

Green Rise - The Changing Role of the Environment, the City, and the City of the Future

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In 1962 the future was filled with space cars, asymmetrical fashion, and machines that washed, dressed, cleaned and fed you, according to the popular television series *The Jetsons*. Cities in 2062 were high above the earth on stilts and were visually alike to spaceships; *The Jetsons* was the epitome of the mid century idealism and imagination regarding the future. Yet, within ten years of its first broadcast all of the futuristic characteristics of *The Jetsons* were repurposed in a wave of dystopian science fiction, reflecting the popular attitudes and anxieties about the future of mankind. Movies such as *Soylent Green* from 1973 and *Logan's Run* from 1976 depicted the same technological future as *The Jetsons* but in a completely different negative light. The essential change was their treatment of the environment – in *The Jetsons* the lack of nature was a complete non-issue, in the dystopias of the 1970's however, the very survival of the human race was threatened by ecological disaster. Furthermore, in these narratives there is a direct correlation between a gross mistreatment of the environment through technology and widespread immorality. This drastic shift in consciousness regarding the environment's place in the future was direct product of the rise of popular environmentalism during the 1960's. The combination of counter culture activism, previous conservation groups, the already present fear of nuclear destruction, and the rise of popular ecology helped disseminate an awareness of, and passion about, environmental issues. In addition to transforming the utopia of the early 20th century into a dystopia, the rise of modern environmentalism also created a new focus for idealism about the future – the ecotopia, a place in the future where technology and respect for the environment are balanced. The anxieties of the 1960's and the idea of ecotopia persist today; both have had a

direct influence on urban planning into the 21st century through the search for sustainable solutions for today and tomorrow's urban centers. Therefore, through an examination of primary source material from popular culture, including the examples mentioned above, this paper will illustrate the changing conceptions of the role of the environment in the cities of the present and of the future. This analysis will demonstrate the influence of the social and political atmosphere of the 1960's, including the rise of modern environmentalism, on our notion of what the ideal city of the future is – the sustainable city.

Foundations for the Future: the 19th Century City

The North American city of the 19th century was a messy, unorganized, and fairly dangerous place to live. Before the advent of modern sanitary systems in the late 19th century the streets of the city were full of organic matter, human waste, and household trash. For example, the washroom was found in the backyard and it emptied into a hole in the ground, euphemistically called “privy vaults.”¹ The environment, and not the picturesque one, inundated city life.

Despite the obvious unpleasant aspects of early American city living, these unhygienic methods also contributed to a positive relationship with the natural environment in the form of a closed loop or circular city metabolism.² Instead of all the city's garbage, organic, and human waste simply exiting the city unprocessed, some was reused by people within the city or by farms in the city's immediate hinterland. Inorganic garbage was often taken to a “swill

¹ Joel A. Tarr, James McCurley III, Francis C. McMichael, and Terry Yosie. “Water and Wastes: A Retrospective Assessment of Wastewater Technology in the United States, 1800-1932.” *Technology and Culture* 25, 2 (1984), 228.

² This idea of the city as a living organism, with a functioning metabolism that takes in energies, raw materials and outputs waste was popularized by the Chicago School of sociologists and especially by Robert E. Parks. Parks studied human life within the urban centers, calling it human ecology and named the city an urban ecological unit. See Robert E. Parks, Ernest Watson Burgess, and Roderick Duncan McKenzie's *The City: Suggestions for the Study of Human Nature in the Urban Environment*. As we will see later these ideas have reemerged in the late 20th and 21st centuries to influence city planning.

yard” within the city where scavengers could pick through for items of value.³ Human waste was collected from privy vaults over night by “night soil carts: and either taken to outlying farms or sold to factories that turned it into proper fertilizer.⁴ Pigs and chickens were fed the organic waste and also ate much of it that was thrown on the streets. As Martin Melosi argues, in his study of urban trash, *Garbage in the Cities: Refuse, Reform, and the Environment, 1880-1980*, this formed a symbiotic relationship between the city and its countryside: “Utilitarian methods of waste disposal theoretically offered cities the means of ridding themselves of unwanted materials while at the same time converting a liability of urban life into an asset for the countryside.⁵ What Melosi highlights in that sentence is the idea that this system worked well for both the city and the country, in theory.

