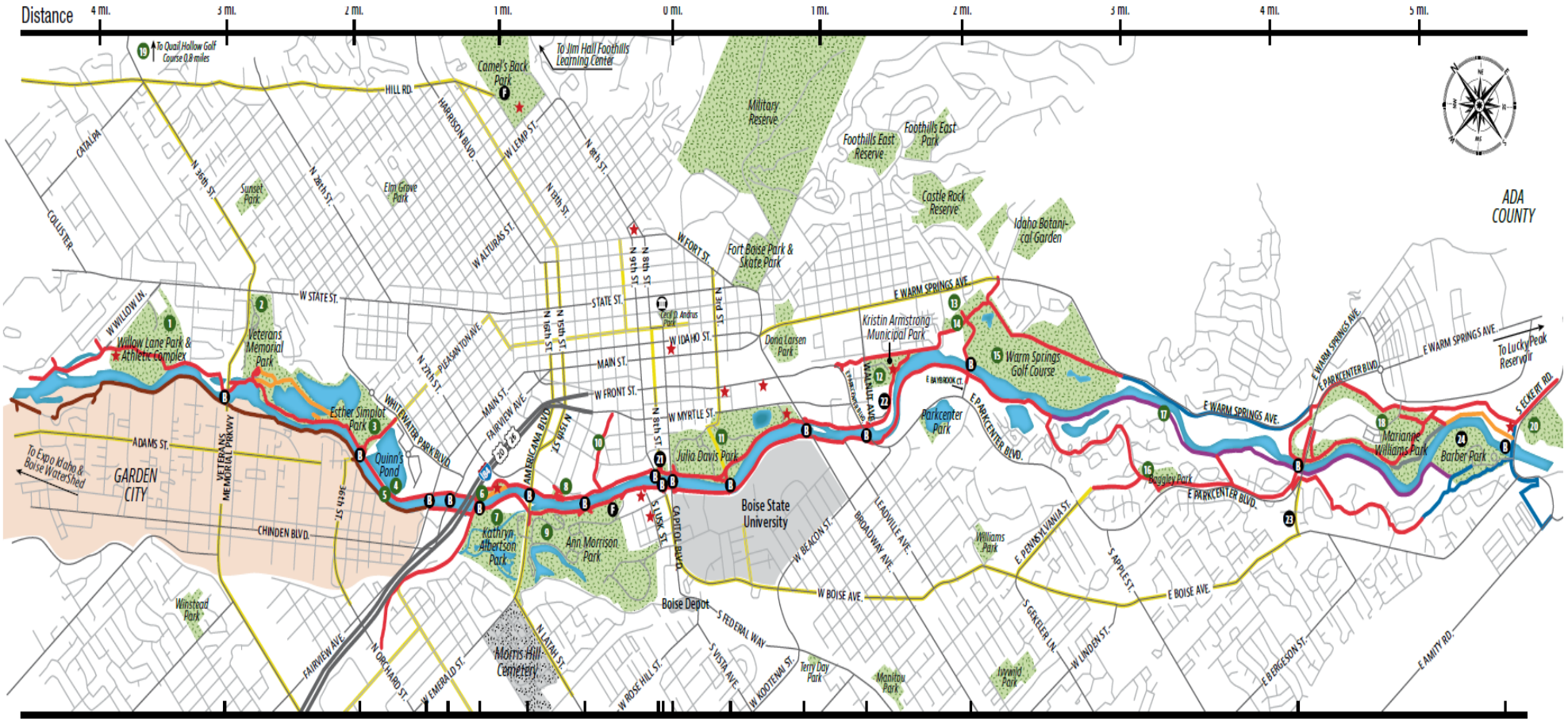
APPENDIX

Maps of the Boise River Greenbelt

Maps One and Two

Pictured below are two maps of the greenbelt. The first is one of the original maps presented in the Boise River Greenbelt *Comprehensive Plan & Design* document. See Nelson, Arlo, James Frisby, Jerald Nielsen, and Dennis Clark. *Boise River Greenbelt: Comprehensive Plan & Design*. Boise, ID: Joslyn & Rentschler Printing, 1968. The second is a current map of the Greenbelt and its extensions and surrounding parks, provided courtesy of the Boise City Parks and Recreation website, https://www.cityofboise.org/media/6659/2019-greenbelt-map_50thanniv_draft5.pdf.


BOISE RIVER GREENBELT PLAN
FOOT & BICYCLE PATH
BRIDLE TRAIL
CITY OWNED PARKS
ACTIVITY CENTERS
SCALE:
N


Distance
4 mi.
3 mi.
2 mi.
1 mi.
0 mi.
1 mi.
2 mi.
3 mi.
4 mi.
5 mi.
To Quail Hollow Golf Course 0.8 miles
To Jim Hall Foothills Learning Center
Camel's Back Park
Military Reserve
Foothills East Reserve
Foothills East Park
Castle Rock Reserve
Idaho Botanical Garden
ADA COUNTY
HILL RD.
CATALPA
COLLISTER
N 36th ST.
N 28th ST.
Sunset Park
Elm Grove Park
HARRISON BLVD.
W LEMP ST.
N 8th ST.
N 11th ST.
W ALTURAS ST.
W FORT ST.
N 9th ST
N 8th ST
N 9th ST
N 10th ST
N 15th ST
N 16th ST
N 2nd ST
Fort Boise Park & Skate Park
Cecil D. Andrus Park
W STATE ST.
STATE ST.
W IDAHO ST.
MAIN ST.
W FRONT ST.
W MYRTLE ST.
E WARM SPRINGS AVE.
Kristin Armstrong Municipal Park
Dona Larsen Park
Warm Springs Golf Course
To Lucky Peak Reservoir
E PARKCENTER BLVD.
Parkcenter Park
E BANBROOK CT.
W WILLOW LN.
Willow Lane Park & Athletic complex
Veterans Memorial Park
PLEASANTON AVE.
N 27th ST.
WHITEWATER PARK BLVD.
Esther Simplot Park
Quinn's Pond
MAIN ST.
FAIRVIEW AVE.
AMERICANA BLVD.
N 13th ST.
Julia Davis Park
Boise State University
ADAMS ST.
To Expo Idaho & Boise WaterShed
GARDEN CITY
VETERANS MEMORIAL PKWY
36th ST.
CHINDEN BLVD.
Kathryn Albertson Park
Ann Morrison Park
CAPITOL BLVD.
S 13th ST.
W BEACON ST.
LEADVILLE AVE.
BROADWAY AVE.
Williams Park
E PENNSYLVANIA ST.
S APPLE ST.
E BOISE AVE.
W BOISE AVE.
Boise Depot
S FEDERAL WAY
S GEKELER LN.
W LINDEN ST.
E BERGESON ST.
E AMITY RD.
Winstead Park
FAIRVIEW AVE.
N ORCHARD ST.
W EMERALD ST.
Morris Hill Cemetery
N LATAH ST.
W ROSE HILL ST.
S VISTA AVE.
W KOOTENAI ST.
Terry Day Park
Manitou Park
Ivywild Park
Baggley Park
Marianne Williams Park
Barber Park
S ECKERT RD.