

Nature and the City:
Ecohistory and Environmental Planning in Philadelphia, 1681-2000

By

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BA in Archaeology

Wesleyan University, 1995

Submitted to the Department of Urban Studies and Planning
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January 14, 2000

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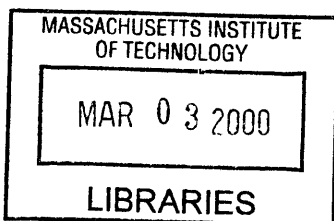
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ABSTRACT

“Nature” and “the city,” as historical and practical ideas, have a complicated relationship in the human mind. In North America, since at least the seventeenth century, enduring contradictions have existed between visions of urban ecology in ideal and crisis terms, as well as between environmentalist and economic objectives. This thesis explores these tensions, tracing the course of ecohistory and environmental planning in the city and region of Philadelphia, Pennsylvania, over more than three centuries and examining current challenges and practices of ecological planning as outgrowths of that history.

In establishing his colony in the late seventeenth century, William Penn articulated a vision of a lush city of natural paradise in a region where land values and civic investment would be evenly distributed between town and countryside. However, Penn’s plans contrasted with colonial Philadelphia’s eventually dense, squalid city of merchants and immigrants, surrounded by country estates belonging to the region’s elite families. In the industrial era, similar contradictions are found between interpretations of the city and its machines as beneficent or environmentally destructive forces. Great tensions exist between the city’s growth along a rectilinear grid plan and the region’s underlying geology. In the twentieth century, zoning and regional plans have aimed to foster “healthy” and balanced ecologies, while rapidly expanding suburbs conceived in a pastoral image have destroyed the “nature” that they attempt to inhabit. The ghettos of the inner city’s declining industrial districts, meanwhile, have been plagued by high concentrations of pollution and homes sinking into creeks. Finally, in the later twentieth century, neighborhood and regional planners have confronted the problems of suburban sprawl and decaying ghettos with visions of alternative urban ecologies that are similar to – and sometimes explicitly reference – the plans of William Penn. Challenges and practices of environmental planning in Philadelphia may thus be conceived as parts of a long-term ecohistory of contradictions between environmentalist agendas and forces of economic growth, between visions of natural harmony and crises of environmental depredation.

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Over the past three years, ML Wernecke has exposed me to a fascinating range of challenges in regional planning and policy, while at the same time being the most consistent and constructive critic of my writing. Joseph Faulk, III, has been my mentor in Philadelphia politics, helping me explore and understand local landscapes of planning and power. My father, Justin Vitiello, and his students at Temple University have afforded me opportunities to expose other people who study, work, and live in Philadelphia to community planning and gardening.

Many planners, policymakers, designers, teachers, and human services professionals have aided and influenced my studies of community development and regional planning in Philadelphia.

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¹ Unless otherwise noted, all photographs are by the author.

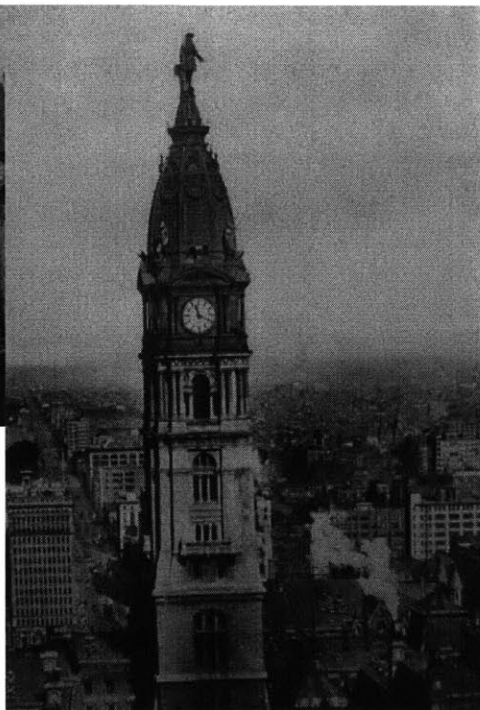
1 – Foundation Legends and Urban Ecology

Most tourists think of the Liberty Bell as the defining image of Philadelphia, but Old Philadelphians believe that the statue atop City Hall embodies the symbolic epicenter of their city. Elevated 547 feet above the intersection of Broad and Market Streets, this 37-foot high, 26-ton cast bronze figure of William Penn faces neither back to England nor west towards the Great Western and crabgrass frontiers. Instead, this 1892 likeness of the Quaker proprietor looks to the northeast, to Penn Treaty Park along the Delaware River. On that site, in 1682, under a giant American elm tree in the Lenne Lenape Indian fishing village of Shackamaxon, Penn and a group of Native Americans are said to have forged a compact to live together in peace.²



Above: An apocryphal painting of Penn's treaty-making with the Lenne Lenape at Shackamaxon. (Francis Burke Brandt and Henry Volkmar Gummere, *Byways and Boulevards in and about Historic Philadelphia* [Philadelphia, 1925], 267.)

Right: Penn's statue atop City Hall tower looks across an industrial city at the beginning of the twentieth century. (Brandt and Gummere, 11.)



² The name "Shackamaxon" may be derived from the Lenne Lenape word "Schachamesink," which means "place of eels," or from "Sakimaucheen," meaning "the place where chiefs are made." John L. Cotter, Daniel G. Roberts, and Michael Parrington, *The Buried Past: An Archaeological History of Philadelphia* (Philadelphia, 1993), 28.

In 1730, an English merchant, sea captain, and former colonial governor named Anthony Palmer purchased 191 acres on the former site of Shackamaxon, established a burial ground, laid out streets, and sold off lots. Palmer called the place Kensington, after a fashionable, leafy suburb of London. Kensington on the Delaware, however, was a dense community of modest wooden houses on small lots, home to the first textile mill in America. During the Revolutionary War, British General Simcoe posted guards around the “Treaty Elm” of Shackamaxon to protect it from people seeking firewood. In 1810, a storm blew down the tree. Hundreds of people gathered the next day to count its 283 rings, measure its eight-foot diameter and twenty-four foot circumference, and take cuttings that have produced second, third, and fourth generation descendants of the tree. In 1827, the Penn Society erected an obelisk on the former site of the Treaty Elm.



By 1800, Philadelphia’s bustling port had expanded as far as the Treaty Elm of Shackamaxon. In this drawing by artist William Birch, people are shown digging for treasure in the foreground under the tree. (William Birch, *The City of Philadelphia* [Bristol, 1800].)

When Charles Dickens visited the United States in 1842, he found a place he dubbed “Fishtown,” a community of English immigrants in southeastern Kensington where, like the inhabitants of

Shackamaxon before them, men drew herring from the Delaware and women pickled and smoked the fish. While Fishtowners caught fish and built boats, the rest of Kensington had become primarily a district of textile production by English and Irish immigrants. It would soon become Philadelphia's densest industrial neighborhood, prompting one late nineteenth century booster to call Kensington "A City Within a City, ... filled to the brim with enterprise, dotted with factories so numerous that the rising smoke obscures the sky."³ Many Kensingtonians never ventured to see City Hall and its statue of William Penn until the mid-twentieth century, when young men were drafted to fight in World War II and the decline of industries forced people to seek work in downtown offices and stores.

Today, Penn Treaty Park lies on Delaware Avenue, between a nightclub occupying a former warehouse and the 1920s neoclassical plant of the Philadelphia Electric Company (whose monopoly fell with the state deregulation of 1997, and which was bought by New York's ConEdison in 1999). The abandoned shipyard on the opposite side of the plant is a landscape of building shells and vacant land overgrown with weeds. In the park, African American children play football on the grass; Latino and Vietnamese teenagers and adults smoke in the parking lot; and small plastic bags and used condoms litter the areas around the park benches. There is a statue of William Penn surrounded by commemorative plaques, as well as a direct descendant of the original Treaty Elm, ringed by a short black fence with a plaque commemorating its planting on Arbor Day, April 29, 1993, by the Fairmount Park Commission.

The elm tree of Penn Treaty Park holds a central place in the (sometimes dreamed) historical geography of Philadelphia. It is among the principal symbols of the city's foundation as a "Holy Experiment" in "brotherly love," religious tolerance, and ecological harmony in "Penn's Woods"

³ *Kensington: A City Within a City* (Philadelphia, 1891), 1.

(Pennsylvania, in Latin). The tree has been viewed and treated as a sacred entity, to be protected and regenerated, much as the ancient Greeks and Romans deified the natural springs that gave birth to their rivers.

The site of Shackamaxon has witnessed dramatic changes in the urban ecology of the mercantile, industrial, and postindustrial city, yet certain tensions between alternative visions of nature in the city have endured. Ethnographer Dan Rose has noted that “We in America colonize and recolonize ourselves through endless efforts to introduce the new.”⁴ We in America also continually return to the old, conceiving and using histories in different ways. Narratives of the past help us to rationalize, contextualize, re-envision, and perhaps alter the conditions of the present and future. In urban policy and planning, stories of the foundation and development of cities and regions are repeatedly reused to make claims about the identity and conditions of the contemporary city within its historical context, as well as to promote practical agendas.

Landscape history, which has grown out of art and architectural history, and ecohistory, which has come of age with the maturation of environmental sciences and movements, can be used as a framework for understanding challenges of environmental planning. By tracing the ways in which people have lived in and altered their surroundings over time, a combination of urban, landscape, and eco-history has the potential to reveal the central continuities and changes in the colonization, urbanization, and suburbanization of North America. For urban planners and policymakers, this historical context can inform the deep roots of environmental planning and policy challenges.

⁴ Dan Rose, *Patterns of American Culture* (Philadelphia, 1989), 6.

Ecology and History

This thesis explores the actual and envisioned ecological order(s) of the city and region over the more than three centuries since its foundation. It is not a “true” ecohistory, in that it does not tell the full natural and environmental history of the Philadelphia region. Rather, it is an ecological and cultural history of urban development, more in the tradition of human ecology than classic ecohistory. The literature upon which this thesis draws includes the limited body of sources that exists for Philadelphia ecological history, the more ample literature of Philadelphia landscape and gardening history, and elements of the vast literature of community and regional planning and urban economic, social, and cultural history.

Ecology may be defined alternately, as “a branch of science concerned with the interrelationship of organisms and their environments,” or “the totality or pattern of relations between organisms and their environment.”⁵ Human ecology is “a branch of sociology [and other social sciences] dealing [especially] with the spatial and temporal interrelationships between humans and their economic, social, and political organization.”⁶ The literature of ecohistory is at least as broad and varied as the definitions of ecology, itself. In large part, ecohistory traces its origins to the mid-twentieth century Annales School of French historians who focused on temporally deep, enduring patterns of relationships between institutions and cultures, integrating numerous academic traditions including physical geography, art, literature, and economics.⁷

⁵ *Merriam-Webster's Collegiate Dictionary*, Tenth Edition (Springfield, MA, 1993), 365.

⁶ It may also be defined as “the ecology of human communities and populations esp. as concerned with preservation of environmental quality (as of air or water) through proper application of conservation and civil engineering practices.” *Merriam-Webster's Collegiate Dictionary*, 564.

⁷ The seminal Annales work of ecohistory was Fernand Braudel's *The Mediterranean and the Mediterranean World in the Age of Philip II* (New York, 1973), first published in French in 1949. The challenges of writing ecohistory are much like those associated with protohistory – periods of culture contact and culture change when one group of people is writing, and leaves written history, while the other

With the growth of environmental movements in the early 1970s, academics in many fields turned their attention and their sympathies to ecological research and writing. In subsequent decades, ecohistory has been a popular mode of inquiry in North America, particularly among scholars of early colonization and the settlement of the Great West.⁸ Among mainstream urban historians, perhaps the only truly widely read urban ecohistory of the postcolonial period is environmental historian William Cronon's study of nineteenth-century Chicago's relationship to the natural resources of the Great West (1991).⁹ More recently, journalists and cultural critics have made significant contributions to urban ecohistory, most notably Evan Eisenberg's work of ecological history and philosophy, *The Ecology of Eden* (1998), and Mike Davis' ecohistory of Los Angeles and "the imagination of disaster," *Ecology of Fear* (1998).¹⁰

Unlike ecohistory, landscape and gardening history has relatively deep roots in art and architectural history. Like ecology, however, a landscape may be defined in many ways, including: "the landforms of a region in the aggregate," "a portion of territory that can be viewed at one time from one place," or "a particular area of activity."¹¹ Landscape history largely followed the theoretical and methodological path of art history, from a nineteenth-through-mid-twentieth century focus on aesthetics to a later twentieth century shift towards viewing landscape

group (often the colonized) leaves only an unwritten material record. In eco- and environmental history, non-human nature leaves a geological, botanical, and archaeological record, while humans in literate societies leave what historians have traditionally considered "history," i.e., a written record.

⁸ Exemplary works include: Alfred W. Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900-1900* (New York, 1986); Kirkpatrick Sale, *The Conquest of Paradise: Christopher Columbus and the Columbian Legacy* (New York, 1990); William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York, 1983).

⁹ William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York, 1991).

¹⁰ Evan Eisenberg, *The Ecology of Eden* (New York, 1998); Mike Davis, *Ecology of Fear: Los Angeles and the Imagination of Disaster* (New York, 1998).

¹¹ *Merriam-Webster's Collegiate Dictionary*, 654.

architecture and cultural landscapes within a context of social history.¹² Some scholars, including Sam Bass Warner, Jr., and Diana Balmori and Margaret Morton, have used the history of gardening as a window into questions of urban planning, specifically regarding the uses and meanings of gardens among ethnic communities and homeless people.¹³ In studying the landscapes of North American ghettos, sociologist Camilo Vergara has attempted to build on structural socioeconomic and ethnographic studies by detailing the ecological dimensions of declining inner cities, using photographs as his primary medium of communication.¹⁴ Exploring other media for analyzing material culture, folklorist Kent Ryden argues that the meanings of landscapes are partially “invisible,” or non-material, to be found in literature and oral traditions.¹⁵ This thesis makes use of all of these media.

In the practice of landscape architecture and urban and regional planning, the development of an ecological perspective is commonly attributed to landscape architect Ian McHarg and his students at the University of Pennsylvania, including Leslie Jones Sauer and Anne Whiston Spirn.¹⁶ Institutions of environmental planning, horticulture, and gardening have also contributed to the practice and literature of urban and regional ecological planning. In Philadelphia, the most notable among these groups are the Pennsylvania Environmental Council and the Pennsylvania

¹² Works that trace this transformation include: Andrew Jackson Downing, *A Treatise on the Theory and Practice of Landscape Gardening* (New York, 1859); Ann Leighton, *American Gardening in the Eighteenth Century: “For Use or for Delight”* (Boston, 1976); John Dixon Hunt, *Gardens and the Picturesque: Studies in the History of Landscape Architecture* (Cambridge, MA, 1992).

¹³ Sam Bass Warner, Jr., *To Dwell is to Garden* (Boston, 1987); Diana Balmori and Margaret Morton, *Transitory Gardens, Uprooted Lives* (New Haven, 1993).

¹⁴ Camilo José Vergara, *The New American Ghetto* (New Brunswick, NJ, 1995).

¹⁵ Kent Ryden, *Mapping the Invisible Landscape: Folklore, Writing, and the Sense of Place* (Iowa City, 1993).

¹⁶ Ian McHarg, *Design with Nature* (Garden City, NY, 1969); Anne Whiston Spirn, *The Granite Garden Urban Nature and Human Design* (New York, 1984); Leslie Jones Sauer and Andropogon Associates, *The Once and Future Forest: A Guide to Forest Restoration Strategies* (Washington, DC, 1998); Anne Whiston Spirn, *The Language of Landscape* (New Haven, 1998).

Horticultural Society, whose Philadelphia Green program is one of the nation's leading urban gardening, greening, and ecological planning organizations.¹⁷

Complemented by sources on social, economic, and planning history from the colonial period through the twentieth century, these literatures of ecohistory, landscape and gardening history, and ecological planning constitute the central points of bibliographic reference in this thesis. As already noted, this is neither a standard ecohistory nor a classical landscape history. However, the historical narrative of this thesis borrows from these and other traditions of scholarship in tracing urban visions, experiences, and uses of nature in the past and present.

Nature and the City

Nature has ambiguous meanings. It is simultaneously idealized and feared, scientifically measured and fantastically imagined. "Wilderness" is conceived as something powerful and vaguely mysterious, an ideal yet potentially dangerous state that is far away from civilization. As William Cronon and Evan Eisenberg note, however, the wilderness of such places as the American West or the Garden of Eden is in large part a construction of the human mind – native to human culture.¹⁸ The assumption that nature may be fully conquered by man and machines is similarly flawed, as large-scale hydrological, geological, and atmospheric processes repeatedly remind us in various forms of what humans term "natural" disasters. Coming to terms with the

¹⁷ See Pennsylvania Horticultural Society (PHS), *Urban Vacant Land: Issues and Recommendations* (Philadelphia, 1995),

¹⁸ William Cronon, "The Trouble with Wilderness; or, Getting Back to the Wrong Nature," in Cronon, ed., *Uncommon Ground: Rethinking the Human Place in Nature* (New York, 1996); Eisenberg, *The Ecology of Eden*.

ways in which people have thought and continue to think about nature and the city – together or in opposition to one another – can shed light on the cultural context of environmental planning and the ways in which people inhabit and alter the natural world.

Ecological problems are in large part economic and social problems. Throughout at least the Common Era (AD), the forms, meanings, and people's experiences of urban nature have been stratified along divisions of class; and people often conceive of environmental – or environmentalist – concerns and economic goals in contradiction to one another. In Philadelphia and the Delaware Valley region around it, the political economic, ecological, and cognitive foundations of the real estate market, land use patterns, and divisions between the city and the surrounding countryside were laid in the colonial era. The industrial era and its machines brought more intensive exploitation of natural resources, and nineteenth- and early twentieth-century planners and engineers blanketed the city's landscape of hills and creeks with a rigid, rectilinear urban grid that contradicted the underlying geologic systems.