Due to massive urban population growth in the late 19th century these utilitarian disposal systems soon became overwhelmed. For example, in New York City block density increased by almost 100 people per city block from 1820 to 1850.⁶ This rapid population growth created multiple problems in the disposal system that had sustained urban life previously. Melosi states, “The quantity of refuse was so great that cities could not give it away, let alone sell it to farmers.”⁷ Human waste, organic matter and inorganic refuse therefore frequently piled up in the streets, which, coupled with over-crowded conditions, led to increased epidemics of disease such as cholera, yellow fever, and tuberculosis.

Europe had experienced the same conditions earlier in the 18th and 19th centuries and had introduced new technology with good results. In 1842 English born lawyer Edwin Chadwick released his findings on the health and sanitation of industrial cities titled *Report on the Sanitary Conditions of the Labouring Population of Great Britain*.⁸ Chadwick’s

³ Martin Melosi, *Garbage in the City: Refuse, Reform, and the Environment, 1880-1980*. (College Station, TX: Texas A&M University Press: 1981), 40.

⁴ Tarr et al, “Water and Wastes”, 229. Melosi, *The Sanitary City Urban Infrastructure in America from Colonial Times to the Present*. (Baltimore: The John Hopkins University Press, 2000), 25.

⁵ Melosi, *Garbage*, 40.

⁶ Ibid., 18.

⁷ Ibid., 40.

⁸ Melosi, *Sanitary City*, 30.

document associated the origins of disease epidemics with environmental conditions of the city. This theory was based on the long established miasmatic theory of disease transmission, whereby disease originates in decaying organic matter, bad smells, or sewer gases and is spread through pollution in the air.⁹ Chadwick theorized that by dealing with the problems of the city disease would be lessened and he therefore implemented sewers, paved streets, waterways, and ventilated buildings.¹⁰

Beginning in the late 19th century major American cities began to adopt Chadwick's ideas and the zeal for hygienic living conditions. Sewers were introduced for human waste, eliminating the need for night soil men as well as agriculture's source of fertilizer. Open dumping, water dumping, or incineration became popular methods of disposal for inorganic and organic refuse over older methods of swill yards and animals. Swill yards were viewed as producing miasmatic air and "the common practice of feeding garbage to swine and other animals also became questionable; studies indicated that the meat of products from animals fed on garbage might not be fit for human consumption."¹¹ These changes altered the city's previous relationship to the environment: no longer did animals have a role in urban living, were goods reused by multiple people, or the city's hinterland connected in a positive way to urban life.

This new hygienic mindset was not only concerned with the health of the city – it also signaled a focus on cleanliness as aesthetic, related to the City Beautiful movement of the early 20th century.¹² The City Beautiful movement was focused on civic improvement through beautification, which was believed to lead to moral improvement of cities. Cleanliness was the central tenet of the City Beautiful movement. Melosi quotes one female supporter of the City Beautiful movement in saying, "We gladly hear much to-day of the movement for civic art; but it is well to remember that civic art without civic cleanliness is a

⁹ Ibid., 31.

¹⁰ Ibid., 31.

¹¹ Melosi, *Garbage*, 40.

¹² Ibid., 110.

diamond ring on dirty hands.”¹³ The implementation of sanitation systems, a new technology, was the solution to these problems and the hallmark of a modern city. These new large-scale civic improvements required large-scale planning. As Scott Campbell and Susan S. Fainstein note in their introduction to the chapter ‘Foundations of Twentieth-Century Planning Theory’, “the City Beautiful Movement was an important catalyst for the rise of planning commissions, public-private partnerships, and civic aesthetic awareness.”¹⁴ And while aesthetic that was popular during this movement, neo-classical architecture, did not correlate to the visual language of the modernist buildings that were to dominate the future of the city, the movements’ focus on cleanliness and its encouragement of city planning inadvertently fostered the growth of modernist architecture and large scale urban planning later in the century.

The adamant belief in progress through technology was another societal value that impacted the idea of the modern city.¹⁵ As Tarr states, “Modernization and progress were considered synonymous, with the belief that the present was better than the past and that the future would represent an even greater improvement.”¹⁶ This was coupled with a belief that technology was beneficent in nature.¹⁷ The adoption of sanitary systems in the late 19th century exemplifies this idea; technology was seen as the way towards the future and a method for bettering urban lives. The 1939 New York’s World Fair was a physical manifestation of this obsession with the technological future, as well as one of the first instances where a particular architecture style was uniformly associated with the future. Here the buildings, bot the ones in displays such as Democracity, and the actual fair buildings such as the Perisphere, demonstrated modernist architecture.¹⁸ The public was inundated with images of the future city dressed in this architecture; the future was equated wit this distinct

¹³ Ibid., 112.

