Urban Environment

Philip V. Scarpino

A trip by automobile from Monument Circle in the heart of Indianapolis to the far reaches of Marion County and on to adjoining counties is a journey past the material signposts of the city's environmental history. A drive north begins in canyons between downtown high rises, home to an experimental introduction of peregrine falcons. It continues into aging streetcar suburbs, some of which have been restored; over Fall Creek, in places channelized between concrete retaining walls; past increasingly recent automobile suburbs; under the I-465 beltway and beyond, where industrial campuses and subdivisions sprout up amid cornfields and crumbling barns. Over 25 miles to the north in Hamilton County, streets in Westfield numbered 165th and higher testify to Indianapolis' past and projected growth. The automobile, the energy it burns, and the roads it travels upon have played central roles in shaping city and country and in contributing to the evolution of their intertwined and symbiotic histories.

It is not necessary to drive out of Indianapolis to find the environment; it surrounds us. The environmental history of Indianapolis and Marion County is a study of the journey we have taken to arrive at the present, an examination of the interaction between people and this place over time. Although there are many things that we did not create and cannot control, the environment that we inhabit from downtown to suburbs to farm fields is largely a human artifact. It is an artifact that blends varying proportions of natural and artificial elements and that reflects the changing and often conflicting values of those who imposed their own visions of order on city and country.

Most Americans currently live in cities or in suburbs, and in that sense Indianapolis has been typical of the American environmental experience. Since the mid-19th century cities like Indianapolis have evolved in a way that has limited routine contact with nature, created the illusion that people have controlled nature, and masked the vital connections between urbanites and the ecosystems that sustain them. From the beginning of settlement there have been people who had a vision of the city as a place of beauty. Over the course of the city's history many have worked to make their visions come true, from Alexander Ralston's plat for the Mile Square in

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1821, to the movement for city parks and boulevards in late 19th and early 20th centuries, to a series of land-use and development plans drafted by the city from the mid-1960s to the present. At the same time, as Indianapolis expanded and developed, residents and their officials have had to confront the often unintended and unanticipated environmental consequences of mostly unplanned and unregulated growth.

On the near north side of Indianapolis, the Morris-Butler House Museum, built in 1864, sits in the shadow of I-65 and close by the high rises of downtown—two powerful symbols of the environment of the late 20th century juxtaposed against one that represents the 19th century. If Indianapolis is a city of homes, then perhaps the home that these two families occupied from 1864 to 1959 offers a useful device for introducing the environmental history of the city. In many ways the histories of the Morris and Butler families paralleled the environmental history of Indianapolis and Marion County.

Morris Morris was one of the first settlers in the Indianapolis area. He purchased a large piece of property southeast of present-day Washington and Meridian streets. There he set about removing the trees, establishing a farm, and opening one of the community's first gristmills. By 1840, when Indianapolis had grown to a small town of 2,692, there were 26 gristmills and 2 flour mills in Marion County, most of which were powered by water. Mills, and the developing market system of which they were a part, accelerated environmental transformation by encouraging deforestation to expand agricultural production, by damming free-flowing streams, and by discarding their refuse in the water. Jacob Cox's landscape painting *Morris Morris Farm,* done about 1840, shows "Morris hole" on Pogue's Run in the foreground, a place where cattle drank and boys swam. By late in the 19th century Morris Morris' farm had itself been incorporated into the expanding city. Pogue's Run had become an open sewer, the symbol and substance of the environmental impact of rapid, unregulated, and largely unplanned urban, industrial growth.

Settlers like Morris migrated to an area that had been occupied by Native Americans for thousands of years; from the settlers' perspective, however, this was new land, a wilderness inhabited by wild animals and wild people. In the 1820s Marion County was covered with the beech-maple forest typical of most of central Indiana, which in turn was populated with an abundance of forest-dwelling insects, birds, and animals. White River, Fall Creek, Pogue's Run, and other streams and wetlands, like Bacon's Swamp, abounded with aquatic life and seasonally hosted flocks of migratory waterfowl. Morris and other pioneers initiated profound changes in the environment by removing the forest for agriculture, an act that they believed improved the land, enhanced its productivity, and promoted progress.