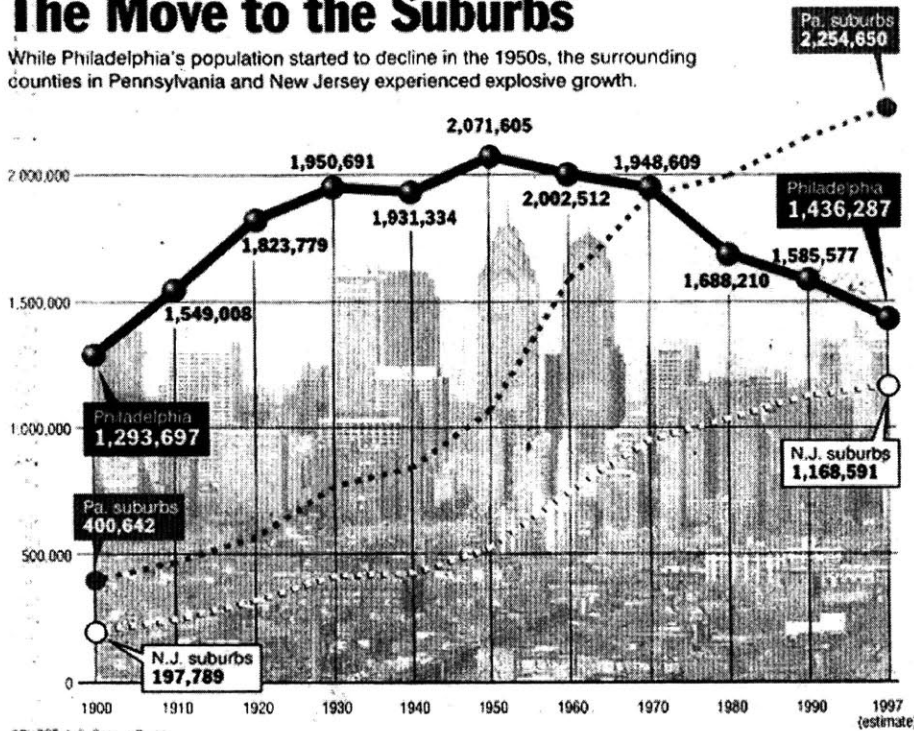
In the twentieth century, Philadelphia's economy and ecology have declined as its industrial systems were overextended, not adequately reformed or replaced, and ultimately left a legacy of pollution and decay. In the last quarter of the 20th century, while the Philadelphia region's population has remained roughly stable, suburban development in the Delaware Valley has consumed farmland and open space at an average of one acre per hour.¹⁹ Since 1950, the city has lost nearly one third of its population (from 2.1 million to 1.45 million people), and in the 1990s it led the nation in rates of population loss. As newer suburbs on the metropolitan fringe sprawl further away from the city, Philadelphia and its older suburbs built in a bygone economic era

¹⁹ Delaware Valley Regional Planning Commission (DVRPC), *Guiding Regional Growth* (Philadelphia, 1994).

continue to lose residents, jobs, tax base, and the ability to serve their increasingly poorer neighborhoods and their inhabitants.

The Move to the Suburbs

While Philadelphia's population started to decline in the 1950s, the surrounding counties in Pennsylvania and New Jersey experienced explosive growth.



(*Philadelphia Inquirer*, 28 March, 1999, E7.)

In physical and environmental terms, vacant lots overgrown with weeds and strewn with trash, abandoned buildings covered with graffiti, and homes sinking into underground creeks are the most tangible symptoms and sources of decay in the inner city. In the region's outer suburbs, the landscape of sprawl includes tract homes with standardized plywood architecture and over-fertilized lawns, parking lots and wide roads that reduce permeable surface area and encourage erosion, and large-scale developments that remove vast areas of fertile topsoil. James Howard Kunstler has termed this a "geography of nowhere."²⁰ The ghetto and the sprawling suburbs around it are evidence of the irresponsibility of American society's cultures of colonization and

²⁰ James Howard Kunstler, *The Geography of Nowhere* (New York, 1993).

over-consumption that have led to exhaustion of natural resources and abandonment of landscapes of inferior economic utility – in short, wasteful and unsustainable ecologies.

The “solutions” to problems of environmental planning and policy are more than technical. People’s thinking about cities and nature – in the past and present tenses – affects the ways in which communities continue to develop, or colonize, urban environments, at the scale of the neighborhood and the metropolis. Altering the ways in which people think about ecology – past, present, and future – is critical to the broader goal of fostering healthier, more equitable, and sustainable ecologies. (This has been one of the principal arguments of modern environmental movements.) Negotiating the place of “nature” within the modern metropolis is thus a multidimensional challenge for community and regional planners.

In *The New American Ghetto*, Camilo Vergara laments the process of inner city landscapes becoming “overtaken” by “wilderness” and vacant lots, citing residents who complain of the weeds and waste.²¹ However, in some urban neighborhoods the problems of vacant land inspire visions of and attempts to craft alternative ecologies. In Philadelphia, community gardening, greening, and environmental education programs confront the environmental crises of the city’s ghettos with the tools of nature, often employing images constructed in the colonial era as points of historical reference and models for the future. This work is often conceived as “decline management,” wherein planners attempt to improve the city’s landscapes by confronting the symptoms and sources of neighborhoods’ continuing decline.

²¹ Vergara, 16, 26-28.

In the suburbs, meanwhile, planners engage in the practice of “growth management,” attempting to guide the development of newer communities in ways that minimize environmental damage and enhance the ecological sustainability of human settlements. Environmental planning has had less success at the scale of the region, though some planners, policymakers, and citizens have begun to advocate for preservation of the Delaware Valley’s “natural heritage” and reinvestment in older communities. Land trusts, growth boundaries, and moratoria on development are proposed (and sometimes realized) by citizens’ groups and urban planners.²² Though they rarely conceive of their actions in these terms, these efforts are aimed at mitigating the effects of three centuries of colonization.

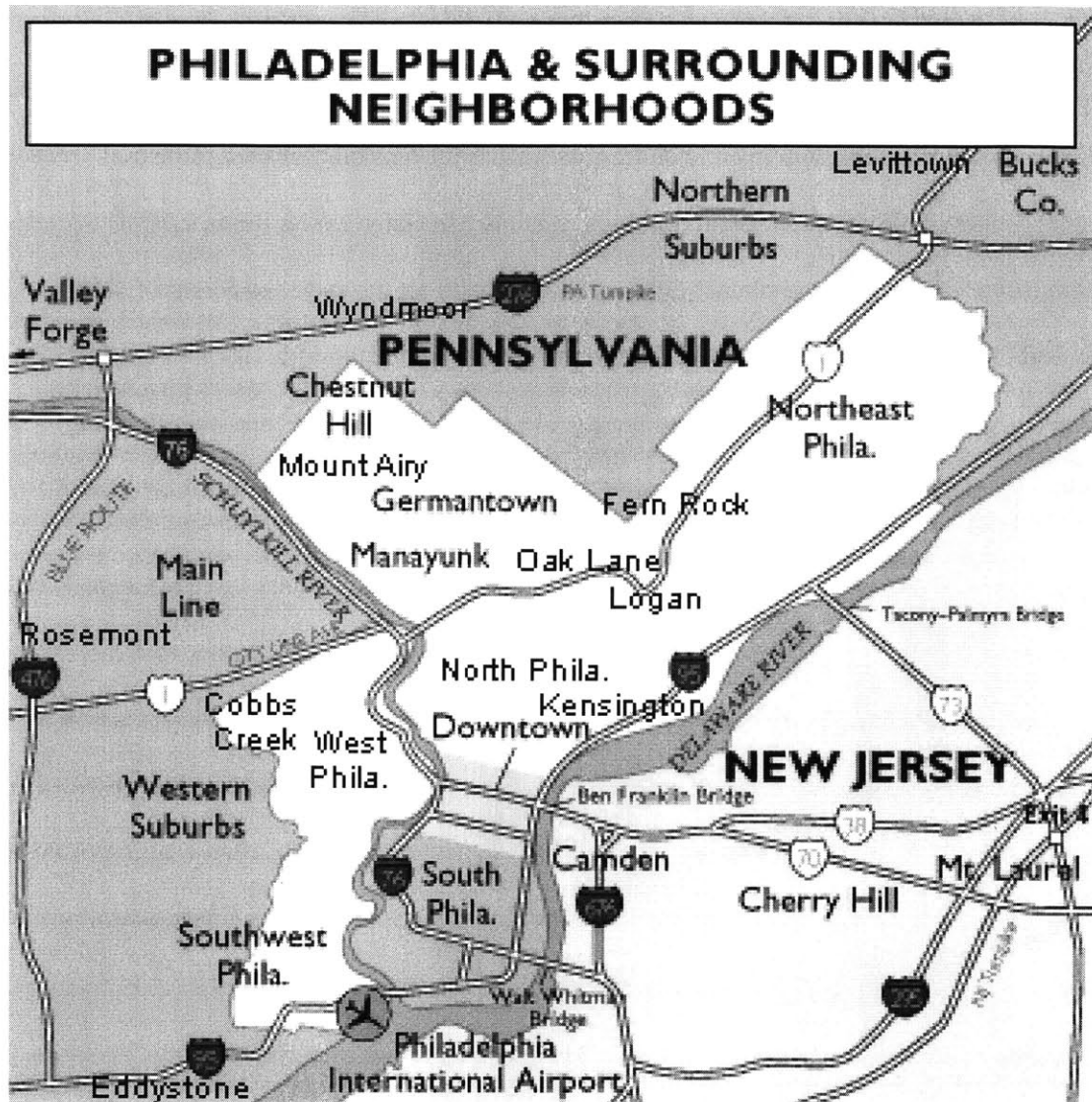
Arguing for a practice of ecologically sustainable planning, Anne Whiston Spirn encourages urban planners and everyday citizens to learn what she calls “the language of landscape,” which consists of natural forms and processes that affect all human environments. Spirn warns that people must carefully manage the interrelationships between water systems and street design, geology and house location.²³ The consequences of ignoring the forces of nature – or the language of landscape – in the city and region of Philadelphia have included houses and streets falling into creeks, contamination of groundwater, and sprawling suburbs that eradicate productive farmland. The principal liability of ignoring this legacy of ecological history lies in the potential to repeat and perpetuate the environmental mistakes of the past.

Exploring the actual, imagined, and planned ecology of Philadelphia and the Delaware Valley region between the seventeenth and twentieth centuries, this thesis traces the tensions between ideal visions and actual crises of the urban and regional environment. Chapter two details the

²² DVRPC, *The Future of First Generation Suburbs in the Delaware Valley Region* (Philadelphia, 1999).

contradictions between William Penn's plans and the ecological and economic order of preindustrial Philadelphia. Chapter three examines the ecological ambiguities of the city and region's machine-oriented economy and culture, as well as the tensions between industrial Philadelphia's city-building practices its geologic systems. In chapter four, the stories of twentieth century suburbanization and the decay of the ghetto set the stage for chapter five's exploration of regional and neighborhood environmental planning at the end of the century. Contrasted visions of the ills of sprawl and images of pastoral suburbs, polluted and decaying ghetto environments and dreams of a "Greene Countrie Towne" are just the latest in a long history of tensions and contradictions between the ideal and the crisis dimensions of the city and region's ecology.

²³ Spirn, *The Language of Landscape*. In *The Ecology of Eden*, Evan Eisenberg advocates a more vague yet similar approach to "listening" to the needs and systems of nature.



Map of Philadelphia and surrounding suburbs, including neighborhoods and suburban communities mentioned in the text. (Adapted from <http://www.libertynet.com/rol/template5.asp?sectionid=map-2&feature=Community&db=phillypub>, visited 12/14/99.)

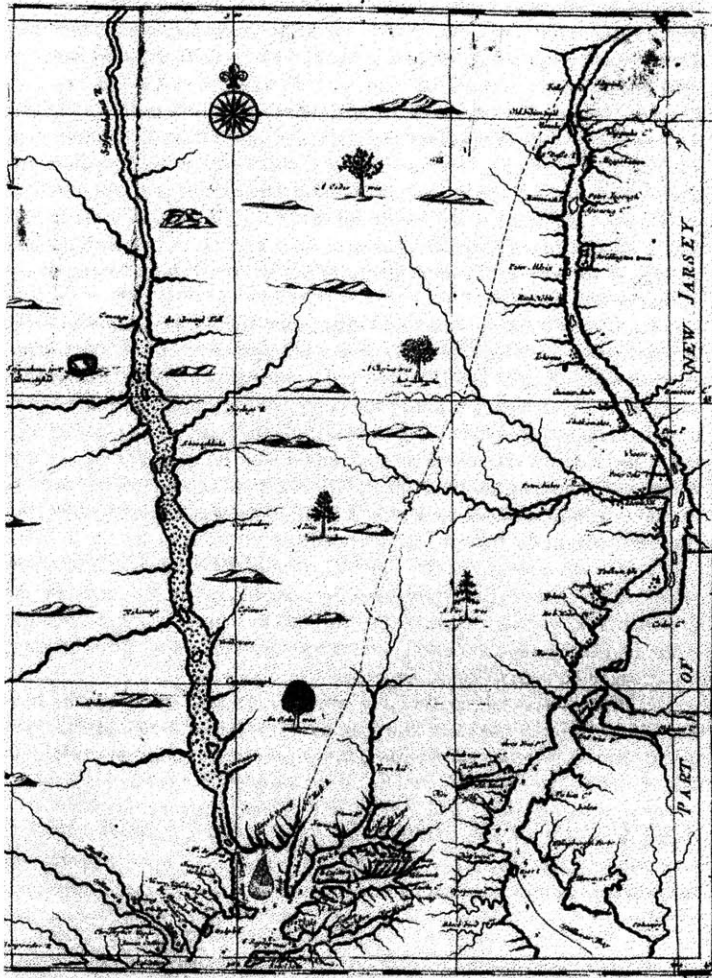
2 – Ecology of Colonization

Philadelphia was founded in a fertile river valley that formed the foundations of its colonial economy. Before the last ice age, about 10,000 years ago, a great river flowed southward from present-day Canada to a vast bay between what are today New York and Maryland, depositing vast areas of sand and silt. The pine forests, marshes, and clay-rich soils on the eastern side of the river today support the cranberry bogs and fruit farms of southern New Jersey, while the cornfields of Pennsylvania and Delaware were formed along the western bank. The ice cap from the last ice age divided the great river into two watersheds later named after Dutch explorer Hendrick Hudson and the English Lord De La Warr. In the region of the South River (as the Delaware was first known to Europeans), Algonquian-speaking people of the Lenne Lenape nations developed an economy based on agriculture, fishing, and some hunting.²⁴ In the early 17th century, people from Sweden, Holland, Finland, and England began to explore, trade, settle, and farm the Delaware Valley. In March 1681, William Penn, a former trustee of the West Jersey Quaker colony on the eastern bank of the Delaware River, was granted the land of Pennsylvania as payment for past debts owed to his father by King James of England.²⁵

The colonization of Pennsylvania was a classic modern Western capitalist venture, including corporate charters, marketing strategies, clearly delineated real estate markets, and land use plans that were largely ignored. However, the ecology of the colony and its principal city was largely envisioned in opposition to the ecology of late medieval England. In 1681, after consulting ship captains, merchants, and prominent Quakers, but before setting foot in the New World himself, William Penn published a promotional pamphlet entitled *A Brief Account of the Province of*

²⁴ “Delaware Indians” was the term used by Europeans, while the Algonquian term “Lenne Lenape” meant, like many native North Americans’ group names, “the real people” or “the original people.” Anthony F.C. Wallace, *King of the Delawares: Teedyuscung, 1700-1763* (Philadelphia, 1949), 7.

Pennsylvania.²⁶ By 1685, Penn had printed nine of these marketing tracts, all accompanied by a map of the province that depicted few landowners and a diverse array of natural resources – waterways, hills, various species of trees – distributed across the landscape in a remarkably consistent way.²⁷ It reflected a regularly ordered natural world, available and open for business.



Penn's promotional map of the colony. (Dunn and Dunn, *The World of William Penn*, 44.)

²⁵ Penn collected his father's debt from King Charles II. Gary B. Nash, *Quakers and Politics: Pennsylvania, 1681-1726* (Princeton, 1968), 7.

²⁶ Richard S. Dunn, "Penny Wise and Pound Foolish: William Penn as Businessman," in Richard S. Dunn and Mary Maples Dunn, eds., *The World of William Penn* (Philadelphia, 1986), 43.

²⁷ Rose, 4.

Natural resources were central to the decision to site Philadelphia in its current location. The Delaware River afforded a deep port, the Schuylkill River Valley was “the best highway to the interior” of the territory, and the rich soils of the Delaware Valley fostered “what would soon become the richest agricultural hinterland of any colonial city.”²⁸ Other factors included “the existence of a stratum of brick clay on the spot, and immense quarries of building stone in the vicinity.”²⁹ Philadelphia was sited approximately fifteen miles above the salt line of the Delaware River, a comfortable distance insuring an ample supply of fresh water.

Penn’s peace with the Lenne Lenape and his “Holy Experiment” of a diverse society notwithstanding, Philadelphia was a city designed for the affluent British Quakers who purchased large tracts of land in the colony.³⁰ Drawn by chief surveyor Thomas Holme, and published in London in 1683 – again to market the colony to potential investors – the city’s plan laid out a rectilinear grid covering 1,280 acres between the Delaware and Schuylkill Rivers, an area as large as seventeenth century London or Paris. Beyond the limits of this commercial and administrative center, the Penn reserved 8,000 acres of “liberty lands” to the north and west for 80-acre estates to be given to each purchaser of 5,000 acres in the colony. These large landowners would also own homes inside the grid, and the political and economic business of Philadelphia would take place in town. Unlike seventeenth century England, where the gentry was widely dispersed and rarely gathered in town, Pennsylvania would be a place where town and countryside were linked by political, economic and cultural ties. Reacting to this perceived disinvestment in

²⁸ Mary Maples Dunn and Richard S. Dunn, “The Founding, 1681-1701,” in Russel Weigley, ed., *Philadelphia, A 300-Year History* (New York, 1982:1-32), 5.

²⁹ Edwin T. Freedley, *Philadelphia and its Manufactures*. (Philadelphia, 1858) 50.

³⁰ Working men and women certainly had a place in Penn’s vision of his venture in the New World, but the city was planned as both a model of good aristocratic living and a marketing tool. Native Americans and Africans were not envisioned as part of Penn’s Christian community. Mary Maples Dunn and Richard S. Dunn, “The Founding, 1681-1701,” in Weigley, 7, 30.

contemporary English cities, Penn desired to create a place where land values and civic engagement of the elite would be more evenly distributed throughout the region.³¹

Despite Europe's late medieval ecological crisis of overpopulation, depleted forests, and exhausted soils that drove people to the New World, Pennsylvania was founded in a time marked by relative global peace and economic stability, what historian David Hackett Fischer has termed the "equilibrium of the Enlightenment."³² Neo-Aristotelian philosophies of man as a being of nature were much in favor among intellectuals in Europe and its colonies, including William Penn. (Modern environmentalist thought is partly rooted this philosophical tradition.) Reacting in large part to the terrible fire of London in 1666, the proprietor envisioned his city as a "greene Country Towne, which will never be burnt, and allways be wholesome."³³ The City of Brotherly Love would be built without defensive walls or a military garrison; and it would prosper as an experiment in genteel living in a fertile, waiting wilderness. Chief surveyor Thomas Holme noted that each plot delineated on the grid of the city's plan "hath room for House, Garden and small Orchard,"³⁴ and five squares provided public green space. Philadelphia's streets were initially named after prominent first settlers; but in 1684 Penn renamed the east-west thoroughfares after local trees - Vine, Sassafras, Mulberry, Chestnut, Walnut, Spruce, Pine, and Cedar - while north-south streets were numbered.³⁵

³¹ Emma Jones Lapsansky, *Neighborhoods in Transition, William Penn's Dream and Urban Reality* (New York, 1994), 4-5.