¹⁴ Scott Campbell and Susan S. Fainstein, “Introduction”, In *Readings in Planning Theory*, 2nd ed., edited by Scott Campbell and Susan S. Fainstein. (Malden, MA: Blackwell Publishers, Ltd., 2003), 19.

¹⁵ Tarr et al, “ Water and Wastes”, 254.

¹⁶ Ibid., 255.

¹⁷ Ibid.

¹⁸ See fig. 1 in attached Appendix for images.

style.¹⁹ Thus, this societal obsession with progress through technology in combination with the hygienic mindset of the City Beautiful movement were catalysts for the rise of essentially different conception of the city – the modernist city.

The Architecture of the Modern City

In the early 20th century the cities of the future were designed and realized in modernism architecture. Modernist architecture demonstrated the hygienic mindset not only through its actual cleanly state but also through its emphasis on clean lines and reducing unnecessary decoration. In the *Dictionary of Modern Art* Hjørvardur Harvard Arnason states that the “radiant modern city was the architect’s drastic antidote to the...soot-filled slums of the 19th century city”.²⁰ In particular Arnason is referring to Le Corbusier, a Swiss architect who was well known from the 1920’s onwards and published the highly influential work *The Radiant City* in 1933. From that work, in the section titled “The Architectural Consequences of Modern Techniques,” Le Corbusier explicitly states that “3) These new architectural methods lend themselves: c) To the demands of modern hygiene,”²¹ among other points, illustrating that the hygienic mindset born out of the historical circumstances of city life influenced directly one of the founding manifestos of modernist architecture.

Furthermore, Le Corbusier was fixated on uniformity and ordered life, as evident in his grid based cities and their uniform doors, windows, and rooms. For Le Corbusier, the city was modernized, made rational, and brought into the present machine age through uniform organization. In his article “In Defense of Utopian Thinking: Imaging Cities After the ‘End of Utopia’” David Pinder notes that Le Corbusier’s urban vision was based on “the projection

¹⁹ Folke T. Kihlstedt further discusses the influence of Le Corbusier on the architecture of the New York’s World Fair in his article “Utopia Realized: The World’s Fairs of the 1930’s,” in *Imaging Tomorrow: History, Technology, and the American Future*: 97-118.

²⁰ H.H. Arnason, *History of Modern Art: Painting, Sculpture, Architecture, Photography*. Fifth edition. (Upper Saddle River, NJ: Prentice Hall Inc., 2003), 334.

²¹ Le Corbusier, *The Radiant City: Elements of a Doctrine of Urbanism to be used as the Basis of our Machine-age Civilization*. As distributed for HIST 490, winter 2010, University of British Columbia (New York: The Orion Press, 1967), 20.

of ordered spatial forms. These spatial forms provide the settings for ordered, harmonious societies, in which the ills of the present day are banished to another space and time.”²² Moreover, Le Corbusier speaks repeatedly on the forward looking nature of modernist architecture – not only was it created for the cities of the present but it was the ideal form for the future. To accomplish this progress Le Corbusier puts faith in new technology to build the city, he states, “we adopt another viewpoint; not of the present but of the near future: having demonstrated that the ideal solution includes a *framework* and consequently and *open plan and free facades*, we say: iron and reinforced concrete lend themselves to these needs.”²³ Le Corbusier chooses these new technologies over masonry or wood not only for their practical use in high-rise buildings but also because of their identification with the future.

Despite Le Corbusier’s fixation on the future, the role of the environment in these new cities is the same as it was in the early 20th century cities. Le Corbusier called his cities ‘*Green Cities*’ because of the amount of greenery he used in his plans but this is a planned and purposeful green – like all other aspects of human life, greenery in modernist cities is organized, tamed, and given a specific grid area to inhabit.²⁴ For Le Corbusier nature has a right to exist within the city because it is “useful inside the city” for enhancing the leisure of the machine age man.²⁵ Essentially, the natural environment in the modern city is covered in concrete and only revealed in an orderly, tamed manner, within small organized areas, as need by humans for their pleasure. It is not necessary to life in the ideal city of the future but it is useful.

The Modernist City as Future Utopia

²² David Pinder, “In Defense of Utopian Urbanism: Imaging Cities After the ‘End of Utopia’”, *Geografiska Annaler. Series B, Human Geography*, 84, no.3 (2002), 233.