Destruction of the forest habitat, along with unregulated hunting and fishing for personal use and for market, brought an accompanying reduction in numbers and diversity of fish and wildlife. Especially hard hit were those species with economic value, such as furbearers, or those deemed dangerous or destructive, such as bears, wolves, snakes, and gars. At the same time, other species of plants and animals found favorable niches in the newly humanized environment. "Weeds" and "pests" prospered as land in Marion County underwent the conversion from forest to farms. As Indianapolis expanded and enveloped farmland during the 19th and 20th centuries, other species of native and exotic plants and animals adapted and flourished in the city.

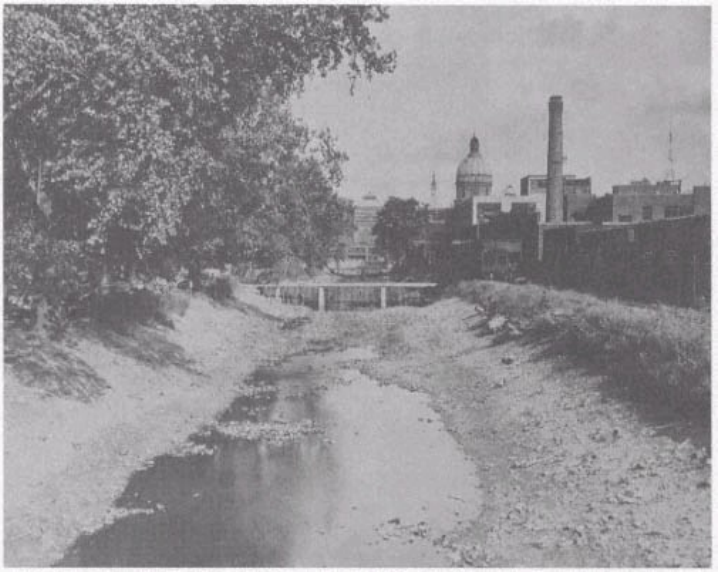
This significant alteration in the visual landscape and in the biological composition resulted from acting on an important cluster of values and attitudes toward nature. Settlers thought of land as property, to be bought and sold and used as the owner wished. Indeed, Indianapolis and Marion County had already been subject to the rectangular survey, which facilitated sale to private

individuals by superimposing an orderly grid on a diverse landscape. Settlers also considered nature and the products of nature (trees, furs, minerals, crops) as commodities that had a cash value in a market. Other important and related attitudes included the belief that God created nature to serve people; that progress was measured by improving nature; that improvement required that nature be conquered and controlled; and that nature could be divided into good and bad, useful and useless, flowers and weeds, game and varmints. The triumvirate of property, commodity, and market, along with a number of corollary attitudes, separated the settlers from the Native Americans, and though challenged by the post-World War II environmental movement, it has continued to play a role in shaping the environment of Indianapolis and Marion County.

The sons of Morris Morris were active in developing the city, including promotion of the railroad. Arrival of the railroad in 1847 initiated rapid transformation of Indianapolis. Railroads not only used coal, but they also transported it and made possible a far-reaching shift to fossil fuel. Fossil fuel in the form of coal, natural gas during the gas boom of the late 19th century, and petroleum in the 20th century provided exponentially increasing amounts of energy that powered the growth of the city in terms of size, commercial activity, and manufacturing. Population more than doubled between 1850 and 1860 and again between 1860 and 1870, climbing from 8,091 to 18,611 to 48,244.

The railroad and accompanying telegraph linked Indianapolis to an increasingly interdependent and interconnected nation and, of equal importance, bound the environmental histories of the city and the surrounding countryside into a common story. Aided by the interurban system that peaked in the 1910s and began to decline in the 1920s, the railroad expanded the markets served by wholesalers and retailers to include a multi-county region in central Indiana. In turn, commodities from the country streamed into the city to support a growing manufacturing base. Much of the industrial growth through the early 20th century depended on timber and on agricultural products such as wheat, corn, and hogs. Demand for coal, agricultural products, and lumber in the city (along with the rectangular survey) shaped the face of the land and the ecosystems of a large hinterland around Indianapolis. At the same time, products from the countryside literally became the city, in the form of raw materials for constructing buildings and infrastructure. They also contributed to its growing stream of wastes.