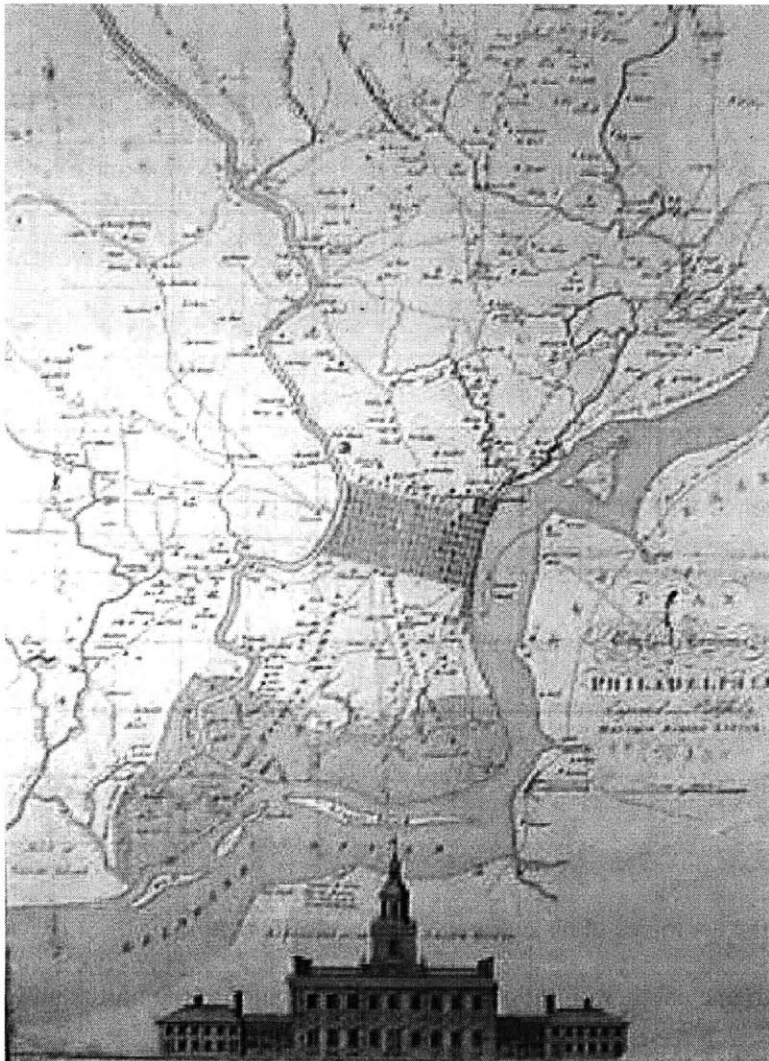
³² David Hackett Fischer, *The Great Wave: Price Revolutions and the Rhythm of History* (New York, 1996), 102-16. Fischer argues that the second millennium, CE, has witnessed relatively regular cycles of economic growth, stability, and decline that are paralleled by patterns of ecological, social, and political stress, stability, and crisis.

³³ "Instructions of William Penn to the Commissioners for settling the colony, 30 7th Mo. 1681," Mary Maples Dunn and Richard S. Dunn, eds., *The Papers of William Penn, 1680-1684* (Philadelphia, 1982), 121. Penn's concern about urban fires stemmed, in part, from the recent experience of the Great Fire of London; his plan's regular layout of streets and presumed green spaces between houses were partly reactions to that destructive potential.

³⁴ Albert Cook Myers, ed., *Narratives of Early Pennsylvania, West New Jersey and Delaware, 1630-1717* (New York, 1912), 243.

³⁵ Dunn and Dunn, "The Founding," 7.

William Penn expected that colonists in his city would disperse their homes evenly across the grid. However, when he departed his colony in 1701, never to return, he left a town of some 2,500 inhabitants whose homes, workshops, and storehouses crowded the Delaware River docks - Philadelphia's link to the mercantile world it inhabited. The city was a dense place without effective systems of waste removal, and pollution and disease were common features of the local landscape. Penn himself had spent little time in the city during his stay in the colony, preferring to remain at his country seat of Pennsbury, in rural Bucks County.



A map of 1777 shows Philadelphia's grid, with the cluster of settlement along the Delaware River waterfront. In the surrounding region, the map shows creeks, radial roads, country estates, and small settlements.

In the elite estates surrounding the colonial city, tenant farmers and indentured servants grew corn, wheat, and vegetables; and mills built along the region's rivers and creeks cut lumber, produced paper, and ground grain for market in Philadelphia. In 1738-39, following similar trends in Northern Europe and in part due to rising immigration to the Delaware Valley, the price of wheat in Philadelphia began to increase dramatically. A worldwide price revolution ensued, bringing rapid and ultimately stressful economic growth to the colonies of the New World. A global period of revolution and economic ecological crisis followed in the late 18th century, during which the prices of goods fell and belts were tightened on both sides of the Atlantic.³⁶

The American Revolution was, in part, a war about people's rights to exploit the landscape and its resources in the ways that they wished. When the thirteen corporations between Maine and South Carolina successfully rebelled against England's restrictive commercial policies, their Constitution followed the model of their private colonial charters drafted to protect and "improve" property and commerce.³⁷ One hundred years after its founding, "Philadelphia had become second only to London in both the volume and value of the products shipped in and out of its port."³⁸ Serving an international trade in flour from inland mills and tea from China, warehouses and shipbuilders still crowded the Delaware River waterfront. Native Americans had been largely driven west by colonists' "land purchases," and with the arrival of immigrants primarily from Britain, Philadelphia had grown from a town of 700 homes in 1700 to a city of 11,200 dwellings in 1800.

A century after Penn's departure, the ecologies of his colony's city and the surrounding countryside contrasted sharply with one another. Gentleman naturalists' estates to the north and west of the city embodied the landed gentry's scientific, artistic, and academic experiments in

³⁶ Fischer, 120.

³⁷ Rose, 2-4.

natural and social order. Men like John Bartram and William Hamilton collected plant specimens from around the world, planted them in picturesque, naturalistic ways that evoked the “wild,” and showed them off to their gentleman visitors, including such figures as Thomas Jefferson and William Penn’s grandson John Penn. Exotic plants from around the world were considered prestige objects; and elaborate landscape gardening on the estates surrounding the city was one manner in which the American elite chose to compete for status and demonstrate its intellectual and material synthesis of the latest in English culture.³⁹ Garden historian Therese O’Malley notes:

Judge Peter’s Belmont was known for its experimental grasses, Lemon Hill for its citrus, and Charles Wilson Peale’s Belfield for its geraniums. These and other gardens up and down the East Coast were founded by members of an international network of botanists, gardeners, and collectors who carried on an extensive exchange of plant material and information.⁴⁰

When Lewis and Clark journeyed west in 1803, two Philadelphians benefited from their connection with Jefferson. According to John Faris:

The seeds collected by the expedition seem in a measure to have been taken in charge by Jefferson, who divided the major part of them into two portions, which were given to Bernard McMahon, a botanist and nurseryman living in Philadelphia, and to William Hamilton of the same place, the wealthy owner of the famous gardens known as The Woodlands, by whom they were successfully grown.⁴¹

While the working classes may have periodically enjoyed the natural world of preindustrial times, recreation and comfortable living in nature were enjoyed largely by the elite. Far from a green country town, the central city was a crowded, dirty place ordered around the principles of its mercantile economy, with its center of activity in the Delaware River port. Philadelphia’s yellow fever epidemic of 1793, the largest in United States history, claimed the lives of nearly 4,000

³⁸ Walter Licht, *Getting Work, Philadelphia 1840-1950* (Cambridge, MA, 1992), 4.

³⁹ Timothy Preston Long, *The Woodlands: A “Matchless Place”* (Masters Thesis, University of Pennsylvania, 1991); Richard J. Betts, “The Woodlands,” *Winterthur Portfolio* 14, 3 (Autumn 1979).

⁴⁰ Therese O’Malley, “Art and Science in the Design of Botanic Gardens, 1730-1830,” in *Garden History: Issues, Approaches, Methods* (Washington, D.C., 1992), 290.

⁴¹ John Faris, *Old Gardens in and about Philadelphia* (Indianapolis, 1932), 168.

citizens. Approximately 20,000 people fled to the countryside, including George Washington, Thomas Jefferson, and other government officials (the city was the U.S. capital at the time). The horror of the “yellow plague” inspired portrayals of Philadelphia as a “city of doom” in Charles Brockden Brown’s *Arthur Mervyn* (1799) and an anonymous “Lady of Philadelphia’s” *Laura* (1809).⁴²

The foundations of American metropolitan divisions by class and ecology were laid already in the colonial era and have been reflected in an enduring pattern of affluent, sprawling suburbs (or estates) surrounding a crowded, polluted city. William Penn and his associates’ idyllic, proto-environmentalist visions of a spacious green city and a region of abundant resources where people lived in harmony with nature contrasted sharply with the ecological order of the colony from its very beginnings. The economic and land use systems of colonization, as designed by the same proprietor and his associates, were oriented towards economic growth and exploitation of resources that proved incompatible with the dream of a green country town, and these contradictions have likewise endured.

⁴² Charles Brockden Brown, *Arthur Mervyn*; or, *Memoirs of the year 1793 (Philadelphia, 1799)*; A lady of Philadelphia, *Laura* (Philadelphia, 1809).

3 – The Machine and the Garden

The nineteenth century was the age of the machine, a force that simultaneously ameliorated, complicated, and destroyed ecologies and ways of life in Philadelphia and the rest of the industrializing world. In *The Machine in the Garden*, historian Leo Marx explored “the ambiguous meaning of the machine and its relation to nature,” documenting an ambivalence among nineteenth-century Americans regarding the effects of industrial cities, railroads, and machines on their nation’s natural landscapes.⁴³ Tensions between the roles and meanings of nature and machines abound in industrial Philadelphia.

While the city’s nineteenth-century economy and settlement were oriented around the railroad and the factory, inspiring visions of machines as beneficent, immigrant factory districts were also often considered environmentally, socially, and morally depraved. Urban reformers associated with the settlement and parks movements decried the pollution of these neighborhoods, advocating for a more sanitary and “natural” city of parks, picturesque garden cemeteries, and natural preserves. The city’s rapid growth along its rectilinear grid was efficient in the eyes of the city’s real estate developers and engineers, though the grid and its streets and buildings contradicted the order of the region’s landscape, particularly its creeks and floodplains. Much like the colonial city before it, industrial Philadelphia was full of tensions between visions of an ideal, “natural” city and a city choked by its density, disease, and environmental chaos.

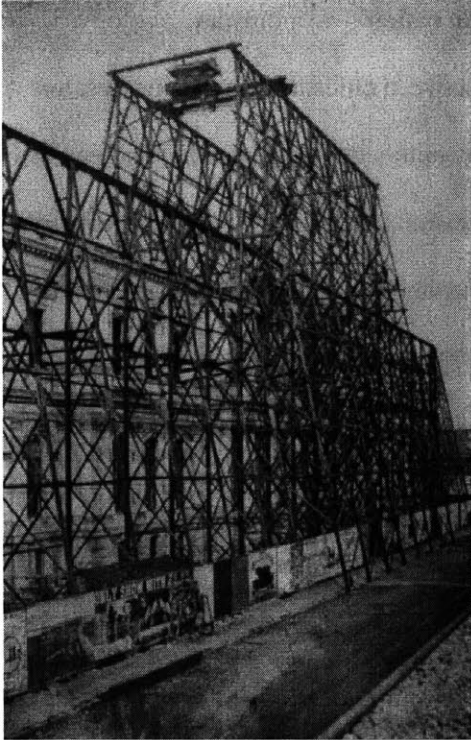
⁴³ Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (New York, 1964), 251. Evan Eisenberg (169ff.) has more recently argued that the image of “the machine in the garden” of nature is flawed, in that culture and technology (the machine) are, themselves, “natural” human

The City of Machines

In the early 19th century, with the opening of the Erie Canal, New York eclipsed the Quaker City as the Mid-Atlantic region's main destination for world trade and immigration. For the next 150 years, Philadelphia's livelihood would be in industry. The city's earlier role as a center of transshipment had inspired some early agglomeration of production, particularly of heavy goods such as furniture. The Schuylkill River and the Wissahickon, Cohocksink, and Cresheim Creeks were crowded with water-powered mills, though these bodies of water were not strong and fast like the rivers of New England's mill towns. With limited waterpower but a growing pool of skilled laborers from Europe, the city's industrial path was marked by a commitment to mechanization and advancements in engineering. While cities such as New York and Cleveland initially relied on canals for continental transport, Philadelphia became the center of North America's largest railroad empire – the Pennsylvania Railroad.

The foundations of Philadelphia's industrial prosperity were laid long before the 19th century. In the Carboniferous Period of the Paleozoic Age, approximately 300 million years ago, tropical swamps in what is today eastern Pennsylvania left deposits of organic material that slowly decayed over time, forming layers of the hardest, richest, hottest-burning coal in the world. Iron-rich rocks in this region also proved important to the industrial economy in the nineteenth-century "age of iron." The rails of the Pennsylvania Railroad, the Philadelphia and Reading Railroad, and other minor lines connected Pennsylvania's anthracite coal and iron mines to the cities and smaller mill towns throughout the Mid-Atlantic and Midwestern states. Coal fueled factories' steam engines, while iron was processed by mills and molded by machine builders and civil engineers laying the infrastructure of cities, towns, and factories.

developments; and our images, understandings, and uses of the "garden" (non-human nature) are intrinsically cultural.



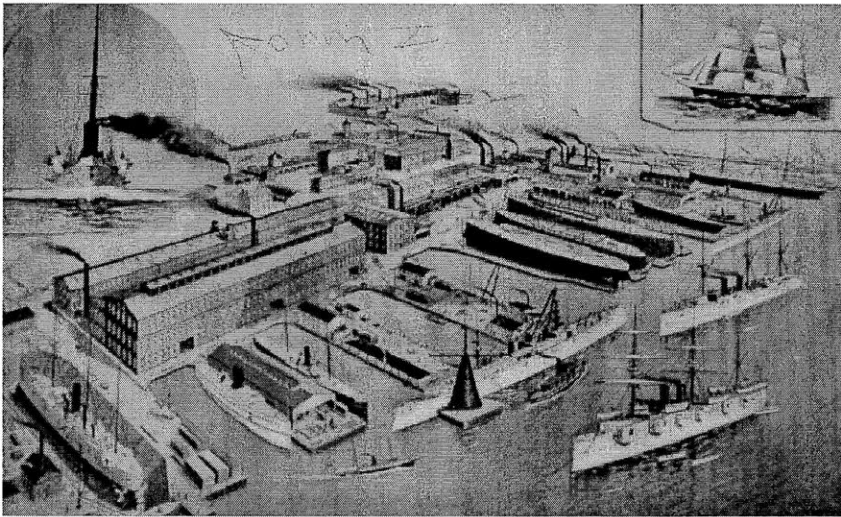
In 1876, when the city hosted the Centennial Exhibition, civil engineer Joseph Wilson's massive, moveable iron crane could be seen lowering the granite and marble blocks of Philadelphia's new City Hall into place. (*The Wilson Brothers & Co.: A Catalogue of Work Executed*. Philadelphia, 1885.)

The nineteenth century was a time of great confidence in manufacturing. In his 1857 profile of *The Manufactures of Philadelphia*, practical business writer Edwin Freedley extolled the virtues of industry:

The end of every Manufacture is to increase the utility of objects by modifying their external form or changing their internal constitution. ... Thus beneficent in their general object, it is scarcely remarkable that modern Manufactures are principally distinguished for their ameliorating influence upon man's social condition.⁴⁴

From the mid-19th century to the 1920s, Philadelphians referred to their city as the "Workshop of the World." Many other industrial centers claimed this same title, though for Philadelphia it was no great stretch of the imagination, for the city was the principal center of innovation in North American mechanical, civil, and industrial engineering.

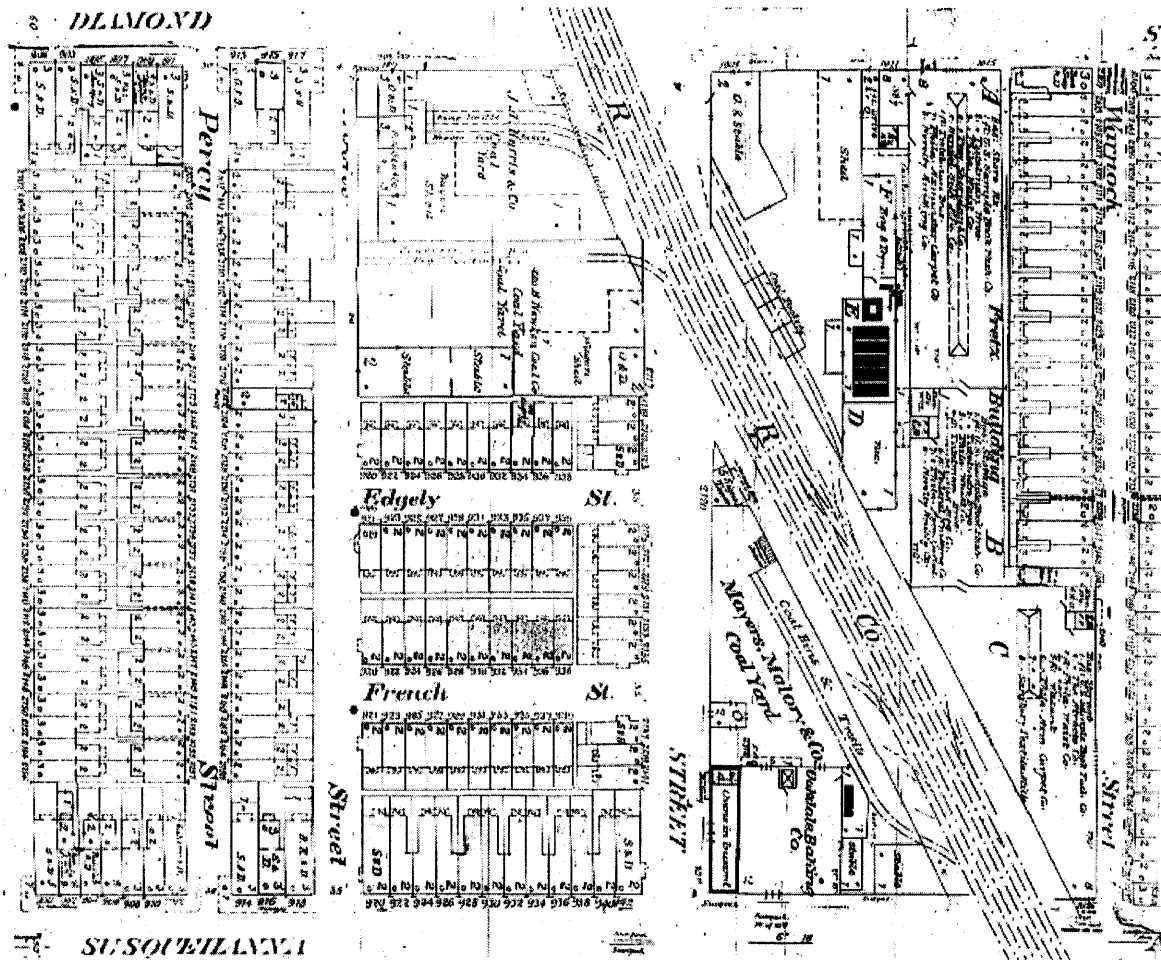
Railroads were the principal ordering agents of the industrial nation's economy and ecology, serving as networks of transportation and communication between cities, towns, businesses, and the expanding frontier. Even in his tranquil New England countryside, Henry David Thoreau noted that trains "go and come with such regularity and precision, and their whistle can be heard so far, that the farmers set their clocks by them, and thus one well conducted institution regulates a whole country."⁴⁵ In Philadelphia, rail lines from the anthracite and iron regions of Pennsylvania led to the piers along the Delaware River, where shipbuilders concentrated and raw materials and finished goods were exported to international markets. In the city's industrial districts, such as Kensington, factories clustered along the railway tracks – often with rail spurs linked to their loading docks – and homes, commercial establishments, and institutions were built around the factories.