²³ Le Corbusier, *Radiant City*, 31. Emphasis original.

²⁴ *Ibid.*, 94.

²⁵ *Ibid.*, 107.

Le Corbusier's ideal future was quickly adopted into popular culture, such as the 1936 science fiction film *Things to Come*, screen written by H.G. Wells. The film depicts two societies living in Britain in 1966 after a major war. One, living in 'Everytown' is ruled by a tyrannical chief and lives in the ruins of a historical city. This society is without a technology and their chief dreams of repairing their biplanes to conquer other remaining peoples. The other society, Wings over the World, has used technological progress to create a society free of war. In 1970, a visiting captain from Wings over the World is held hostage by the chief. Futuristic airplanes from Wings over the World attack, winning peacefully via sleeping gas, and incite technological progress in Everytown. Within sixty years Everytown is a modernist vision contained underground with pods for transportations and clean white buildings everywhere.²⁶ In this future technocracy a stable, peaceful society is created directly through technology and progress.

Technology in *Things to Come* allows citizens to live beyond the means of nature: a little girl in her history lesson learns that before society learned how to create their own sunlight through technology cities had to build housing into the sky to ring sunlight into their houses. The architecture of Everytown is a mirror of high modernist planning. High-rise housing units are smooth white buildings with large windows and space age furniture; transportation is moved into pods above the street level, leaving the ground for human leisure. As J.P. Tolotte notes, in the article "So Big": The Monumental Technology of *Things to Come*," the architecture demonstrates "the disappearance of visual variety in favour of an unvarying whiteness and harmony of design that emphasize the massive fabricated nature of this world[.]"²⁷ The uniformity of Everytown would have delighted Le Corbusier. Also, alike to *The Radiant City*, Everytown includes only small representations of the natural environment: they have a neat and tidy tree lined boulevard with grass patches separating the paved concrete areas. Again, the natural world is presented as almost hygienic in this modernist world, tamed and created anew through technology and advanced architecture.

²⁶ See fig. 2 in attached Appendix for images.

²⁷ Tolotte, "So Big", 81.

The Lasting Influence of Modernist Thought

As we can now see, the flying cars and space age architecture of *The Jetsons*, aired from 1962-1963, comes from a long pedigree of modernist utopias; *The Jetsons* mirrors *Things to Come* and *The Radiant City* in its modernist architecture, its reliance on technology, and its treatment of the natural environment. *The Jetsons* follows an average family living in the year 2062 in Orbit City, a typical American 21st century city. Orbit City is composed of buildings raised into the sky on stilts or platforms; inhabitants use aerocars to travel from one building to the other, rarely every using the planet's surface. These buildings, such as Skypad Apartments where the Jetsons live, are perfect examples of high modernist architecture.²⁸ The circular buildings in Orbit City resemble those designed by Ludwig Mies van der Rohe, another modernist architect and contemporary of Le Corbusier who favoured circular designs as opposed to Le Corbusier's square designs.²⁹ The architectural language of the structures are direct translations of high modernist style; they feature large glass windows, stream lined surfaces, lack of decoration, and most exteriors are drawn in light or white shades. As Arnason notes, Le Corbusier's 1922 "Ville Contemporaine" planned for "rows of gleaming glass skyscrapers placed on stilts to allow for pedestrian passage."³⁰ Orbit City is a futuristic adaptation of this plan – instead of pedestrian passage humans are moved from raised high rise to raised high rise via tube, instead of Le Corbusier's raised highways, aerocars cruise through the sky in the same manner, elevated by technology.

This high modernist approach to the city of the future also demonstrates the societal attitudes towards the natural environment and its role in the city. In *The Jetsons* the only appearances of the natural world are in houseplants and very seldom patches of grass, such as the football field attached to Orbit High.³¹ These two manifestations relate directly to the way nature was used in *The Radiant City*; houseplants provide aesthetic appeal, while grass in the form of football fields provides areas for leisure activities. In *The Jetsons* there is no

²⁸ See fig. 3 in attached Appendix for images.

²⁹ See fig. 4 in attached Appendix for an image of Mies van der Rohe's architecture.

³⁰ Arnason, *History of Modern Art*, 334.

³¹ See fig. 5 in the attached Appendix for images.

mention of forests, animals, farms or even the weather – the environment is completely excluded from this vision of the future life, except for those parts this superior society chooses to keep.