Rail transportation, a rising use of fossil fuel, expansion of manufacturing and commerce, and growth of the city's population produced a corresponding increase in air pollution, industrial effluents, sewage, and garbage. The capacity of air, land, and water to serve as sinks for wastes and still provide for competing needs such as fresh air and clean water was severely tested. In April, 1870, the *Indianapolis Journal* reported that a city councilman wanted a Mr. Schmidt enjoined "from continuing the nuisance occasioned by running the water from his brewery down the gutters of Wyoming street." In the last third of the 19th century the majority of the city's streets were unpaved, which produced dust when dry and mud when wet. Large numbers of horses and mules housed within the city added their wastes to the dust and mud of the streets. Flies not only found plenty to sustain them but also served as carriers of disease. White River, Fall Creek, the Central Canal, and Pogue's Run became repositories for garbage, effluents from manufacturers, and runoff from unpaved streets. In late May, 1870, the *Daily Sentinel* suggested that steps at once "be taken to clean out the bed of the canal, as the hot sun will soon cause a fearful stench." With the city's population growing exponentially between 1850 and 1870, a multiplying number of outhouses posed a range of problems, including likely contamination of ground-water.



During the mid-20th century, the Central Canal was a neglected site with low water levels and was frequently used for dumping trash. The downtown canal area has since been rejuvenated and is now a pedestrian park, making it a popular destination for downtown workers on their lunch breaks. [Indiana Historical Society, Bass Collection]

After 1870 Indianapolis installed an underground sewer system. In the long run, the unintended and unanticipated consequences of this attempted solution traded one set of problems for another. The system was not well constructed, it was not integrated, and like most other urban sanitary sewers of the time it dumped raw sewage into nearby waterways. A report of the Commercial Club in 1891 noted that the city needed a combined system that could handle street drainage and sewage; that the existing system leaked badly; and that the city's sewers conveyed street runoff and sewage to "the river, Pleasant run, Pogue's run, Fall creek and the canal." Pogue's Run was especially contaminated and in 1914 the city confirmed the stream's new status when it diverted the portion within the Mile Square into underground sewers. The *Indianapolis News* reported on May 23, 1925, that the city opened its first sewage treatment plant, which was the outcome of lawsuits filed by property owners on the White River below Indianapolis. The suits alleged that the river had become so foul that stock could not be watered from it and crops could not be grown along its banks. Water quality in the city's rivers and streams did not show significant improvement until the 1980s.

The white middle and upper classes who benefited disproportionately from economic growth in the city also possessed the means to relocate to more pleasant surroundings. One of

Morris Morris' sons, John, followed this trend and sold his property in the center of the city. He bought land in the College Corners subdivision; there, in 1864, he built a Second Empire-style home that still stands at 1204 Park Avenue. Both the land that he sold and the land he bought were divided into lots and blocks, which like the rectangular survey permitted efficient buying and selling of property. Undoubtedly John Morris and his family fled the smoke, dust, mud, smells, noise, and commotion of the city center in favor of the more pleasant surroundings and contact with nature offered by College Corners. With the advent of the mule-drawn streetcar after 1864, new homes like theirs in the suburbs offered the best of both worlds: a house near the country and ready access to the city. The Morrises' home remained fairly rural until the 1870s when new houses began to fill the subdivision. Unfortunately, in the aftermath of the Panic of 1873 John Morris was forced to declare bankruptcy and sell his family's home; Noble Butler purchased the house on Park Avenue in the early 1880s.

By the closing years of the 19th century the dust and dirt associated with the industrial growth of the city caught up with those who had fled to College Comers. A member of the Butler family remembered that "the town was full of coal dust," and "if you rocked on the back porch all morning and then went in for lunch, when you went out again after lunch you had to clean the chair thoroughly again." Ironically, as homes like the Butlers' joined apartments, businesses, factories, locomotives, and power plants in burning soft coal, thick, black clouds of smoke deposited soot and ash over the city, irritated and inconvenienced people, and endangered their health. Indianapolis passed anti-smoke ordinances in the late 1890s and again in 1904, thereby joining other industrial cities in attempting to abate smoke during the Progressive reform period. Stimulated by groups like the Indianapolis Smoke Abatement League, efforts at combating smoke continued through the 1930s; however, as use of coal increased, so too did the emission of smoke. By the 1940s, with petroleum replacing soft coal, the air over the city began to clear noticeably. But clearer air did not bring an end to pollution; in the future the problems would be far more intractable than elimination of smoke by substituting one fossil fuel for another.