William Cramp and Sons' shipyard along the Delaware River in Kensington, ca.1899. (*Philadelphia, Pa. The Book of its Bourse and Co-operating Public Bodies* [Philadelphia, 1899], 137.)

⁴⁴ Freedley, 21.

⁴⁵ Henry David Thoreau, *Walden; or Life in the Woods* (Garden City, NY, 1970), 192.



A fire insurance map shows the clustering of factories along the tracks of the Reading Railroad in North Philadelphia, with two- and three-story homes on the streets behind them. (Hexamer and Sons, *Atlas of Philadelphia*, v. VIII [Philadelphia, 1891], plate 116.)

Industrial Philadelphia's settlement patterns were ordered around the rails and the factory.

Financiers of the Pennsylvania and Reading Railroads built railroad suburbs to the west and northwest of the city's central factory districts, perpetuating the colonial pattern of a dense city surrounded by more spacious, leafy, affluent settlements. Most railroad suburbs were nearby the pastoral landscapes of farms and still extant natural preserves, where the elite could hike, picnic, and hunt game for sport. Throughout most of the city, however, "the proximity of housing to work opportunities was a fundamental organizing principle of urban land use, enabling the factory worker to make efficient use of his limited financial and temporal resources by a

'commute' of eight to ten blocks' walk. Those requirements led to the common Philadelphia urban form that intertwined factories and new houses," typically with plant managers', prosperous shopkeepers', and professionals' three-story homes on the main thoroughfares; workers' two-story homes on smaller streets behind them; and workshops, stores, and other services dispersed throughout these districts.⁴⁶

Industry was more important than ethnicity in explaining residential patterns of the working class, and with the exception of African American settlement, no clear ethnic ghettos developed in 19th century Philadelphia.⁴⁷ While the city was home to the largest community of free blacks nineteenth century America, they were overwhelmingly excluded from good factory jobs, relegated to the less secure and lower-paying service and "informal" sectors.⁴⁸ Before the 1920s, most blacks lived within the confines of the Seventh and Eighth Ward ghetto where, in the 1890s, pioneer sociologist W.E.B. DuBois found families crowded into close quarters and children playing in alleys filled with trash and soot.⁴⁹ Throughout the rest of the city, however, the smokestacks and clock towers of factories were, together with parish churches, the beacons of most neighborhoods and their residents' lives.

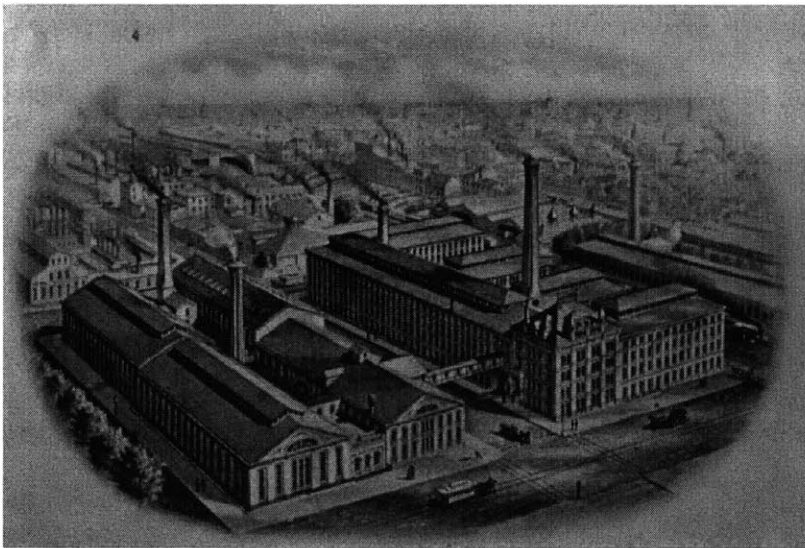
⁴⁶ George E. Thomas, "Architectural Patronage and Social Stratification in Philadelphia between 1840 and 1920," in William Cutler, III, and Howard Gillette, Jr., eds., *The Divided Metropolis: Social and Spatial Dimensions of Philadelphia, 1800-1975* (Westport, CT: 1980, 193-226), 85; Stephanie W. Greenberg, "The Relationship between Work and Residence in an Industrializing City: Philadelphia, 1880," in Cutler and Gillette, eds., 141-168; Sam Bass Warner, Jr., *The Private City: Philadelphia in Three Periods of its Growth* (Philadelphia, 1968/1987), 52; Theodore Hershberg, Harold E. Cox, Dale B. Light, Jr., and Richard R. Greenfield, "The 'Journey-to-Work': An Empirical Investigation of Work, Residence and Transportation, Philadelphia, 1850 and 1880," in Hershberg, ed., *Philadelphia: Work, Space, Family, and Group Experience in the 19th Century* (New York, 1981:128-173).

⁴⁷ Stephanie W. Greenberg, "Industrial Location and Ethnic Residential Patterns in an Industrializing City: Philadelphia, 1880," in Hershberg, ed. (204-232); Alan N. Burstein, "Immigrants and Residential Mobility: The Irish and Germans in Philadelphia, 1850-1880," in Hershberg, ed. (174-203).

⁴⁸ Roger Lane, *Roots of Violence in Black Philadelphia, 1860-1900* (Cambridge, MA, 1986).

⁴⁹ W.E.B. DuBois, *The Philadelphia Negro: A Social Study* (Philadelphia, 1899 [1996]).

The densely integrated land use pattern of the city's industrial districts made for an economically efficient ecology wherein factories could tap a vast supply of skilled workers, managers and laborers could walk to work, and small firms could collaborate with one another.⁵⁰ However, the workshops, mills, and foundries of North, West, and South Philadelphia neighborhoods also clouded the air with smoke from coal-burning engines, leaked or dumped hazardous chemicals that found their way into soils and groundwater, and often emitted noxious odors that proved inescapable for their residential neighbors. By modern standards, the environments of manufacturing districts were nightmarish, and many homes built before the 1870s were without indoor plumbing.



The William Sellers Machine Tool Company in the Spring Garden metalworking district of lower North Philadelphia. (I.L. Vansant, *The Royal Road to Wealth* [Philadelphia, n.d.], 15.)

In the late nineteenth century, the Philadelphia Board of Health blamed these neighborhoods' high rates of smallpox and tuberculosis on "the manner in which [immigrants] live in crowded

⁵⁰ In Kensington, individual textile firms spun, dyed, and wove fabrics, which were then sent via rail or wagon to the downtown business district for sale. Similar connections existed between "pattern-makers, alloy metal firms, foundries, machine shops, and machinery builders" in the metalworking trades. Philip Scranton, "Large Firms and Industrial Restructuring: The Philadelphia Region, 1900-1980," *The Pennsylvania Magazine of History and Biography*, v. CXVI, no. 4 (October 1992), 425.

apartments, in narrow streets, blind courts, alleys amid dampness and filth.”⁵¹ The rapid immigration and urbanization of the mid-nineteenth century placed great economic, social, and ecological pressures on the city, inspiring Nativist riots against Irish Catholic immigrants, the most spectacular of which occurred in Kensington. In popular literature of the nineteenth century, “the great city, with its teeming masses of immigrants and ‘papists,’ was routinely demonized as the infernal antipode to the republican homestead and small town.”⁵² In *The Quaker City; or the Monks of Monk Hall* (1844), Philadelphian journalist George Lippard wove a tale of moral and political corruption that was, in Lippard’s own words, “denounced as the most immoral work of the age. . . . more attacked, and more read, than any work of American fiction ever published.”⁵³ He portrayed Philadelphia as “a nocturnal labyrinth of temptation and crime,” a depraved and nightmarish place which is eventually consumed in “the full fury of metaphysical catastrophe” at the book’s end.⁵⁴ Monk Hall, at the center of the book’s geography, is located in an area where a “mass of miserable frame houses seemed about to commit suicide and fling themselves madly into the gutter, and in the distance a long line of dwellings, offices, and factories, looming in broken perspective, looked as if they wanted to shake hands across the narrow street.”⁵⁵ Lippard’s Quaker City is home to an ecology of chaos and depravity, “an entire nightmare world that is always threatening to destroy ordinary perceptions of objective surroundings.”⁵⁶

⁵¹ Peter Binzen, *Whitetown, USA* (New York, 1970), 89.

⁵² Davis, 284.

⁵³ George Lippard, “Preface to the 1849 Edition,” *The Quaker City; or the Monks of Monk Hall* (1849; reprint, Amherst, MA, 1995), 1-2.

⁵⁴ *The Quaker City* may have been the first book to explicitly present urban life in metaphysical terms. Davis, 284.

⁵⁵ Lippard, *The Quaker City*, 48.

⁵⁶ David S. Reynolds, “Introduction,” *The Quaker City*, xxi.



An aerial view of Kensington, the city's principal district of textile mills, ca. 1900. (John MacFarlane, *Manufacturing in Philadelphia, 1683-1912*. Philadelphia, 1912.)

Urban reformers of the nineteenth century responded to these real and perceived conditions by advocating for more sanitary living conditions and recreational opportunities for the working classes. Organizations such as the Octavia Hill Society and the Salvation Army aided poorer immigrant families in finding and maintaining “appropriate” accommodations where they could nurture “healthy” middle class “American” values. In the mid-19th century, the parks movement that affected most North American cities was evidenced in Philadelphia in the form of an effort to preserve some of the rural estates along the Schuylkill River. The establishment of Fairmount Park was viewed in part as ecological reform, whereby the city's immigrants living in crowded, polluted manufacturing districts would be “civilized” through contact with “pure nature” and clean air. Some picturesque country seats were transformed into garden cemeteries, accessible to the middle and working classes seeking temporary refuge from the congested and polluted city. Even in crowded industrial neighborhoods, reformers succeeded in establishing small parks with winding paths and picturesque plantings. For people who saw factories and manufacturing

districts as environmentally, socially, and morally polluted, nature was the great alternative, purifying force working against the ills of the city and its machines.

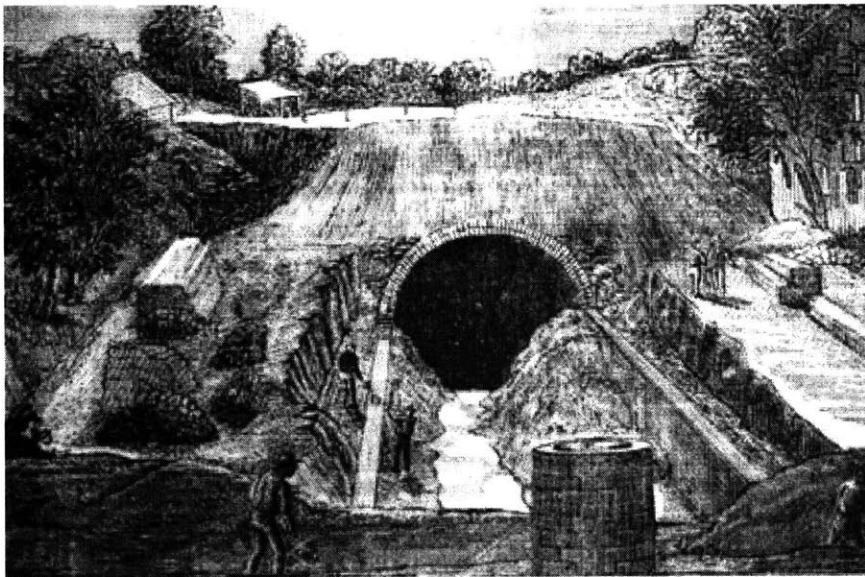
The City vs. Geology

Tensions between nature and the city in nineteenth century Philadelphia stretched beyond the ambiguities of machines and the dichotomy of contaminated factory districts and restorative parks. The physical development of the city itself embodied two great contradictions. First, the rectilinear grid of streets that extended across most of the city's 130 square miles of land was in sharp contrast to the natural landscape of rolling hills, valleys, and creeks that it covered. Second, while nineteenth century Philadelphia's middle and laboring classes overwhelmingly occupied single family homes and enjoyed relatively high rates of homeownership, those homes rested on shaky ground, literally and figuratively.

When the city's engineers turned to planning the growth of its neighborhoods, they relied on the grid as a rational mode of ordering their city. Though bent in some places and ignored in others, the grid proved to be a remarkably efficient mode for organizing the physical growth of the rapidly expanding industrial city in the 19th and 20th centuries:

For people who understood trade as a system, an economically effective urban space was one of connection and comprehensive order. The age-old grid became an emblem of the systematic character of the city. ... Every site had an address that could be mapped within the larger whole and in relation to every other site. In nineteenth-century terms the grid permitted separation and classification of urban activities. Its co-ordinated independence was the spatial equivalent of political republicanism's co-ordination of individual and community, but it also commodified space, making it possible to assign each parcel a value comparatively and to sell it.⁵⁷

The gridiron of streets initially laid out by Thomas Holme was extended far to the north and south; it was even transported across the Schuylkill River to subdivide the farmlands of West Philadelphia. Where the Delaware River and the road to New York turn to the northeast, about one mile north of the city's center, the grid was eventually shifted on a diagonal axis to lay out the neighborhoods of Northeast Philadelphia. The great majority of the city's land was divided into rectangular plots where houses, workshops, stores, and churches were built in attached rows. The streets and buildings of the grid even covered creeks such as the Cohocksink, Wingohocking, and Wissinoming, which were channeled into man-made pipes and their valleys filled with dirt to make level areas for construction. Other than the Delaware River and a few steep hills to the northwest, there was seemingly little to bound the expansion of the grid. The natural ecology of Philadelphia was largely ignored by the urban grid that blanketed its 130 square miles.



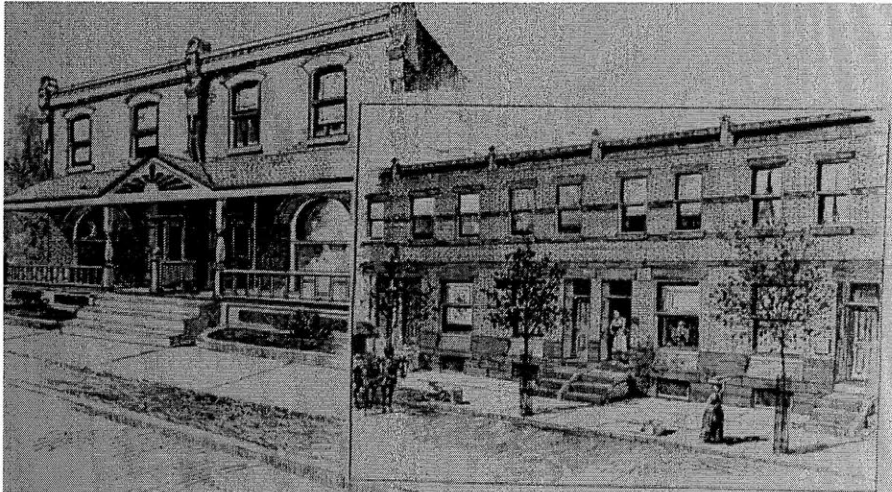
West Philadelphia's Mill Creek is channeled into a sewer while its floodplain is filled with dirt. (West Philadelphia Landscape Project, <http://www.upenn.edu/wplp/project/mchydro.htm>, visited 12/15/99.)

Within the grid, the city's large land area facilitated the development of rowhomes of two, three, and sometimes four stories rather than the taller tenements and apartment houses of Manhattan and the Bronx. In 1890, fewer than two percent of all Philadelphians lived in multifamily

⁵⁷ Dell Upton, *Architecture in the United States* (New York, 1998), 197.

housing.⁵⁸ The technological and cost efficiency of building row houses kept their cost down; and the city's industrial prosperity made for a relatively well paid working class, many of whom owned their own rowhomes.⁵⁹ Kensington was the site of the nation's first building and loan association; and in 1893, city booster Frank Taylor touted the civilizing qualities of the city's working class housing system:

When one pauses to consider that Philadelphia has over 1,150 miles of streets of which probably 800 miles are paved; that she has about 400 miles of sewers, and over 26,000 gas lamps in addition to electric lights, ... an additional reason for extensive building presents itself. ... Over 121,000 citizens own land. ... A plot of grass in front and a bit of clay in the rear of his two story brick house gives play room to the workingman's children...; the cosy bath room insures cleanliness and health; the numerous closets, the stationary stands, sinks, book-cases and wardrobes help furnish the house, and the little range in the kitchen completes the home that even the most lowly Philadelphian may reasonably hope to own. ... The two-story dwellings of this city are, beyond all question, the best, as a system, not only owing to the single family idea they represent, but because their cost is within the reach of all who desire to own their own homes. ... They typify a higher civilization, as well as a truer idea of American home life, and are better, purer, sweeter than any tenement house system that ever existed.⁶⁰



Typical two-story Philadelphia rowhomes. (Taylor, 83.)

⁵⁸ Mary Ellen Hayward and Charles Belfoure, *The Baltimore Rowhouse* (New York, 1999), 86.

⁵⁹ Philadelphia had the highest percentage of families with more than one breadwinner among all North American industrial cities. In the 1880s, rising wages, 60-hour workweeks, and a high proportion of skilled laborers (relative to other industrial cities), brought the city's working families increased savings which they often invested in homes of their own. Gladys Palmer, *Philadelphia Workers in a Changing Economy* (Philadelphia, 1956), 29; George E. Thomas, *William L. Price: From Arts and Crafts to Modern Architecture*, manuscript (forthcoming: New York, 2000), 23.

⁶⁰ Frank H. Taylor, *The City of Philadelphia as it Appears in the Year 1893* (Philadelphia, 1893), 82-84.

However, not all of these houses were as sturdy or healthy as their image might suggest. The speed of the city's development in the decades following the Civil War, in part justified by increased immigration from Europe, "was accompanied at times by dangerously shoddy building practices particularly in North and West Philadelphia. ...wood shims supported brick party walls; blocks of houses were built above flimsy brick culverts containing underground streams; walls became thinner to the point of collapse."⁶¹ Their speculative developers sacrificed quality for speed and profit, and their builders paid little attention to the underlying geology of the city.⁶² Homes and streets constructed over bodies of water, loose fill under houses built in floodplains, and weak building structures in some ways laid the seeds of physical decay in the inner city.