This treatment of the natural environment is also due to the fact that life in 2062 is inundated with technology. Advanced technology allows the Jetsons to live outside the constraints of the natural world. Instead of making a meal from raw materials Jane Jetson simply presses a button on her automated kitchen and dinner is served. Instead of taking the family dog, Astro, to the park for exercise they simply place him on a treadmill, which juts out from the building's roof. Instead of Judy and Elroy walking to school they are transported there instantly by tube.³²

Technology in *The Jetsons* is seen as a tool to create better lives for humans in the city, much the same as it was seen earlier in the century when new technologies lowered infectious diseases and cleaned up the streets. This sanitary mindset influenced a new form of architecture and city planning that inundated North American cities – modernism. As illustrated in *The Jetsons*, and as we saw in *The Radiant City* and *Things to Come*, the concept of societal progress through technology and the way it was used in modernist architecture has had a direct influence on the position of the environment within the city. Beginning in the early 20th century and continuing to *The Jetsons* in 1962 the natural environment was forced out of the city; if any form of nature was allowed a place in urban centers it was a tamed, organized, and useful manifestation of its former self.

Change: From Future Utopia to Dystopia in the 1970's

In 1962 the imagined 21st century life is one of leisure and pleasure, yet within eleven years, in 1973, the 21st century becomes one of marginal human existence, widespread immortality, disease and suffering. Humans here, in dystopic films such as *Soylent Green* and *Logan's Run*, can barely find food, let alone buy a flying space car or robotic maid. Beginning in the 1970s the popular conception of the future of the city was completely

³² See fig. 6 in attached Appendix for images.

transformed; movies began to depict the future city as anti-utopian places where modernist tendencies regarding technology and environment have created a living Hell.

Released in 1973 *Soylent Green* is an excellent example of such dystopic thinking. Set in 2022 in New York City, *Soylent Green* depicts a future of American society where people are overcrowded into slum-like cities and human caused environmental damage has destroyed the ecosystem. This environmental degradation makes natural food a rare and expensive product – the average population is fed in three processed high energy food rations: soylents red, yellow, and green. The main characters, Ty Thorn and Solomon Roth, stumble across the secret that the food substitute Soylent Green is actually made of people. After learning this unbelievable horror Roth decides to end his life with state sponsored euthanasia. During his last moments Roth is shown images of the natural world as it was before humans decimated it: sense of animals, plants, and untouched wilderness.³³ Roth is of an older generation who could still remember these in reality, but his younger partner Ty states that he could not have believed him without seeing video evidence.

For *Soylent Green* the future is a dystopia because of environmental degradation – it is the cause of a moral crisis in society and horrible living conditions for the present, as well as an apocalyptic future for the earth. This theme is stated visually and verbally throughout *Soylent Green*; it is firmly established that humans are suffering because of the way they treated the environment, mostly through technology, in the past. The film begins with a montage that shows historical America, where humans pushed westward into the uncontaminated wilderness. The montage then moves forward in time showing the progress of society through technology. It depicts the introduction of cars, airplanes, and insinuates the hyper American consumer economy of throwaway objects in the decimation of the environment. Also illustrated is the massive expansion of cities, their congested highways, overfilled landfills, and the millions of people that inhabit these urban centers. The final images show the demise of the earth due to the human actions.³⁴ This introduction illustrates from the beginning the message behind the movie: the way the environment was treated in

³³ See fig. 7 in attached Appendix for images.

³⁴ See fig. 8 in attached Appendix for images.

the 20th century will lead to the end of human and natural civilization if not changed. In *Soylent Green* technology in the hands of humankind has destroyed the environment and created a hellish reality for urban residents. The failure of modernist planning ethic is visually expressed.

Three years after *Soylent Green*, *Logan's Run* utilizes the visual language of modernist architecture to equate it with future dystopia.³⁵ In *Logan's Run* "survivors of war, overpopulation and pollution are living in a great domed city, sealed away from the forgotten world outside."³⁶ Life in the 23rd century "must end at thirty unless reborn in the fiery ritual of carousel."³⁷ All humans are embedded with a Lifeclock in their palm that counts down their time left to live. At the end they jump into a pit where they are killed in order to keep their artificial ecosystem balanced, and create a food supply. Some humans choose to run from this predetermined end and flee for a place outside the glass-domed city, which they call sanctuary. Logan 5 is employed to catch these runners but when his Lifeclock comes close to ending he decides to join them. When he escapes the city Logan discovers that sanctuary is really the natural world. Here he feels the wind and the sun for the first time.³⁸ In the outside world Logan's Lifeclock is reset, he is symbolically reborn through an encounter with the natural environment.