When considering pollution caused by smoke from coal, it is worth noting that values have changed a great deal in the past few decades. Through the early 20th century many people saw smoke as a visible sign of progress. A "bird's-eye" map of Indianapolis from 1871 proudly depicts smoke pouring from the chimneys of factories, and shortly after the turn of the century the new Board of Trade Building (now demolished) displayed a mosaic titled "Industry" that illustrated the connection between smoke and progress. This was a point of view that was reinforced by the streetcar and the auto, which allowed the middle and upper classes to flee to more agreeable sub-urban environments.

If they let smoke pour into the air or effluents into waterways, manufacturers did not have to include the cost of cleanup in their prices. These costs were external to the price of the product; they were borne by the environment or by anyone who had to clean up the grime or who experienced inconvenience or annoyance or who suffered adverse health effects. In Indianapolis, as elsewhere, much of the history of regulating pollution has been one of persuading or forcing providers of goods and services (including government) to internalize costs and requiring consumers to accept the cost of cleanup in the prices of those goods and services.

Although descendants of Noble Butler lived on Park Avenue until the late 1950s, most of their middle class neighbors elected to move. As Indianapolis expanded those who could afford to do so moved ever farther from the city center, aided by the electric streetcar after 1891 and the auto after 1900. People were drawn to the suburbs by the lure of cheap land and country living

and were pushed out of the city by environmental degradation and the changing composition of the population. The overwhelmingly white middle and upper classes who moved to the new developments helped transform farmland into suburbs. They left behind them industrial and wholesale districts, train yards, a central city that was devoted largely to business and commerce, and working class, immigrant, and minority groups who could not afford to move or who were not welcome in the suburbs. In common with most other American cities, the environmental experiences of residents of Indianapolis have been highly correlated with class and race. Not everyone has experienced the same environment, and that is a pattern that persists. And, so long as many women worked at home and most men traveled to work, there were differences in environmental experiences by gender as well.

By 1910 Indianapolis had become an industrial city with a population of 233,650. Urbanites who no longer had to wrest a living from the land began to mourn what they believed they had lost—opportunities for contact with an idealized version of nature, which had tested and tempered and shaped the character of pioneers like Morris Morris. This sense of loss contributed to a shift in attitudes toward nature, which nationally and locally revealed itself in nature appreciation, nature education, sport hunting and fishing, and conservation. These movements drew heavily on the kinds of people who were moving to the suburbs, the white middle and upper classes who believed they were protecting their natural heritage and their value system from the consequences of urban-industrial growth and an onslaught of immigrants. Inspired by the City Beautiful movement in the last decade of the 19th century and the first few decades of the 20th century, there were efforts to bring nature into the city in the form of parks and wide boulevards along Fall Creek, Pleasant Run, and White River. Aided by the streetcar and the auto, residents of Indianapolis also sought contact with nature outside of the city.

Jacob Piatt Dunn's history, *Greater Indianapolis* (1910), highlights both the evolution of the urban environment and a shift in attitudes between the first decades of settlement and the early 20th century. Dunn carefully chronicles the hunting and fishing paradise found in and around the city in the 1820s and 1830s. At the same time he also notes that "there was little need of skill or cunning in the early days," and "there was no `letting a bass run.'" Living in a city and writing during the Progressive era and the first national conservation movement, Dunn observed that "the American people have shown a fearful lack of foresight in the exhaustion of natural resources." This perspective would have made little sense to pioneers like Morris Morris, who sought to settle and improve land they perceived to be a wilderness of almost unlimited abundance.

A great intellectual divide separated Dunn and his contemporaries from pioneers like Morris Morris. Despite the controversy that it created, Charles Darwin's *On the Origin of Species* (1859) had begun an intellectual revolution in the way people understood their relationship with nature. Evolution told us where we came from, demonstrated connections to other species, and challenged religion as the font of all knowledge. Nature appreciation, sport hunting and fishing, and conservation all drew on the post-Darwinian intellectual revolution. Despite exceptions like John Muir, who briefly lived in Indianapolis in 1867, the great shift in values during the late 19th and early 20th centuries was from a belief in unlimited natural abundance to conservation for use. Most people continued to place human beings above nature, to think of the natural world as a collection of useful and useless species, and to believe that nature needed to be conquered and controlled in the name of progress.