The industrial city was unsustainable for more than its environmental liabilities. Architectural historian George Thomas has argued that "the rows of North Philadelphia were built at the outer limits of fashion, and like everything a la mode, they went out of fashion ... quickly. ... Every decade for half a century after 1850 some new district in North Philadelphia arrived, and an older neighborhood was stigmatized as being 'old-fashioned.'"⁶³ Furthermore, the city's vast tracts of rowhomes made for a monotonous landscape with little variety in its housing stock, a condition that would hinder the housing market's ability to weather downturns in demand for row housing. Much of industrial Philadelphia was not built to last, in environmental, economic, social, and stylistic terms alike.

⁶¹ Thomas, "Architectural Patronage," 90.

⁶² Lewis Mumford makes a similar argument about American architecture, more generally, in *Sticks and Stones: A Study of American Architecture and Civilization* (New York, 1924). Many of the same speculative investors who developed Philadelphia's poorly constructed nineteenth century housing controlled major urban ecological systems through the Water Department, the Philadelphia Electric Company, and the Gas Works. In the words of Lincoln Steffens, turn-of-the-century Philadelphia was "the worst-governed city in the country ... corrupt and contented" in its political and social order which in many

Debates about investment and the fate of communities often focus on the initial character of development or the sustainability of that investment. Explanations of the “urban crisis” of the twentieth century tend to point to the ways in which housing and job markets were manipulated in favor of particular places and groups of people. The nature of initial growth in industrial Philadelphia must be weighed as part of the story of its subsequent decline, as well. Conversely, it is too convenient and simplistic to read a foreshadowing of ecological disaster and economic decline in the environmental degradation of the air, water, earth, and inhabitants of the city by its dye works, iron foundries, coal-burning plants, and the builders laying its sewers and burying its streams. While the seeds of disinvestment were not all sown by the nineteenth century’s polluting industries, rigid grid plan, and environmentally irresponsible building practices, both the “nature” and the nurture of investment in the city matter to its ecohistory.

During the nineteenth century, tensions between the beneficent aspects of the industrial economy and its environmental consequences were expressed in visions of machines as ameliorating or polluting “man’s social condition.” The parks movement’s alternative to the moral and ecological depravation of factory districts was much like William Penn’s vision of his city – a more spacious environment of ample picturesque open space capable of restoring a dreamed natural peace and order to the city and its populace. In the twentieth century, contradictions between the topography and hydrological systems of the Delaware Valley and industrial Philadelphia’s planning and building practices would eventually prove just as striking, as the city’s economy and industrial neighborhoods declined and decayed.

ways was reflected in its ecological order. Lincoln Steffens, “Philadelphia: Corrupt and Contented,” *McClure’s Magazine* 21 (July 1903), 249.

⁶³ Thomas, “Architectural Patronage,” 114-116.

4 – The Pastoral and the Ghetto

In the twentieth century, the enduring dichotomy of the inner city versus the suburbs was amplified to unprecedented proportions. While the region's population increasingly inhabited residential suburbs conceived in a pastoral image of people living comfortably in idyllic natural surroundings, the industrial city declined and developed vast, decaying ghettos. In the suburbs, however, the pastoral ideal held uneasy, ambiguous meanings, as the farmland and open space suburbanites moved out of the city to enjoy was obliterated by further development. The inner city, meanwhile, developed a frightful real and imagined ecology wherein nature came to be viewed as a threat to healthy living environments.

Suburban Legacy

Read between the lines, and you can find in pastoral some useful hints about how to strike a balance between nature and culture. Read the lines themselves, and you can learn a lot about what not to do. Though pastoral is an art of evasion, it is also an art of disillusion: of the slow sinking in of reality.

- Evan Eisenberg, *The Ecology of Eden*⁶⁴

Since at least the age of William Hamilton, John Bartram, and their better known contemporary Thomas Jefferson, the suburban or rural homestead epitomized the American anti-urban pastoral ideal – a realm where man and nature could live in harmony, somewhere between the city and the wilderness. In the mid-nineteenth century, landscape architect Andrew Jackson Downing and his colleagues made the suburban cottage home and gardens accessible to the upper middle class,

while people who could afford weekend streetcar rides would tour Fairmount Park and the city's garden cemeteries. Pastoral living and dreaming was, in large part, an art of escape from the city and the realities of society's exploitation of natural resources. As real wages and the American middle class grew rapidly during the early and mid-twentieth century, real estate developers successfully marketed the further colonization of the suburban frontier of the ever-expanding metropolitan fringe of the divided metropolis. The transportation technologies of streetcars and later automobiles facilitated the sprawl of the growing region. In this way, the tension between visions of machines as ameliorating and destroying environments and lifeways was perpetuated.

When novelist, playwright, and journalist Christopher Morley wrote a popular column for the Philadelphia *Evening Public Ledger* in 1918-1920, he described the region's geography in terms of class divisions:

[Philadelphia] is a surprisingly large town at the confluence of the Biddle and Drexel families. It is wholly surrounded by cricket teams, fox hunters, beagle packs, and the Pennsylvania Railroad. It has a very large zoological garden, containing carnivora, herbivora, scappleivora... The principal manufactures are carpets, life insurance premiums, and souvenirs of Independence Hall.⁶⁵

The Biddles and Drexels were bankers, the latter for the Pennsylvania Railroad. In the leafy Main Line and northwest Philadelphia railroad suburbs such as Chestnut Hill, Rosemont, and Mount Airy, the elite identified themselves with the recreational pursuits of cricket and fox hunting and cricket in their country clubs and natural preserves.⁶⁶ Within the zoo of the inner city, the wild animals and scapple eaters are metaphors for the lower, working classes. (Scrapple is a breakfast meat made of processed pork, served in working class diners and rowhouse kitchens of neighborhoods such as Kensington.)

⁶⁴ Eisenberg, 169.

⁶⁵ Christopher Morley, *Travels in Philadelphia* (Philadelphia, 1920), 4-5.

Beginning in the 1890s, the burgeoning middle class of the city would leave Philadelphia's dense industrial districts in favor of streetcar "suburbs" – most of which were still within the city limits – in such neighborhoods as Oak Lane, Fern Rock, and Cobbs Creek.⁶⁷ "Modern porch houses" were advertised in city newspapers and "marketed through a sales office set up in the... trolley terminal."⁶⁸ By 1910, developer Clarence Siegel was building rowhouses with terraced front yards and rear basement garages in the middle class Cobbs Creek neighborhood of far West Philadelphia.⁶⁹ These communities were becoming the fashionable places for the middle and working classes to live. In the 1920s, Siegel and other developers in West and Northwest Philadelphia began to integrate "luxury" highrise apartment towers with parking garages, picturesque landscaped gardens, roof decks, and tiled swimming pools.

Suburbanization was in part driven by the decentralization of the region's major employers. Between 1906 and 1928, Philadelphia's largest private employer, the Baldwin Locomotive Works, built and moved to a new suburban industrial park in Eddystone, Delaware County, just south of the city limits. The complete construction and transfer to this 600-acre site of one- and two-story factory buildings with 100 acres of floor space, ocean shipping docks on the Delaware River, two rail lines traversing the site, and an eight-story office tower was completed in 1928. This move has been described by the firm's historian as a response to short-term increases in demand for locomotives, coupled with the inability to expand the plant in the Spring Garden industrial district.⁷⁰ However, Baldwin was also pushed out by urban reformers of the City

⁶⁶ The Main Line, along the Pennsylvania Railroad's main line to Pittsburgh, was and remains the Delaware Valley's most affluent suburban zone.

⁶⁷ As early as 1910 Cobbs Creek rowhouse developments were built with garages.

⁶⁸ Christine Hunter, *Ranches, Rowhouses, and Railroad Flats, American Homes: How They Shape our Landscapes and Neighborhoods* (New York, 1999), 193.

⁶⁹ George E. Thomas, *National Register of Historic Places Nomination: Cobbs Creek Historic District* (Philadelphia, 1998).

⁷⁰ John K. Brown, *The Baldwin Locomotive Works, 1831-1915* (Baltimore, 1995), 215, 228, 282 n.112.

Beautiful movement who lobbied to sanitize the Philadelphia's principal district of machinery and metalworking firms by replacing its factories with the city's first parkway.

In place of part of Baldwin's inner city plant and many other foundries, factories, and rowhouses, in 1905 the City Parks Commission had already planned a grand boulevard of trees, flower beds, public institutions, museums, arts universities, shops, and apartment houses modeled after the Champs Elysées in Paris.⁷¹ In 1906, however, Joseph Widener, a real estate developer, politician, and resident of the Montgomery County suburb of Wyndmoor just beyond Chestnut Hill, pushed an act through the Pennsylvania legislature stating that an inhabitant of any county in the Commonwealth could sit on any Parks Commission in the state. The next week, Widener was on the Philadelphia Parks Commission; and he proceeded to hire his own planner, Jacques Gréber, to redesign the Fairmount Parkway (later renamed the Benjamin Franklin Parkway).

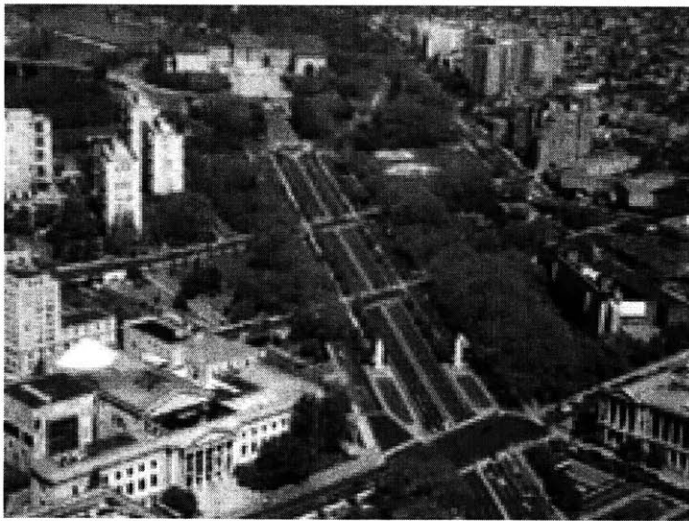


The Spring Garden district in the process of demolition. (<http://www.centercityphila.org/Pages/bfp1.html>, visited 12/11/99.)

Over 1,300 properties in the Spring Garden district were demolished. The museums of the Academy of Natural Sciences and the Franklin Institute, the central branch of the Free Library of

⁷¹ For a broad summary of the City Beautiful planning movement in the United States, see Christine Boyer, *Dreaming the Rational City: The Myth of American City Planning* (Cambridge, MA, 1983).

Philadelphia, and a court building were constructed around Logan Square, one of the five main public spaces of Penn's original grid.⁷² However, Widener and Gréber rid the plan of the four- and five-story apartment buildings with ground-floor shops and restaurants along the remainder of the boulevard between Logan Square and the Philadelphia Museum of Art a mile to the northwest. Much like the later urban renewal of the 1960s, the parkway project demolished many buildings but failed to complete its development plans. The Fairmount Parkway became the first link in Philadelphia's first automobile freeway to the suburbs. It connected Philadelphia's City Hall and downtown office towers, including the Widener Building, to the parkways of the East River Drive and Lincoln Drive, following the Schuylkill River, Wissahickon Creek, and Cresheim Creek through Fairmount Park to Wyndmoor.⁷³



The Benjamin Franklin Parkway in 1998. (<http://www.centercityphila.org/Pages/bfp1.html>, visited 12/11/99.)

In the 1920s, the city laid down a second large parkway allowing the swift movement of automobiles to the newer neighborhoods of Northeast Philadelphia. These wide boulevards facilitated elite and middle class car owners' commutes from downtown offices to their homes in

⁷² David Brownlee, *Building the City Beautiful: The Benjamin Franklin Parkway and the Philadelphia Museum of Art* (Philadelphia, 1989); George E. Thomas, *The Parkway Chronology* (Philadelphia, 1999).

⁷³ Thomas, *The Parkway Chronology*.

the suburbs. By the 1930s, the same men who planned the parkways were sitting on the Delaware Valley's regional planning commission, guiding infrastructure spending and suburban growth in three states (Pennsylvania, New Jersey, and Delaware).⁷⁴

The parkways of the city facilitated the suburbanization of the Delaware Valley, but post-World War II federal mortgage and insurance programs, new highway systems, standardized home construction techniques, and the affordability of private automobiles sparked a much larger boom in suburban development and metropolitan decentralization. With the help of mortgages supported by the Federal Housing Authority and the Veterans Administration, automobile suburbs became affordable and desirable for a rapidly expanding white middle class. The pastoral ideal was accessible for increasing numbers of people.

The Country Clubber

PRICE—\$17,990 • GROUNDS 100 BY 120

Purchaser	Down Payment	*Approximate Monthly Carrying Charges
Veteran	\$1,000	\$112.00
Non-Veteran	4,500	108.00

*Includes taxes, fire insurance, interest, and principal payment.

An advertisement for Levittown, PA, in suburban Bucks County. (<http://levittown.cjb.net/>, visited 12/11/99.)

⁷⁴ Regional Planning Federation of the Philadelphia Tri-State District, *Regional Planning: The Region - Past, Present and Future* (Philadelphia, 1931).

WELCOME

TO

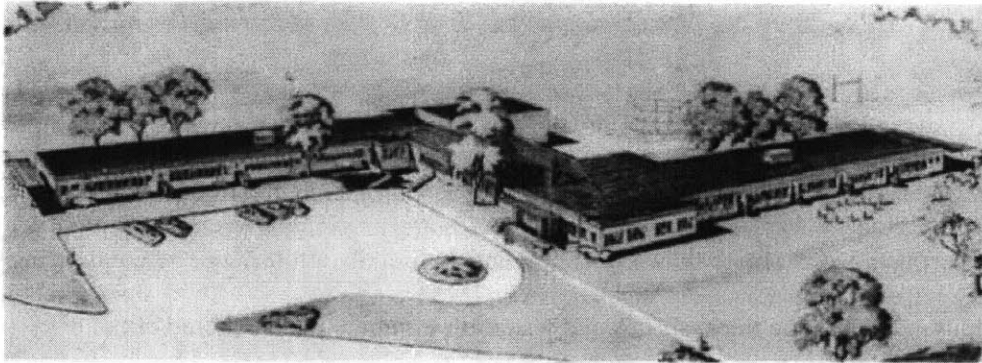
BUCKS

COUNTY

Originally called Buckingham, Bucks County was named for William Penn's home county in England. Here the founder of the Commonwealth established his manorial home, "Pennsbury." It has been restored and is Pennsylvania's foremost shrine. Here George Washington spent many anxious nights as he maneuvered his troops during the Revolution. Here, also, took place the historic crossing of the Delaware.

You are now living in the heart of the gigantic expansion taking place in lower Bucks. You are one of about 75,000 persons who are moving into what is becoming one of the greatest industrial areas of our country.

Yet, it was only a few years ago that your community was a rural area of fertile farmland. Have you wondered what the effect of this fantastic growth has been on the schools? Here are some of the problems your school leaders are facing.



JOHN FITCH ELEMENTARY SCHOOL (BRISTOL TOWNSHIP)
Planned by: Dorothy A. McCollom, Director of Elementary Education; Walter D. Miller,
Regional Superintendent. Howell Lewis Shay, Architect.

An advertisement for Levittown highlights its proximity to William Penn's country estate of Pennsbury. (<http://levittown.cjb.net/>, visited 12/11/99.)

When U.S. Steel announced in 1950 that it planned to build a new mill in Bucks County, promising to create 6,000 new jobs, the need for housing in the area was met largely by the company of William J. Levitt. Levittown, Pennsylvania, was an entirely pre-planned community of 17,311 prefabricated single-family homes on 5,750 acres, built between 1952 and 1958.⁷⁵ All houses shared the same basic floor plan, though they came in five exterior designs (Colonial, Jubilee, Rancher, Levittowner, and Country Clubber) and seven exterior paint colors, interspersed to give an impression of variety.⁷⁶ The tree-lined, asphalt-paved streets of Levittown "were replete with sidewalks, lighting and landscaping, as well as underground water, sewer, telephone

⁷⁵ There were other Levittowns on Long Island and in a New Jersey, between Philadelphia and Trenton.

⁷⁶ Robert Venturi, Denise Scott Brown, and Steven Izenour, *Learning from Las Vegas* (Cambridge, MA, 1972), 154-59.

and electric lines. Such amenities were strikingly new in previously rural Bucks County.”⁷⁷ Levitt did not sell his homes to blacks, and when the first black family did purchase a Levittown house in 1957, neighbors staged large protests that nearly erupted into race riots.⁷⁸ Many of the Delaware Valley’s mid-century suburbs were kept segregated, in part by restrictive covenants, formally written into agreements of sale and mortgages or informally agreed upon by neighbors.⁷⁹

Across the Delaware River from Philadelphia, the new “civic” center of Delaware Township, New Jersey, was the Cherry Hill mall (built in 1961). The mall included 6,000 parking spaces, two major department stores, more than 115 shops, and a “friendly atmosphere where dancing fountains, thousands of exotic trees, shrubs and waterfalls combine in a sheltered climate controlled tropical paradise.”⁸⁰ Just months after the shopping center opened, local residents voted by referendum to rename their community Cherry Hill Township. However, by the early 1970s, the mall was experiencing problems with teen loitering and, more significantly, was losing tenants to newer shopping centers in expanding suburbs on the metropolitan fringe.

The Delaware Valley’s earlier middle class suburbs struggled to sustain the pastoral ideal. Like the housing market of Philadelphia’s rowhouse districts, Levittown was not “ecologically diverse” enough to weather a 1980s downturn in demand for 1950s-style tract homes. “Urban problems” of crime, traffic, and economic decline came to the region’s older suburbs in the last third of the twentieth century, shattering these communities’ dreams of pastoral calm. In

⁷⁷ DVRPC, *The Future of First Generation Suburbs in the Delaware Valley Region*, 17.

⁷⁸ Herbert J. Gans, *Levittowners: Ways of Life and Politics in a New Suburban Community* (New York, 1967), 371-72.

⁷⁹ The 1948 Supreme Court decision in *Shelley v. Kraemer* found the enforcement of race-specific covenants to be illegal; though the decision did not outlaw covenants and did not deter neighbors from organizing to resist integration.); Thomas J. Sugrue, *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit* (Princeton, NJ, 1996), 45; Douglas S. Massey and Nancy A. Denton, *American Apartheid: Segregation and the Making of the Underclass* (Cambridge, MA, 1993), 188.

communities such as Cherry Hill, where earlier cherry and peach orchards had long since been cut down to build tract housing and strip malls, the suburbs remained pastoral only in name. Unsustainable “suburban” development even reached the New Jersey seashore, where luxury beach homes made of flimsy modern materials were built on the loose sands adjacent to the Atlantic Ocean.

The suburbs’ ongoing destruction of the “natural” environments they purportedly strove to capture was perhaps their greatest internal contradiction. People with the means to buy new, more expensive homes often moved out to the new, ever more sprawling suburban frontier, where visions of safety and natural harmony remained momentarily untarnished. Even in these communities “closer to nature,” however, encounters with deer, bears, and other wild animals often place residents on the defensive (or sometimes the offensive) against nature, fighting off the “pests” that help to preserve the “wild and natural” character of their surroundings. Nature in the suburbs retains ambiguous meanings, though within the metropolis as a whole the juxtaposition of the suburbs with the inner city holds greater social, political, and ecological contrasts.

Ghetto Ecology

The decline of the industrial economy, loss of jobs, population, and tax base, and disinvestment in former factory districts had important environmental consequences in the mid- and late twentieth century. In the zoning codes developed by modern city planners, the ecological order of Philadelphia’s industrial districts was condemned as unhealthy and obsolete. In the vast areas of

⁸⁰ 1961 advertisement for the newly-opened mall, cited in DVRPC, *The Future of First Generation Suburbs in the Delaware Valley*, 19.

North, South, and West Philadelphia built in the six decades following the Civil War, much of the inner city became ghetto wasteland inhabited largely by African Americans and Latinos by the end of the century. Redevelopment schemes from the 1950s onward attempted to rid the city of its worst blight, performing ecological triage and occasionally attempting to rebuild the ghetto in the image of the suburbs in order to retain or attract middle class residents and tax base. In much of the inner city, however, Philadelphia developed an “ecology of fear” characterized by vacant, often polluted land, abandoned buildings full of asbestos and lead paint, and homes and streets crumbling and sinking into the creeks and loose floodplain fill undermining their foundations. Nature in the ghetto became more a hazard than a restorative, beneficent force.

In the early 1870s, native Philadelphian Henry George posited a theory to explain industrial depressions that focused on speculation in real estate. Land speculation, he argued, “cuts down the earnings of labor and capital and checks production leads,” causing “a partial cessation of production, and its correlative, a cessation of effective demand, ... generally accompanied by a commercial crash; and then ... a period of comparative stagnation.”⁸¹ The urban environmental dimensions of this process consisted primarily of buildings forgoing maintenance and vacant land awaiting development. During the depressions of 1893-97 and 1929-39, American cities adapted their ecologies to feed and employ people with urban gardening programs.⁸² Philadelphia’s Vacant Lot Cultivation Association operated from the 1890s through at least 1919, “encouraging children to garden and adults to begin for-profit market gardens on lots throughout Philadelphia,” though these proved only temporary measures with little structural or long-term effect on patterns of land use.⁸³ George noted that economic downturns were particularly acute in the absence of an

⁸¹ Henry George, *Progress and Poverty* (New York, 1879 [1979]), 263, 268.

⁸² Warner, *To Dwell is to Garden*, 13-19.

⁸³ Libby J. Goldstein, “Philadelphia’s Community Garden History” (http://www.cityfarmer.org/Phillyhistory10.html#Philly_History).

influx of immigrants to pay rents and consume real property.⁸⁴ These cycles of consumption, decline, and triage are traceable in the industrial economy and housing markets of Philadelphia's decaying industrial districts.

In the heavily industrial districts of Philadelphia, the Great Depression came early: "In 1921 the Philadelphia press reported that more than 80,000 men and women were out of work in textiles, metalworking, and other local industries."⁸⁵ While World War II momentarily revived local firms and the industrial job market, subsequent deindustrialization and restructuring of the global economy sent the city into a long-term economic, social, and ecological decline. As suburban settlements and shopping centers continued to grow throughout the second half of the twentieth century, the inner cities of Philadelphia and Camden lost their residents and their department stores, boutiques, banks, and factories. Urban decline coincided with the Great Migrations of African Americans from the South and Latinos, particularly from Puerto Rico, many of whom were recruited to the region to fill needs for cheap labor.⁸⁶ However, just as the city's good factory jobs became more available to people of color, beginning in the 1960s, those factories began to close en masse. (In the textile trades, Philadelphia's largest sector, many firms in fact moved south to take advantage of inexpensive non-union labor.) Segregated in the city's declining industrial districts, Philadelphia's blacks and Latinos found themselves in decaying ghetto environments.

⁸⁴ George, 276.

⁸⁵ Thomas Heinrich, *Ships for the Seven Seas: Philadelphia Shipbuilding in the Age of Industrial Capitalism* (Baltimore, 1997), 209; *Machinists Monthly Journal* (September 1921), 771.

⁸⁶ Philadelphia's principal waves of African American in-migration occurred during the 1920s and the period from the 1940s through the 1960s. David W. Bartelt, "Housing the 'Underclass,'" in Michael B. Katz, ed., *The 'Underclass' Debate: Views from History* (Princeton, NJ, 1993), 126.



William Cramp and Sons' abandoned shipyard in Kensington, 1936. (Philip Scranton and Walter Licht, *Work Sights: Industrial Philadelphia, 1890-1950* [Philadelphia, 1986], 235.)

Beginning particularly in the 1930s, urban planning and policy contributed to metropolitan decentralization and the decline of inner cities in important ways. The Home Owner's Loan Corporation (HOLC), signed into law in 1933, refinanced tens of thousands of mortgages in danger of default due to the Depression. However, its real estate appraisers redlined most of the city's older industrial districts, deeming them unsuitable for lending due to "age, obsolescence, and change of style; expiring restrictions or lack of them; ... detrimental influences in a pronounced degree, undesirable population [blacks or Jews] or an infiltration of it."⁸⁷ The Federal Housing Administration and the Veterans Administration adopted HOLC's appraisal standards for insuring mortgages nationwide, denying publicly backed financing to residential

⁸⁷ Buzz Bissinger, *A Prayer for the City* (New York, 1997), 205.

rehabilitation or home start-ups in older urban areas, particularly those with black or multiracial populations.⁸⁸

Philadelphia adopted its first zoning code in 1933, nearly a decade later than most other large American cities. In the early years of the twentieth century, the discipline of American urban planning was developing in part as a response to the congestion, poverty, and frenzied real estate speculation of urban environments. Congestion hindered business and the flow of goods, the poor were often viewed as a threat to the class structure, and barely regulated real estate practices frequently led to “unsanitary” living conditions. Planners responded with zoning, and city planning departments “became the nerve center[s] for the system of scientific management.” With their new tool for the separation of “conflicting” land uses, bureaucrats could thus plan and manage the growth of an ecologically rational city. In Philadelphia, however, zoning codified an already-segregated city built by developers who organized conferences to determine their own standards of practice more than a decade before the public zoning code was passed. Within this city and its hierarchy of land uses, the factories that formed the backbone of the city’s economy were “nuisance uses,” not to be mixed with sanitary zones of residence. The city’s industrial neighborhoods were becoming obsolete in the logic of the emerging discipline of regional science.

In the 1950s and 1960s, federal urban renewal and public housing programs were aimed at reforming the “obsolete” industrial ecology of inner cities and upgrading housing for their low-income residents. Already in 1942, however, the city’s first public housing project for African Americans, Richard Allen Homes, set the standard for discriminatory segregation of blacks in the

⁸⁸ Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York, 1985), 190-218.

ghetto. This 27-acre, 1,324-unit complex of low-rise apartments was a slum clearance project “designated to rehouse blacks in the heart of North Philadelphia’s growing black neighborhood. The homes were located many long blocks from the bulk of good wartime jobs in the Navy Yard, Cramp Ship, Budd, or Midvale Steel” in South Philadelphia, Kensington, and Germantown.⁸⁹



The Fairhill projects, North Philadelphia, constructed 1962, view 1997.

Later public housing projects were largely conceived in the image of French modernist architect Le Corbusier’s vision of a city of “towers in the park.” The towers were built, housing thousands of black families in North, South, and West Philadelphia, but the projects’ “parks” were largely paved over and consisted of basketball courts, playgrounds, and metal or concrete benches. In the 1950s and 1960s, community greening and gardening in Philadelphia became a cause of philanthropic suburban women’s garden clubs that brought window boxes to low-income rowhouse neighborhoods and housing projects. Their programs of beautification and self-help followed the tradition of the urban reformers of the turn of the century. In 1961, with different

⁸⁹ The Allen project was sited in an area already heavily populated by blacks, thus minimizing potential resistance by white neighbors. Thomas H. Coode and John F. Bauman, *People, Poverty, and Politics*:

motives but similar results, the city government “decided to get control of its tax-delinquent parcels, in part to keep them from becoming nuisances, and in part to use them to establish a land bank for later public use and development.”⁹⁰ In an early effort at involving citizens in formal neighborhood planning, the Redevelopment Authority hired a social worker to involve neighbors in building small parks and play spaces in vacant lots.

The largest urban renewal project in the ghetto was the Yorktown slum clearance project on 153 acres in North Philadelphia. Yorktown replaced rowhouses built in the 1880s and 1890s, which “had been subdivided many times, often with inadequate plumbing and electrical adaptations,” with new homes marketed to middle-class blacks.⁹¹ Many of Yorktown’s more than 600 single-family rowhouses were arranged around cul-de-sacs and raised on terraced lawns, with patios and attached garages or parking pads. Built by a private developer in the 1960s and early 1970s following Redevelopment Authority land assemblage and clearance, Yorktown houses came in four types: the Adams, Jefferson, Lafayette, and Cornwallis. While these homes’ architectural form resembled that of the earlier (intra-city) suburbs of Cobbs Creek and Oak Lane, the marketing of Yorktown’s houses and community followed the model of Levittown and its suburban contemporaries. The Yorktown Community Organization drafted protective covenants detailing voluntary though preferred standards for garden maintenance, garbage disposal, and use of driveways, which were distributed to families as they moved in.

Urban renewal, however, did not stem the decline of Philadelphia’s formerly industrial neighborhoods, as firms and middle class residents continued to leave the city. In the 1970s,

Pennsylvanians during the Great Depression (Lewisburg, PA, 1981), 217; John F. Bauman, *Public Housing, Race, and Renewal: Urban Planning in Philadelphia, 1920-1974* (Philadelphia, 1987), 69.

⁹⁰ Warner, *To Dwell is to Garden*, 21-22.

Philadelphia's industrial economy bottomed out, losing 100,000 manufacturing jobs in that decade alone.⁹² In the 1970s, much of the industrial American Northeast and Midwest became known as "the Rustbelt." Cities in the Rustbelt were gritty, decrepit, and dangerous, and their names evoked a sense of environmental and social decay and depression in the popular American imagination. As the New York Yankees were en route to winning the 1978 World Series, television cameras panned across the Bronx, where viewers could see the homes of the city ablaze. Detroit's homes and factories were also torched, often for insurance payments to make up for owners' inability to sell their property at an acceptable price - or sometimes at all (a practice common to older industrial plants and homes throughout the Rustbelt). Even the Cuyahoga River in Cleveland, saturated with oily waste, caught on fire.

The ecological inheritance of the industrial era came back to haunt the inner city, particularly as environmental sciences and movements highlighted the hazards of residual pollution from plants, many of which had long since closed. The 1978 Love Canal scandal, in particular, raised inner city residents' awareness of the contaminated soils, water, and air in their communities. For inhabitants of Philadelphia's most distressed ghettos, however, there was much more readily visible evidence of environmental decay. Abandoned factories, homes, and stores lay vacant and crumbling, only sometimes boarded up to prevent further damage by weather and human use. Some poor people began to scavenge vacant buildings for scraps of metal and other materials that they could resell to junk yards for cash, sometimes dismantling structural elements and thereby hastening the decay of the built environment. In 1970, the City counted 25,000 abandoned

⁹¹ City of Philadelphia Office of Housing and Community Development, *Learning from Yorktown* (Philadelphia, 1996), 1.

⁹² The city lost over 85% of its factory jobs between 1947 - when nearly half of all jobs were in manufacturing - and the end of the twentieth century. Licht, 13; Scranton, "Large Firms and Industrial Restructuring," 423.

residences, most of which were concentrated in the older industrial neighborhoods.⁹³ Property owners burned their buildings for insurance, and suburban contractors dumped waste in vacant lots. As it hemorrhaged tax base, the city struggled to keep up its streets and water, sewer, and electric lines; backed-up sewers and exposed electrical lines were common in its older neighborhoods. During the 1970s, most of the street trees in the ghettos of North, South, and West Philadelphia died, many of them burned or cut down by vandals; no longer could one measure the seasons by the color of the leaves.⁹⁴



Diamond and American Streets, North Philadelphia, 1998.

Within what sociologist Elijah Anderson has termed the “hyper-ghetto,” street-corner cocaine and heroin emporia have contributed to the inner city’s decay, particularly in the 1970s through

⁹³ “In the inner cities: acres of abandoned buildings,” *U.S. News & World Report*, 68 (26 January, 1970), 54-56.

⁹⁴ Bruce Kuklick, *To Every Thing a Season: Shibe Park and Urban Philadelphia, 1909-1976* (Princeton, NJ, 1991), 176.

1990s.⁹⁵ Vacant houses, overgrown lots, and abandoned cars serve important functions in the illicit economy: dealers stash their drugs, guns, and cash; users smoke, snort, shoot up, and sleep; and prostitutes turn tricks to pay for their next fix. The coming of crack, in particular, altered the social fabric and the ecology of North Philadelphia dramatically, as crack houses became common and addicts came to care little about their surrounding environments.



Tenth and Dakota Streets in North Philadelphia, 1998.

The mass media's coverage of drug activity, crime, and neighborhood decay helps to construct a part-real, part-imagined "ecology of fear" in the ghetto that serves to isolate it further from the more affluent communities of the region.⁹⁶ The city's main daily newspaper, the *Philadelphia Inquirer*, has labeled the inner city's most depressed and vacant ghetto, North Philadelphia, "the Badlands," a reference to a decaying industrial landscape inhabited by poor people, some of whom engage in a violent drug economy. In one particularly colorful feature, *Inquirer* staff

⁹⁵ Elijah Anderson, *Code of the Street: Decency, Violence, and the Moral Life of the Inner City* (New York, 1999).

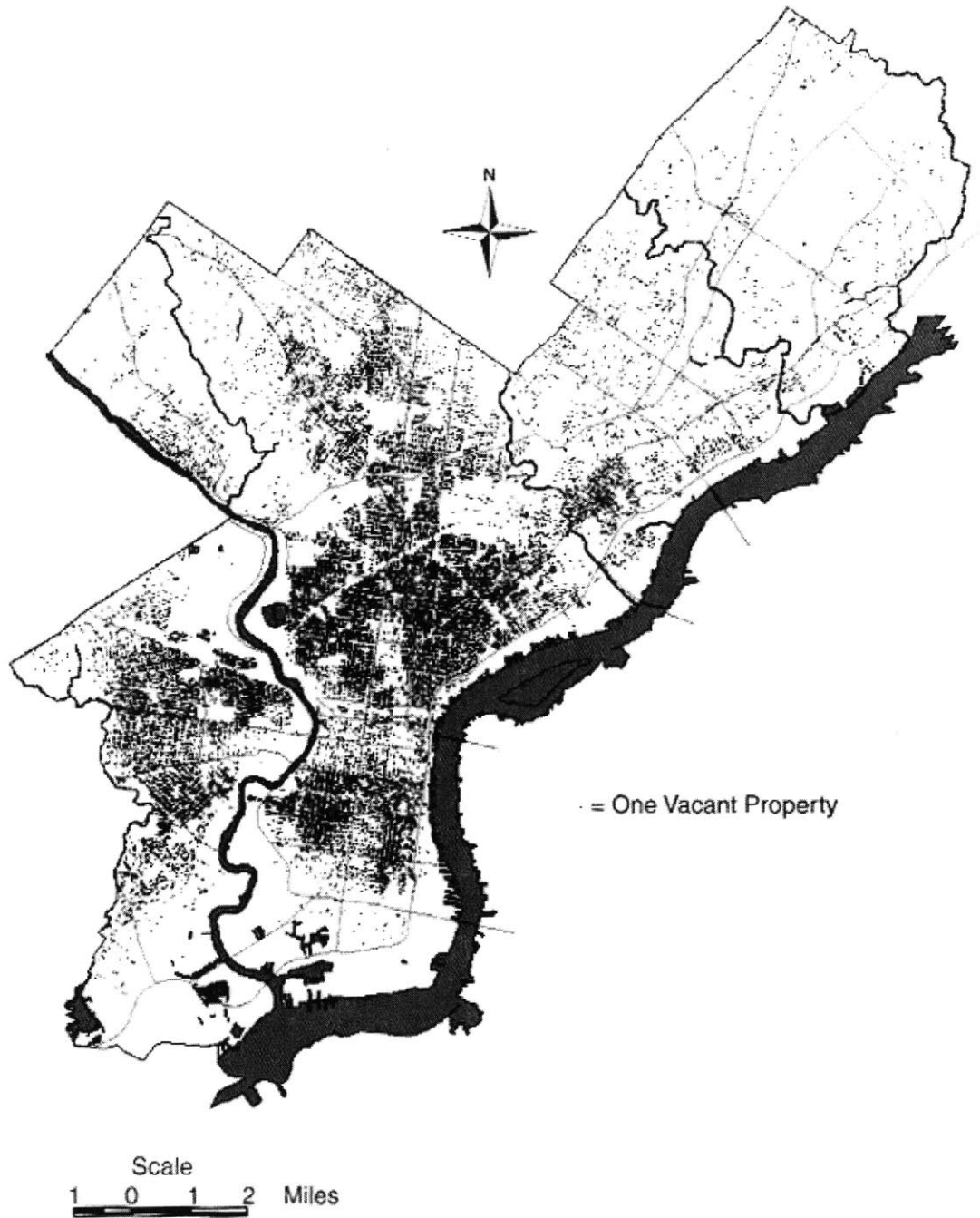
writer Alfred Lubrano details the otherworldliness of “the place [police and residents] call Oz”:
“So many people look hollow-eyed and starved, hungry and lean. ... Gunshots are a constant counterpoint to the salsa music that spices the air at night. ... Graffiti, the shorthand of chaos, covers everything.” The animal life of “Oz” includes pitbulls, tigers, alligators, and ostriches that drug dealers keep as pets. The street sign of Hope Street has had its “H” graffitied over with a “D.” “Crime used to be more specific out here,” says one police officer interviewed by Lubrano. The writer concludes, “cops can’t cool the hot zone. Crime, social scientists know, needs a place to breed, some brackish waters that nourish the germs and diseases.”⁹⁷

While much press coverage of ghetto ecology is overly sensationalistic, there is a very real ecology of fear in many areas of the city. With their vast supply of vacant buildings, including an estimated 27,000 houses citywide in 1997, many Philadelphia neighborhoods require aggressive demolition programs to rid them of unsalvageable, hazardous buildings. Demolition is an important tool for clearing land for future development and combating public health problems such as rats and drug dealers and addicts who use vacant buildings. Vacant property problems are not likely to be solved by federal funding from a suburban-dominated Congress, a Pennsylvania State Legislature in which urban representatives are a small and isolated coalition, or by the private real estate market. The city’s demolition budget has grown considerably in the 1980s and 1990s, though the Department of Licenses and Inspections still cannot keep up with the decay of houses and factories.⁹⁸

⁹⁶ Myron Orfield, *Metropolitica: A Regional Agenda for Community and Stability* (Washington, DC, and Cambridge, MA, 1997), 76.

⁹⁷ Alfred Lubrano, “Violence and Drugs Rule in the Place They Call Oz,” *Philadelphia Inquirer* (1 January, 1998), A1, A21.

⁹⁸ OHCD, *Vacant Property Prescriptions: A Reinvestment Strategy* (Philadelphia, 1996).