Dunn also documents the physical transformation of Indianapolis, as residents sought to adapt their surroundings to their needs. He describes a continuing process of filling low-lying and

Streetcars on West Michigan Street were stranded by floodwaters from the great flood of March, 1913.
[Indiana Historical Society, #C2589]

swampy areas, which he connects to a more irregular flow of the White River due to clearance of land and other improvements that speeded runoff. As the city expanded in the 20th century, drainage and filling of wetlands and channelization and relocation of streams contributed to the ongoing modification of the physical environment. As Dunn observed, changes such as these had an impact on the flow-rates of the White River and other streams in the city. Three years after the publication of *Greater Indianapolis,* the city experienced its most devastating flood. The great flood of March, 1913, was the result of unusually heavy precipitation and development on the floodplain of White River, combined with drainage, filling, paving, and upstream agricultural improvements that increased and accelerated runoff. Throughout the 20th century flooding in the city remained as much a product of human attitudes and actions as a natural phenomenon.

In the 20th century electricity and the automobile contributed significantly to the creation of the environment of Indianapolis and Marion County. Electrification of the city began in 1882 and before the 1930s was largely an urban development. Street lighting and indoor lighting progressively blurred the distinctions between day and night. Electricity permitted the city to reach both up and out: Electric elevators allowed the construction of high-rise buildings on expensive land downtown, and electric streetcars encouraged suburbs to expand over relatively cheap farmland on the periphery. Electric heating, refrigeration, and air conditioning helped to insulate people from the vicissitudes of nature and added to the impression that nature had been conquered and controlled. At the same time, what began as a luxury became a necessity of life; its interruption can now have disastrous social and economic consequences. Rural electrification brought power to the countryside beginning in the 1930s, and thereafter contributed to shifting land-use patterns through accelerated suburbanization and dispersion of manufacturing.

More than any other technology the automobile has shaped the environment of city and country alike. Although registration figures are not available, it is clear that residents of Indianap-

olis and Marion County embraced the automobile with the same passion as other Midwesterners. Ironically, at first the automobile appeared to offer a technical solution to the pollution generated by horses and mules. From the early 20th century through the construction of freeways in the 1960s and 1970s, Indianapolis has undergone major spatial reorganization and physical reconstruction to accommodate itself to the care and feeding of the automobile. Much of the Mile Square has been paved for streets, alleys, and parking lots, an action that lifted the city out of the mud but that also significantly affected drainage patterns and even local climatic conditions like temperature. Widespread paving now extends well beyond the Mile Square, symbolized by the huge parking lots of regional shopping malls that serve motorized consumers drawn from large markets inside and outside of the city. Along with the auto, the city has inherited a legacy of leaking underground storage tanks used for gasoline.

As the population of Indianapolis grew from 386,972 in 1940 to 744,624 in 1970 it spread out and occupied an environment that was shaped in form and function by the automobile. Along with the expansion of the automobile suburbs came a continuing process of channelizing and relocating streams and draining and filling wetlands, as was the case with Bacon's Swamp after World War II. The amount of farmland in Marion County offers a useful insight into the environmental impact of the automobile. Farmland in the county peaked in 1900 when it reached about 240,000 acres. Thereafter the amount of farmland fell steadily, dropping below 180,000 acres by 1940; the decline then accelerated sharply until the late 1970s. By about 1975 the county had approximately 70,000 acres of farmland remaining, which was less than it possessed in 1850. While some of the decline in the early 20th century can be attributed to the street railway, these figures largely reflect the impact of a whole range of auto-and truck-related residential, commercial, and industrial developments, aided by the construction of freeways and the I-465 beltway. The net result has been suburban and exurban expansion into the county, with corresponding impacts on habitat, drainage, and air and water quality.

Thanks to the Interstate Highway Act of 1956, freeways and I-465 placed Indianapolis at the center of a nationwide system of superhighways, much as it had served as a hub for rail transportation one hundred years earlier. Highways extended the city's commercial hinterland, and as trucks displaced the railroads in the 20th century they became the city's lifelines for food and for other necessities. Interstate roadways currently supply the city with fruits and vegetables, meat and dairy products. In so doing they bind Indianapolis to distant ecosystems upon which our dependence is disguised by the humanized environment that surrounds and insulates us.

In the 1960s popularization of ecology, a growing concern over environmental degradation, and an expanding interest in preserving and enhancing environmental quality stimulated the emergence of a broad-based environmental movement. The most important popularizer of ecology was Rachel Carson, in her seminal book *Silent Spring,* published in 1962. Carson built her arguments on things that people were already concerned about, like fallout from above-ground nuclear testing and widespread, indiscriminate use of nonselective pesticides like DDT. She encouraged her readers to think of nature as an interconnected and interdependent web of life, to approach nature with humility rather than arrogance, and to coexist instead of conquer. *Silent Spring* was very controversial; it was also very popular. While Carson did not create the environmental movement, she did provide a focus, a vocabulary, and a scientific and philosophical underpinning based on ecology. Environmentalists tended to talk in terms of protecting habitat or preserving ecosystems rather than conserving individual species or managing resources wisely and efficiently. Whether or not they called themselves environmentalists, people who understood

the world around them in terms of ecology stood on the other side of an intellectual divide as great as the Darwinian revolution that separated Jacob Dunn and Noble Butler from Morris Morris.

The environmental movement of the 1960s and 1970s provided a largely middle class constituency for a host of new federal environmental statutes. As the *Indianapolis Star* observed in July, 1973, "few controversies have brought about more citizen involvement than has the recent `ecology crisis.'" Backed by broad public support, between 1963 and 1980 Congress passed a series of environmental laws that had both anticipated and unanticipated consequences for cities like Indianapolis. Congress approved the Clean Air Act in 1963, the Water Quality and Solid Waste Disposal acts in 1965, and the National Environmental Policy Act (NEPA) in 1969. Among other things, NEPA created the Environmental Protection Agency (EPA) and the requirement for Environmental Impact Statements. Congress strengthened the Clean Air Act in 1970 and amended it again in 1977; it amended and toughened the federal Water Pollution Control Act in 1972, approved the Clean Water Act in 1977, and passed Superfund in 1980, which had a significant impact on real estate transfers in its effort to identify and clean up abandoned toxic waste sites. These federal statutes stimulated related regulatory activity at the state and city levels; they also sharpened and heightened differences among a range of groups, which placed conflicting and increasing demands on the same finite resources.

By the mid-1960s Indianapolis was taxing the ability of air, land, and water to absorb wastes produced by the growth of the city. In October, 1966, an article in the *Star* estimated that the water in White River was used six times over in the 80 miles between Anderson and Centerton. The waste-stream± not only increased in volume but also consisted of new compounds such as synthetic, organic pesticides and herbicides; synthetic fibers; detergents; and aluminum and plastics. Many of these products represented the transfer of wartime technologies to the civilian economy. Much of the solid waste ended up in the Southside Landfill, which precipitated a waste-disposal crisis that was supposed to be addressed by the solid-waste-to-energy incinerator completed by Ogden Martin Systems, Inc., on the city's south side in the late 1980s. The controversy that surrounded this resource recovery facility before and after its completion reflected the importance and sensitivity of the solid waste issue in the city. The industrial, commercial, and domestic wastes delivered to the Southside Landfill have earned it designation by the EPA as a Superfund site.

By the early 1960s the deteriorating condition of White River made it clear that the city's aging sewage treatment cilities were inadequate. Not enough water existed in the river to dilute the effluent produced by the plant at Belmont Avenue. Even though the city added a second plant in 1966, five years later Indianapolis was failing to meet federal and state standards for the flow of sewage into the river. An increased population offset improvements in treatment facilities. By 1975 the *Star* was reporting that "the city has `outgrown' White River," and the river "downstream from the city's Belmont Avenue treatment plant is almost 80 percent treated sewage." The addition of tertiary treatment at the city's sewage plants in the early 1980s began to yield improved water quality in the river, although the State Board of Health did not lift its ban on eating fish from the river due to contamination with PCBs and Chlordane until 1989.