Map of Philadelphia's vacant homes, 1999. The dark area in the middle of the city is North Philadelphia, with Kensington along the Delaware River to the east. The dark area towards the bottom is upper South Philadelphia; and the area in the left center area of the map is West Philadelphia. Downtown Philadelphia, the area of William Penn's original grid, is the rectangular space between these three areas. (Office of the City Controller, City of Philadelphia, *Philadelphia: A New Urban Direction* [Philadelphia, 1999], 186.)

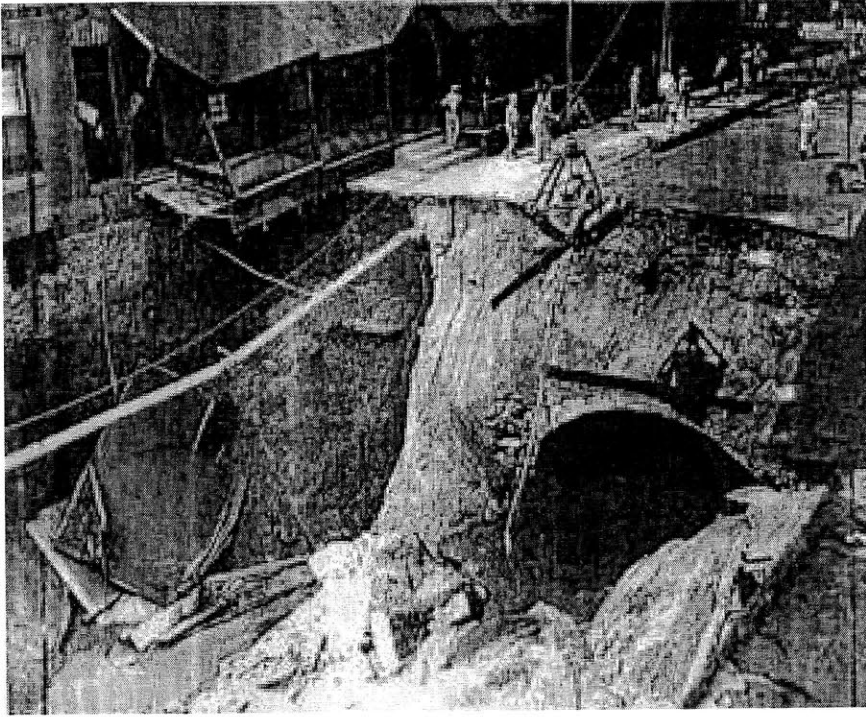
The origins of Philadelphia's problems of vacant property and decaying ghetto environments lie not only in post-World War II economic decline. Much of the inner city's ecology of fear may be attributed to nineteenth-century planning and building practices that contradicted the geology of the Delaware Valley. Throughout most of the twentieth century, neighbors and city departments have battled the forces of nature below the streets and homes of low- and moderate-income rowhouse neighborhoods.

Mill Creek, in West Philadelphia, swallowed cars, trucks, rowhouses, and people in major collapses in the 1930s, 1950s, and 1960s.⁹⁹ "In August 1959, Patrolman Joseph Reiss was swept into a cave-in above [the creek of] Gunner's Run at Fifth and Clearfield Streets in North Philadelphia. His body was found two miles away, where the creek-turned-sewer meets the Delaware."¹⁰⁰ In 1980, two homes on Palethorp Street in West Kensington "buckled and collapsed" after standing vacant for several years. "I called the city," one neighbor told reporters, "I've called everybody. They never done nothing... tonight it caved in. Little kids play in there. It's just a good thing they weren't in there tonight; they would have been buried."¹⁰¹ In 1986, the City condemned nearly 1,000 homes built between 1910 and 1920 on fill over the Wingohocking Creek in the Logan section of upper North Philadelphia. Declared a "disaster area," more than 800 homes have been demolished in Logan. The Army Corps of Engineers has spent several years studying the geology of Logan and adjacent Feltonville to determine what can be done to stem further sinking and whether anything may be built in the area again.¹⁰²

⁹⁹ In the Mill Creek neighborhood, landscape architect Anne Spirn has mapped patterns of vacant land and housing that correspond strikingly to the underlying geology. Swaths of vacancy and abandonment follow almost exactly the path of the buried creek and its flood plain. Spirn, *The Language of Landscape*.

¹⁰⁰ Maria Panaritis and Peter Nicholas, "Identifying potential trouble spots is a daunting task. Attempting to fix them is even more difficult. What's under your home?" *Philadelphia Inquirer* (11 July, 1999), A1.

¹⁰¹ Christopher M. Hepp, "2 Homes Cave In, Stir Fear," *The Evening Bulletin* (21 May, 1980).



Fill, homes, and street over Mill Creek cave in, ca. 1930. (West Philadelphia Landscape Project, <http://www.upenn.edu/wplp/project/mchydro.htm>, visited 12/15/99.)

By 1997, the city had an estimated 16,000 vacant lots; and an average of twelve houses per month were falling down “on their own” in the city’s older neighborhoods, as the Department of Licenses and Inspections’ demolition budget remained inadequate to address the scope of the city’s decay. A disproportionately large number of houses caved in where rowhomes had been built over buried creeks and in their floodplains. Water still flowed through the fill below these homes, undermining their structures and causing long-term sinking - visible in cracked walls and crooked porches and roofs all across the city. In 1999, 25 homes built in the 1920s over the Wissinoming Creek in lower Northeast Philadelphia were evacuated after Water Department crews botched repairs to the underlying culvert. In all of these incidents, residents and the press tended to blame the City (and sometimes neighbors) for negligence and poor maintenance. The

¹⁰² Herbert Lowe, Rep. Brady Tours Sinking Homes in Feltonville,” *Philadelphia Inquirer* (11 December, 1999) B1.

notion that homes should not have been built (or purchased) over bodies of moving water and loose fill was rarely entertained. The Water Department and the Department of Streets were surely at fault in certain cases, but more significantly, the irresponsible city-building practices of the industrial era had come back to haunt the city's rowhouse neighborhoods.



Detail of Philadelphia streets and underground creeks. (Adapted from <http://www.phillynews.com/99/Jul/11/creek11.htm>, visited 12/14/99.)



Marshall Street, in the floodplain of the Cohocksink Creek, North Philadelphia, 1999.

While the pastoral dreams of the suburbs were wearing off in the late twentieth century, the ecology of the inner city had become positively frightening. Tensions remained between visions of nature as a restorative, beneficent force – often further and further from the city in space (the metropolitan fringe) and time (idealized visions of Penn’s green country town). The Philadelphia metropolitan region remains sharply divided, stratified by class, race, and ecology. Neither William Penn’s original charter nor the later constitutions of the United States and the Commonwealth of Pennsylvania have guaranteed a balance of fiscal or human resources between city and suburbs. Nor did these laws protect the land, water, and non-human life of the New World from wholesale exploitation by people seeking pecuniary profit. At the end of the twentieth century, the Delaware Valley resembles Penn’s England in its poor cities with inadequate public services, its concentrations of wealth in the suburbs, and its depleted and polluted natural resources.

There exists great dissatisfaction, particularly among ecological planners and proponents of environmental movements, regarding the environments of sprawling suburbs and vacant, decaying inner city ghettos. Planners, educators, and gardeners in the late twentieth century have continued to work for ideal environments against the ecologies of waste and fear in the Delaware Valley and particularly its ghettos. Philadelphia is home to several model efforts in neighborhood ecological planning and development, though the contradictions of the ghetto and the suburbs, geology and the city, and the continued sprawl of the region's settlements persist. Chapter five considers the practice of environmental planning within the context of historically produced ambiguous and contradictory visions and meanings of urban nature.

5 – Landscapes of Reinvestment

City and regional planning in the Delaware Valley takes place within the historically constructed context of the divided metropolis and its ambiguous ecological order. Planners and policymakers react to the tensions and contradictions between visions and interpretations of communities and their environments as nurturing or dangerous, healthy or polluted. The roles and meanings of nature are alternately good, as in images of gardens, pastoral suburbs, and natural preserves, and bad, as in the cases of residual industrial pollution and homes undermined by creeks. Urban plans and interventions are conceived in part as solutions to the ecological mistakes of the past, or more broadly the problems of humans' relationships with nature. Planners, designers, and gardeners work to envision alternative ecologies in opposition to the problems and risks that they perceive in the natural and built environments of the city and region.

An ecological view of urban planning necessarily integrates global, regional, and local environmental concerns. Some people interpret emerging problems of overpopulation, resource depletion, and global warming as signs of a shift towards a period of worldwide crisis of ecology and economy.¹⁰³ Whether or not a long-term crisis looms on the horizon, environmental adaptation poses the next great challenges for the modern capitalist experiment launched in the colonial era and rationalized in the technological, social, and ecological order of the industrial age. This chapter explores visions and practices of environmental planning in late twentieth century Philadelphia, examining efforts at the regional and neighborhood scales separately.

¹⁰³ Optimists note that modern medicine, the new “hydrogen economy,” and other technological “fixes” may represent tools for avoiding overwhelming a next great wave of global ecological crisis. David Hackett Fischer has documented a “great wave” of remarkable peace and economic growth in the second half of the twentieth century; which may be followed, in his scenario of “great waves,” by a period of crisis. Fischer, *The Great Wave*.

Regional Planning

Like William Penn's seventeenth century England, the twentieth century Delaware Valley has overextended its systems of political and development decision making such that residents of newer, more prosperous settlements are not accountable for the problems they leave behind in older places. Like William Penn himself, some people concerned with regional relationships and ecology desire a more balanced metropolis. However, as with Penn's own regional vision, or plan, there has been insufficient public or private will or means to realize a less environmentally wasteful, more ecologically sustainable region. The "forces" of economic growth have profited from strip mining and burning coal, building cheap homes over creeks, and continuing to construct sprawling suburbs; and "ecologists" have typically failed to argue successfully against these forces' cases for job creation and improvement of "standards of living." Regional planning in the twentieth century has primarily functioned as a tool for rationalizing patterns of economic growth.

At the scale of the region, sprawling suburbs, discarded cities, and management of water and transportation systems represent the greatest environmental challenges. In the suburbs, topsoil is bulldozed for new developments, asphalt blankets former open space, and homes are constructed in floodplains. Sprawl places great pressure on the dairy and grain farms in the Pennsylvania counties surrounding Philadelphia, as well as the fruit and vegetable farms on the New Jersey side of the Delaware River. With voracious suburban development, corporate mergers and buy-outs by out-of-town banks and health care systems, low-income neighborhoods dependent on public subsidies, and a "brain drain" of local college graduates who move to other regions, the Delaware Valley is losing the capacity to feed itself.

Society has gone to great ends to conquer and partake of nature, yet nature has come back to haunt society in the long term. Much like the houses built over Philadelphia's creeks, the luxury beach homes on the New Jersey shore are threatened by the eroding sands upon which they are built.¹⁰⁴ Ecologists' suggestions that there are places on the earth that humans should not build on or inhabit appear lost on modern developers and consumers of land.¹⁰⁵ Planners often advocate "smart growth," a vague term that typically means dense, mixed-use development, permeable ground surfaces that facilitate water filtration, and reuse of older built environments. However, the power structures behind "regional planning" are easily able to foil attempts to implement "smart growth," which is perceived by most developers and investors as unprofitable.

The Delaware Valley Regional Planning Commission's board of directors, which determines transportation spending and "oversees" environmental policy in the region, has been dominated by suburban development interests since its inception in the 1960s. Many of its employees, meanwhile, are sympathetic to environmentalist causes. The same was true of the Commission's predecessor, established in the 1930s, which was led by developers such as Joseph Widener yet employed landscape architects and garden suburb planners.¹⁰⁶ While the planners themselves have often favored ecologically "friendly" agendas, their board has had few or no incentives to reinvest in the inner city and much to gain financially from further exploitation and development of land on the metropolitan fringe.

¹⁰⁴ The salinity levels in the Atlantic Ocean rise and fall in twenty-to-forty-year cycles. During periods of high salinity, hurricanes become more frequent and more violent. Following a period of powerful hurricanes in the 1950s and 1960s, the Atlantic coast saw a great building boom. As a new cycle of high salinity begins at the end of the twentieth century, home insurance companies from Florida to New Jersey are becoming reluctant to issue coverage for natural disasters.

¹⁰⁵ This is perhaps the most important conclusion of Mike Davis' *Ecology of Fear* and Anne Spirn's *Language of Landscape*.

¹⁰⁶ The Delaware Valley Regional Planning Commission descends from the Regional Planning Federation of the Philadelphia Tri-State District.

Regional planners are typically trained in regional science – focusing on transportation, physical geography, and hydrological, atmospheric, and infrastructure systems. In the reports of the Delaware Valley Regional Planning Commission, actual and alternative ecologies are largely envisioned in technical terms. The Commission tracks benchmark statistics about municipal and regional air pollution, waste removal, and farmland preservation.¹⁰⁷ Without the means to make, implement, or enforce land use policy, however, the agency’s role in managing growth is limited to data collection, analysis, and policy recommendations. As technocrats working under a board of directors that is only superficially friendly to ecological concerns, regional planners often find themselves in the position of rationalizing growth patterns or arguing about economic efficiency rather than environmental crises. These internal tensions in the practice of regional planning reflect the enduring contradiction of economic and environmentalist objectives in the ecology of the region.

As practiced in the Delaware Valley, regional planning is overwhelmingly ahistorical. While William Penn’s vision of a “greene Country Towne” is widely known among the region’s populace, his maps and plans for the region remain shrouded in academic historical obscurity. Even the body of regional historical studies of Philadelphia is meager, particularly as compared with the vast amount that has been written on the city’s past.¹⁰⁸ Without an historically-based culture of regional vision – or a cultural conception of the region – regional planning will remain obscure and lacking in public support. In the inner city, where people have fewer means to plan, garden, and partake of nature, there is – perhaps ironically – greater hope for developing healthier

¹⁰⁷ Representative reports include: *Land Use in the Delaware Valley Region 1970-1990 - Analytic Report No. 2* (1994); *Regional Assessment of Farmland Preservation Program* (1990); and *Regional Indicators: Measuring our Progress to 2020* (1998).

¹⁰⁸ Notable exceptions to this dearth of regional history include Cutler and Gillette’s edited volume, *The Divided Metropolis*, which focuses primarily on neighborhoods within the city, and Joseph Oberman and Stephen Kozakowski’s *History of Development in the Delaware Valley Region* (Philadelphia, 1976), which was commissioned by the Delaware Valley Regional Planning Commission yet remains buried deep in the Commission’s archives.

landscapes and cultures of environmental responsibility that learn from history's illustrations of ecological mistakes and opportunities.

Neighborhood Planning

The ghetto is disadvantaged in ecological as well as socioeconomic terms, yet there are important signs of hope for and visions of alternative ecologies. The environmental dimensions of metropolitan inequities parallel the region's patterns of socioeconomic segregation. The distribution of polluted land, air, and water favors new suburbs without older industries and infrastructure, while Pennsylvania's land use and environmental laws allow upstream suburbs to dump their secondary sewage into the creeks and rivers that eventually flow through Philadelphia. In the 1990s, the city's public planners have responded to vacant land problems in the ghetto by initiating efforts to reduce these neighborhoods' built density, a policy that sometimes takes the form of "suburbanizing" the inner city. This practice of decline management runs counter to the standard wisdom of growth management, which encourages growing cities and suburbs to develop more dense communities that consume less land. In a more environmentalist turn, some neighborhood planners advocate returning large parts of vacant ghettos to what they conceive as an earlier, preindustrial ecology wherein floodplains can safely drain and greened spaces attract new residents to the "naturally" healthy city. In part, this represents a desire for restitution to an imagined "stable state" in which the environment of William Penn's "greene country towne" is idealized. However, if this image is used to inspire healthier and more sustainable environments, it may function as a valuable planning tool.

Since the early 1990s, the City Planning Commission and the Mayor's Office of Housing and Community Development's (OHCD) overarching physical planning goal for Philadelphia's ghettos has been the reduction of built density. The rationale for this policy is that, in an area with drastically reduced population and an economy that continues to decline, developing a landscape wherein fewer people live on and take care of larger plots of land may address multiple planning challenges simultaneously. Problems of vacant land may be mitigated if people become stewards for larger parcels, which are typically assembled by combining multiple properties; recreational open space and a diversified housing stock may be developed.¹⁰⁹ Most new houses built in the city's most distressed neighborhoods of North and West Philadelphia during the 1990s have been detached or semi-detached (twin) homes with off-street parking pads, porches, and yards. They are bringing the area into the automobile age, as well as "promoting 'ownership' of open space and allowing for a more visible presence of residents on neighborhood streets."¹¹⁰

The 1990s suburbanization of the ghetto has grown, in part, out of the success of Yorktown in attracting and retaining residents; and initial demand for the new homes has been high.¹¹¹ The leaders of OHCD have argued that a variety of housing types, including suburban-style, detached homes with amenities such as private parking and open space, can work to attract new middle class residents to the area.¹¹² Diversity in the housing stock also enhances the local real estate market's potential to weather changes in consumer preferences for different housing types and architectural styles. In part, this approach to community development is thus working to overcome the limitations of nineteenth-century rowhouse Philadelphia's monotonous housing stock and its single-class (low income) community of the twentieth century. Like Yorktown,

¹⁰⁹ None of these designs has been realized yet, though they have inspired area architects to think differently about rowhouse design. OHCD, *Neighborhood Transformations: The Implementation of Philadelphia's Community Development Policy* (Philadelphia, 1997), 68-70.

¹¹⁰ OHCD, *Proposal for the Cecil B. Moore Homeownership Zone* (Philadelphia, 1996), III/13.

¹¹¹ Thomas Ferrick, Jr., "Hope for the City's Core," *Philadelphia Inquirer* (1 February, 1998), A20.

however, which copied the intra-urban “suburbs” of Oak Lane and Cobbs Creek, the late twentieth century suburbanization of the ghetto is stylistically a generation behind current suburban development, largely following the design model of Levittown and its contemporaries. Whether the new suburbs of the ghetto prove to be sustainable, in terms of market taste, remains to be determined.



The West Poplar development in lower North Philadelphia, typical of the city’s 1990s “suburbs in the ghetto.” The Cambridge housing project is visible in the background.

The “suburbs” of inner city Philadelphia do have their critics among local residents, environmentalist planners, and aficionados of older rowhouse architecture. For some planners, the reduced density represents a future of environmental and economic liabilities, including dependence upon automobiles and a concentration of population too low to support well-dispersed neighborhood commerce. Others claim that the older, urban form of the city is being rejected in this embrace of suburban forms and images. Some low-income Philadelphians view this middle income housing as evidence of politicians’ and public planners’ desires to gentrify

¹¹² OHCD, *Home in North Philadelphia* (Philadelphia, 1993), 27.

their neighborhoods. Within the context of the ghetto, the ambiguous meanings of this architecture and its pseudo-pastoral suburban inspirations reflect ongoing tensions in the stratification of the region's populations and ecologies.



Vacant lots with high grass and weed trees, with abandoned textile mills in the background, North Philadelphia, 1999.

Similar contradictions persist in people's conceptions of nature in the ghetto, though community-based environmental planning initiatives work to exploit these tensions to positive ends. Camilo Vergara notes that, when acres of the ghetto lie vacant and overgrown with weeds, they are "subtracted from the life of the city."¹¹³ In the human mind, vacant lots typically represent undesirable, potentially threatening nature. Community greening and gardening, however, are processes by which people mold "nature" and vacant land for benevolent purposes. Since creeks, soils, and weather patterns are not simply eradicated by human development, the forces of nature cannot be ignored in even the most urban contexts. Indeed, landscape architects use plants, water

¹¹³ Vergara, 17.

systems, and other natural materials to reshape neighborhoods and regions in environmentally and economically sustainable forms. The decline and decay of Philadelphia's industrial neighborhoods presents opportunities for planners, designers, and residents to learn Anne Spirn's "language of landscape" and mold healthier environments for the future.

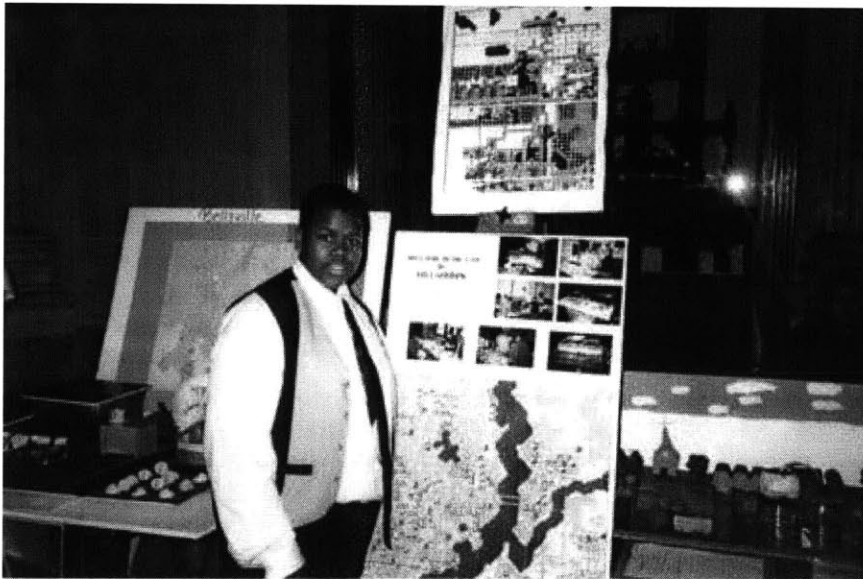
Redevelopment of the ghetto is taken to be "smart" re-growth, in that it encourages relatively dense reuse of older neighborhoods rather than contributing to suburban sprawl. However, the reduced density, automobile-focused environment advocated by OHCD and the City Planning Commission in Philadelphia's ghettos appears to have significant ecological shortcomings. New urban designs that accommodate parking and private space yet concentrate homes, commerce, and institutions in transit-accessible clusters are needed if the ghetto is to develop environments that are simultaneously attractive, efficient, and sustainable. According to Anne Spirn, most designers have yet to learn the "language of landscape":

Architects' drawings show no roots, no growing, just green lollipops and buildings floating on a page, as if ground were flat and blank, the tree an object not a life. Planners' maps show no buried rivers, no flowing, just streets, lines of ownership, and proposals for future use, as if past were not present, as if the city were merely a human construct not a living, changing landscape. Children's textbooks, from science to history, show no nearby scenes, suggest or demand no firsthand knowing, just formulas and far-off people and places, as if numbers and language had no local meaning, as if their present had no past, no future, the student a vessel not an actor. ... The meanings landscapes hold are not just metaphorical and metaphysical, but real, their messages practical; understanding may spell survival or extinction."¹⁴

While Philadelphia is gaining Latinos, Asians, and Eastern Europeans, greater numbers of blacks and whites are leaving for the suburbs. As older homeowners move or die, rowhouses continue to fall vacant. Abandoned houses become empty lots, which can take a variety of forms, from garbage dumps and breeding grounds for rats to off-street parking lots, from havens for drug dealers and addicts to community gardens. Many vacant lots in floodplains are redeveloped with

housing that should perhaps be sited elsewhere, as affordable housing lobbies are generally more vocal and more powerful than environmentalist advocates.

Historically, gardening on urban vacant land in the United States has been viewed as a measure to alleviate temporary economic pressures of depression or war. However, in the last three decades of the twentieth century urban gardening and greening have become more permanent features of city planning. Universities and non-profit institutions have largely led the way in urban horticulture. Landscape architects at Penn State, Temple University, and the University of Pennsylvania have integrated community gardening, education, and workforce development efforts in neighborhoods and institutions throughout Philadelphia, “teaching gardening skills as well as leadership.”¹¹⁵



Middle school students participate in the West Philadelphia Landscape Project. (West Philadelphia Landscape Project, <http://www.upenn.edu/wplp/wpdd/galgardn.htm>, visited 11/28/99.)

Working mostly in North and South Philadelphia, Penn State’s Urban Gardening Program has focused on food production and nutrition in low-income communities since the early 1970s. In

¹¹⁴ Spirn, *The Language of Landscape*, 11.

1975, Temple professor John Collins initiated the Prison Landscape and Nursery Training program (PLANT), which teaches commercial growing techniques to inmates serving short-term sentences at a medium security prison in Northeast Philadelphia. University of Pennsylvania professor Anne Whiston Spirn's West Philadelphia Landscape Project teaches neighborhood environmental history and the technical language of landscape to public school students and develops gardens in the Mill Creek floodplain with neighborhood residents. Philadelphia's leader in community gardening and greening, however, has been the Pennsylvania Horticultural Society's Philadelphia Green program.



¹¹⁵ Warner, *To Dwell is to Garden*, 21-22; PHS, 77.

Aspen Farms community garden, Mill Creek neighborhood, West Philadelphia. (West Philadelphia Landscape Project, <http://www.upenn.edu/wplp/wpdd/galgardn.htm>, visited 11/28/99.)

Philadelphia Green, in collaboration with community gardeners, landscape designers, and planners, has developed a toolkit of community greening techniques that respond directly to the ecological dimensions of neighborhood decline. Options for transforming vacant lots include private side yards and parking pads, pocket parks and playgrounds, and collectively tended gardens. Sidewalks can be greened with window boxes, flower barrels, and street trees.

Philadelphia Green educates children and adults about horticulture through initiatives such as the Tree Tenders program, which teaches people to prune and care for street trees. Initially viewed in terms of betterment and self-help, community gardening has come to be conceived as urban planning; and OHCD allocates operating funds from the city's Community Development Block Grant to support Philadelphia Green's work.

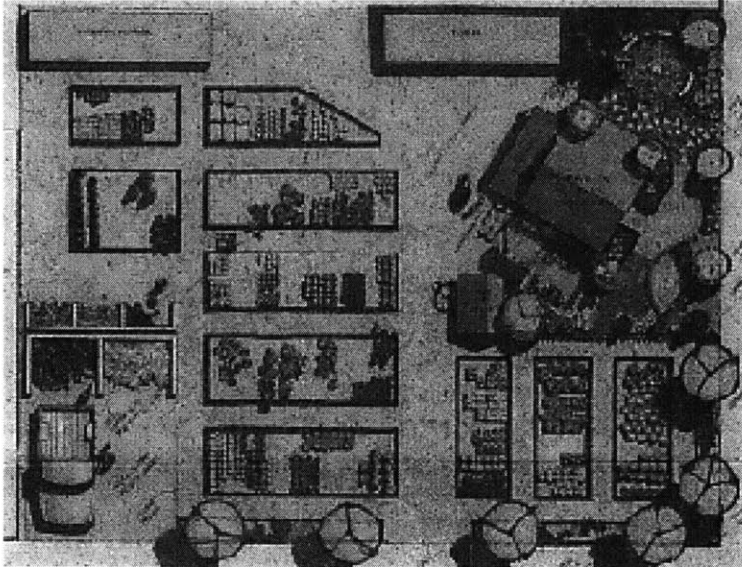
Philadelphia Green provides technical assistance to community groups and residents in community gardening, greening, and open space planning. In 1980, the group initiated its "Greene Countrie Townes" program in low-income neighborhoods with large concentrations of vacant lots and community groups interested in organizing gardens and environmental education projects. The "Greene Countrie Townes" in the ghetto were spacious though not prosperous. They used automobile tires (commonly dumped in vacant lots) turned inside-out as flower pots; and high quality gardening tools and materials were in short supply relative to the suburbs' nurseries and private homes. The "Greene Countrie Townes," however, were effective at involving the inner city's new immigrant groups in community-based efforts to build healthier, more attractive and accommodating environments. Vietnamese, Cambodian, and Latino gardeners have used Philadelphia Green's programs – particularly the "Greene Countrie Townes" – to negotiate their place within the landscapes and ecology of their new surroundings. Planted in North Philadelphia vacant lots, Jardín Paraíso ("paradise garden") is adorned with plywood cut-

outs of Caribbean fauna, while Las Parcelas (“the parcels”) grows pigeon peas and bananas as well as fruits, vegetables, and flowers native to the Philadelphia region. Las Parcelas hosts classes that teach second- and third-generation Puerto Ricans about agricultural and horticultural traditions on the island.

In the mid-1990s, this work took a turn towards more formal planning in the area known as New Kensington. In collaboration with Philadelphia Green, OHCD, and other foundations and city agencies, the New Kensington Community Development Corporation organized an intensive forum for community participation in which residents articulated a comprehensive vision of neighborhood planning.¹¹⁶ Neighbors’ reported their top concern to be vacant lots, and New Kensington’s residents made a commitment to work to transform every lot in their neighborhood. Together with the staff and volunteers of Philadelphia Green, New Kensington’s residents and community planners collected data about local land use, including ownership, physical conditions, and pending demolition, and planned open space networks intended to weave together vacant parcels in a cohesive manner.¹¹⁷ In 1997, a community garden supply center was established with the assistance of volunteers from Americorps and the local chapter of the American Institute of Architects’ Community Design Collaborative. There, gardening classes and festivals are held, free topsoil and wood chips are distributed, and plants are given or sold at deflated prices to residents maintaining community gardens. Where lots in the neighborhood are not readily usable by neighbors, they have been planted with grass and ringed with trees (as opposed to the usual, unsightly concrete highway barriers) to prevent dumping by contractors from outside the neighborhood. Following the model of Boston’s Dudley Street Neighborhood

¹¹⁶ Turnout was high, but only two households in the New Kensington voluntary forums were non-white, in a neighborhood with approximately 25% Latino and African American residents in 1990, a fact that suggests that community environmental planning in Philadelphia is not helping neighborhoods overcome deep-seated racial tensions. (This runs contrary to the claims of Philadelphia Green’s leaders, who present community gardening as a force of social integration.)

Initiative, the city has granted the authority of eminent domain to the New Kensington CDC, which thus holds considerable sway over land use decisions in the neighborhood.



The plan of New Kensington's community garden center. (Community Design Collaborative, <http://www.cdesignc.org/articles.html>, visited 12/13/99.)

Community-based ecological planning has made important contributions to the city's neighborhoods, but despite the severely depressed economies of Philadelphia's ghettos, ecological planning and visions in the inner city cannot escape the tension between environmentalist and economic goals. While working to improve "quality of life" through greening and gardening, community developers and gardeners continually confront the problem of the financial value of land. Vacant land in the ghetto can rarely command enough rent to cover property taxes. Community gardens and formerly abandoned side yards are often afforded tax breaks by the city and thus represent a loss of tax base for public coffers. Community gardening advocates estimated the value of vegetables and fruit grown in the city's over 3,000 community gardens to be \$1,948,633 for the year of 1994, but most of this produce is not sold for profit.¹¹⁸

¹¹⁷ New Kensington Community Development Corporation, *New Kensington 2000* (Philadelphia, 1994).

¹¹⁸ Libby J. Goldstein (<http://www.cityfarmer.org/Phillyurbag9.html>, visited 11/28/99).

Attractive open space can improve property values, but the challenge of making Philadelphia's vacant land a revenue-generating resource remains unmet though apparently imperative.

Some foundations, planners, gardeners, and environmentally conscious entrepreneurs have begun to experiment with ecological economic development. Several seasonal farmers' markets have been established on vacant lots in the city. The Sea Change urban horticulture program has developed a tree and organic vegetable farm on a vacant lot in North Philadelphia, where students from nearby William Penn High School study horticulture and pursue summer internships. Sea Change sells its beets, kale, cabbage, and watermelons to families who buy shares in the produce program; and the Fairmount Park Commission and municipalities around the Delaware Valley purchase street trees from the group. Several initiatives, included some funded by private investors, have experimented with urban agriculture.¹¹⁹ One enterprise grows mushrooms in troughs located in a dark, damp, vacant Kensington warehouse. In West Philadelphia, consumer advocate and activist Lance Haver is developing a "high-tech organic fish farm and hydroponic greenhouse."¹²⁰ The project will cost an estimated \$1.1 million, which Haver is raising from non-profit groups concerned with social and environmental responsibility (he plans to offer his workers a living wage, benefits, and one-third ownership of the company). In all of these cases, the financial sustainability or profitability remains to be tested.

Community-based environmental projects can be short-term entrepreneurial business and workforce development initiatives, but they can also be conceived as broader public reinvestment

¹¹⁹ Howard Goodman, "Down on the Farm in Philadelphia," *Philadelphia Inquirer* (12 October, 1997); Howard Goodman, "Good for the Ground, Good for the Growers," *Philadelphia Inquirer* (13 October, 1997); Howard Goodman, "Amid the Blight of a City, a Bounty of Crops Grows on the Unlikeliest of Soil, a City Group Harvests Produce and Plans to Create Jobs," *Philadelphia Inquirer* (14 October, 1997).

¹²⁰ Eils Lotozo, "West Philly Fish Business Spawns Cash," *Philadelphia Weekly* vol. 28, no. 34 (25 August, 1999), 12.

policy with potential long-term economic benefits. Gardening, greening, and open space management are perhaps the most appropriate tools of physical decline management in a cityscape where vacancy and pollution are the greatest environmental problems. Civic speculation, or land banking, wherein publicly owned land is saved for future development in presumably more prosperous times, can help the city avoid unneeded development and assemble larger, more saleable parcels for big projects. Pollution remediation, gardens, recreational open space, and off-street parking can enhance safety and health, eventually making the city's neighborhoods more marketable to middle class families who can boost the local tax base. Philadelphia's gardening and greening education programs foster citizen stewardship of the urban environment, taking some of that burden off of public authorities. Over the long term, environmental planning has the potential to profoundly affect the economy and life of the city. However, this requires coming to terms with the enduring contradictions between economic and environmentalist goals, as well as the historical legacy of dreamed ideals and ecologies of fear.

Reinvestment through greening is a mode of reinvestment with deep psychological and practical roots. Philadelphia Green traces the city's horticultural heritage to William Penn's vision of what its directors term a "Greene Countrie Towne" (a nostalgic linguistic twist on Penn's "greene Country Towne").¹²¹ Many planners advocate returning the city's neighborhoods to what they view as an earlier ecology with more plants and open space and fewer buildings. The image of an idealized past environment sustains planners' visions of alternative ecologies for the future. However, there are also compelling scientific, economic, and social reasons to remediate the mistakes committed by the urban developers of the industrial era; and these must be integrated with people's conceptions new ecologies. Not building or paving over vacant lots in the

¹²¹ PHS, 75.

floodplains of underground creeks can improve storm drainage and water quality.¹²² Ridding the city of some of its many streets can reduce exorbitant infrastructure maintenance costs.

Developing productive open space and enterprises using renewable resources, such as tree and fish farms, can help to ensure the sustainability of Philadelphia's economy and ecology. Finally, involving city-dwellers in efforts to maintain and improve their neighborhoods through active engagement in the landscapes around them enhances awareness and stewardship of their environments.



Westminster community garden, West Philadelphia. (West Philadelphia Landscape Project, <http://www.upenn.edu/wplp/wpdd/galgardn.htm>, visited 11/29/99.)

The flexible, fast-changing economy of the postindustrial era accentuates the importance of flexibility in urban ecologies. Land planning practices such as civic speculation, gardening, and greening offer flexible tools for planners and policymakers to accommodate and foster global, regional, and local environmental and economic change. At the level of the community garden, the school, or the prison, families, neighbors, and students can learn Anne Spirn's language of

¹²² Spirn, *The Language of Landscape*, 215.

landscape, its grammar of global environmental processes and its dialects of particular regions' and neighborhoods' ecologies. Philadelphians can thus pursue positive visions of nature in the city with a grounding in scientific responsibility, working to avoid grave mistakes that eventually shatter dreams of healthier, more attractive neighborhoods. At the scale of the region, environmental planning can – but has yet to – lead to more efficient, equitable, and sustainable land use patterns and practices that make the Delaware Valley a safer and more prosperous place to live.

Conclusion

The multiple roles, meanings, and human experiences of nature in the city and region remain ambiguous, often contradictory, and sharply stratified by class (as well as by race and gender). The ecological divisions of the metropolis, the dichotomy of environmentalist and economic goals, and the culture of colonization of the landscape were well developed already in the time of William Penn. In industrial Philadelphia, the tensions between visions of nature and the city were escalated by divergent interpretations of machines and the “machine society,” as well as by the juxtaposition of the rectilinear urban grid and its non-linear underlying geology. The city's decline and the suburbs' continued sprawl have pitted inner city residents against the natural systems they inhabit and highlighted the contradictions of pastoral dreams – principally, their propensity to destroy the landscapes that they idealize. This long history of tensions between idealized and vilified urban nature, environmentalist and economic and social agendas, lives on at the dawn of the twenty-first century; and it is within this context that environmental planning is situated – largely on the “side” of the environmentalists.

Like the relationship of nature and the city, the roles of ecohistory in the present and future are ambiguous and malleable. The unfaltering sprawl of suburbs and community developers' continued attempts to build over inner city creeks suggest that the planners, developers, and inhabitants of the metropolis still have much to learn from the past. It is improbable (and perhaps undesirable) that Philadelphia's suburbs and greened ghettos will shrink and grow to fit William Penn's vision of a "greene Country Towne" in a well-balanced metropolis. However, the power of those images, as a dreamed utopia within the human mind, can and sometimes do have important positive effects on the environment, economy, and communities of the city and region. Community gardening and greening programs, in particular, have helped planners and residents alike begin to learn the language of landscape, and environmental planning has developed valuable tools of decline management. Visions of reinvented environments have the potential to inspire healthier, more sustainable, and even profitable ecologies.

While planners and environmental advocates in the suburbs attempt to manage growth, people in Philadelphia engage in decline management. Recognizing the continuing need to realign the local and regional ecologies of the Delaware Valley, these people often turn to the past to understand the origins of the challenges they face, as well as to borrow from earlier visions of nature and the city. The environmental legacy of William Penn, colonization, and industrial Philadelphia and its decline presents legislative, administrative, and development challenges that point to the deep roots of our environmental, socioeconomic, and political crises and contradictions. Learning from the shortcomings of past plans and development, and exploiting opportunities to realize healthier, more equitable, and more sustainable ecologies is a planning agenda of no small proportions.

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