Tertiary treatment did not completely solve the city's problems with sewage, and in 1986 the EPA was threatening to fine the city because its sludge-burning incinerators were in violation of the Clean Air Act. At that point, issues of air and water quality and solid waste intersected and demonstrated the complexity and difficulty of handling the wastes from a city the size of Indianapolis in a way that would satisfy competing interests and still protect and enhance environmental quality. Solid waste and air pollution intersected again as open-air burning of trash and

yard waste became an issue by the late 1960s and remained so through the 1980s. In the humanized environment of the modern city, leaves and sticks and grass that once had been recyclable organic nutrients had become a solid waste problem of major proportions.

Federal laws dealing with clean air, clean water, solid waste, land use, and toxic contamination forced Indianapolis to confront the environmental consequences of its own growth. For a while in the 1970s it appeared as though the Clean Air Act would enforce *de facto* limits to growth on the city. From fall 1973 to spring 1974 the administration of Mayor Richard Lugar and a coalition of business, labor, and agricultural interests fought the EPA almost to a standstill over a plan to reduce air pollution by controlling transportation in the city. The bottom line for the Lugar administration and its allies was preserving the opportunity for continued economic growth. The issue of economic growth was sharpened by the oil embargo of 1973, which eliminated the cheap energy that had long fueled the growth of Indianapolis. As late as 1978 an official of the EPA's office in Chicago warned that "an unnecessary confrontation between clean air and growth" would occur if the city delayed in developing an adequate plan for cleaning up its air.

Growth had been an important theme in the environmental history of the city since the pioneer time of Morris Morris—growth in population, in size, in the use of energy and natural resources, in manufacturing and commerce, in markets, and in production of waste. The fact that growth became an issue at all demonstrated how much circumstances and values had shifted. In effect, the debate over growth was about confronting the consequences of the journey that created this place over time—a journey that began with the conversion of forests to farms, that continued with the expansion of streetcar and automobile suburbs over farmland, and that ultimately extended under I-465 and beyond, where industrial campuses and subdivisions sprout up amid cornfields and crumbling barns.

See also: AIR QUALITY; CLIMATE; FLOODING AND FLOOD CONTROL; FLORA AND FAUNA; GEOLOGY; GREENSPACE; LAND USE; PARKS; SOIL AND GROUNDWATER CONTAMINATION; WATERWAYS; and other individual topics.

Visual Arts

Marion S. Garmel

Because it did not develop naturally but was carved from the center of the state to be its capital, Indianapolis evolved into a home for the visual arts differently than other mid-western art centers. Its growth did not result from a core of wealthy collectors who imported art and art appreciation, but from the efforts of the artists themselves, through public commissions, and from a handful of supporters who encouraged the study and appreciation of art. A strong tradition of self-help developed, with artists training one another and relying on local patrons for support. As a consequence, the Indianapolis art scene was more open—particularly to women—than in other cities. It was, simultaneously, more insular due to the isolation from outside influences.

The earliest artists were itinerant sign painters, mostly of German origin, who sought work in the new capital. The first was Samuel S. Rooker from Tennessee. He had some original notions about spelling and foreshortening: his first sign, for cabinetmaker Caleb Scudder, read "Kalop Skoddar, Kabbinet Maker." Commissioned to paint a sign for a tavern on the Michigan Road, he chose the figure of General Lafayette in full uniform. After finishing the head and the body, Rooker ran out of space for the legs; he solved the problem by attaching the feet to the knees.

Things changed in 1832 with the arrival of Jacob Cox and his brother Charles, both tinsmiths. Cox taught himself to paint and later shared a studio with John Gibson Dunn in Cincinnati, where he held a successful exhibit and sale of his paintings. Returning to Indianapolis, he announced in the *Indiana Journal* in 1844 that he had set up a studio on West Washington Street where "all are invited to call and examine his specimens of art."

Cox was the city's first art teacher and for a long time its only artist. Though his style was direct and lacked technical finesse, he managed to support a large family by painting and teaching until his death in 1892. Among his students were the young Lew Wallace, whose father was governor, and Henry W. Waugh, an actor and scene painter at Robinson's Athenaeum. A notable woman student was Lotta P. Guffin, who supported her family by painting portraits when her husband became ill.

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