Inside the domed city the environment is organized into decorative planter boxes, trees line the inside of modernist buildings for aesthetic appeal. Between the buildings there are patches of grass and trees yet here humans are transported, as with *The Jetsons*, via tube, not stepping out to walk among these decorations. The dome that covers the city separates humans from the real, untamed natural environment. Inside there are no animals, no food products, even sunlight is created artificially.

Technology plays a major role in creating this dystopic vision; humans are served by servo-mechanisms, a form of technology that provides everything for them. Servo-

³⁵ See fig. 9 in attached Appendix for images.

³⁶ David Zelag Goodman (Screenwriter), *Logan's Run*, Directed by Michael Anderson. (Los Angeles: Metro-Goldwyn-Mayer, 1976), opening scene.

³⁷ David Zelag Goodman, *Logan's Run*, opening scene.

³⁸ See fig. 10 in attached Appendix for images.

mechanisms allow humans to live without agriculture, or natural human births – they can live without nature because of technology. All citizens' Lifelocks are controlled by a giant computer, which also employs people like Logan – technology therefore becomes the state, the ruler, and God in *Logan's Run*. Unlike *Things to Come* this technocratic society is saturated with immorality; humans live only for pleasure and every relationship is based on superficiality. The system itself lies to its citizens as it feeds them humans who were supposedly reborn for meals.

In *Logan's Run* an immoral, dystopic society physically separated from the natural environment is the future of human civilization. This city manifests itself in the architecture and the mindset of modernism – it is achieved through technology and the natural world is given a subservient role, or excluded completely. Here sanctuary is the natural world, it renews Logan and provides the optimistic future for civilization as they overthrow the computers and leave the domed city. In the same way the natural, uncontaminated environment is Roth's vision of heaven as he dies in *Soylent Green*. These two examples of dystopic fiction illustrate the idea of the future in American social consciousness during the 1970s. Their startling similarities to earlier utopian visions of future urban societies beg the question, what changed? How did the role of the environment in cities transform from one of superficial aesthetics to heaven and sanctuary?

The 1960's: A Decade of Change

On April 22, 1970 some 20 million Americans took to the streets and participated in the first Earth Day.³⁹ They demonstrated publicly to show their concern over the future of the environment, the human race, and the planet as a whole. As Phillip Shabecoff argues in his work *A Fierce Green Fire: The American Environmental Movement*, “on that day, environmentalism emerged for the first time on the national stage as an unmistakable mass

³⁹ Phillip Shabecoff, *A Fierce Green Fire: The American Environmental Movement*, 103.

social movement.”⁴⁰ The popularity of the demonstration illustrated not only how ubiquitous environmental concern had become to Americans but also how personally the fear was felt, and consequently the measures these citizens were willing to take.

Yet Shabecoff also notes, “Earth Day was not a spontaneous uprising. The sense of mounting ecological crisis had begun to penetrate the national consciousness well before.”⁴¹ Beginning in the early 1960s the concept of ecology had been disseminated in readily accessible books such as Rachel Carson’s 1962 *Silent Spring*. Carson illustrated how all human actions, and especially the inappropriate use of technology, had an effect on life around them, as well as on humankind. The role of technology in the degradation of the environment was a major rallying point for the environmental movement. Barry Commoner, a politically involved scientist, created the St. Louis Committee for Nuclear Information in reaction to nuclear testing that was occurring in the continental US during the 1950s.⁴² The organization proved that humans, in particular infants, were absorbing radioactive material despite what the government had claimed about the tests’ safety.⁴³ This organization spearheaded the 1963 Nuclear Test Ban Treaty and their public nature led to an increasing concern in the general population regarding the use of technology.⁴⁴ Other public figures such as Lewis Mumford and René Dubos also began to publicly address the role of science and technology in environmental degradation. These figures were augmented by numerous public displays of environmental damage throughout the 1960s. People were seeing for themselves the affects of industrial technology on the environment in events such as “the choking of Lake Erie by phosphates; the dumping of toxic PCBs into the Hudson and Housatonic rivers, the dense smog blanketing many...major cities; the contamination of food fish by mercury; the fouling of beaches by sewage;” these very visual events served as a

⁴⁰ Phillip Shabecoff, *Earth Rising: American Environmentalism in the 21st Century*. (Washington, DC: Island Press, 2000), 5.

⁴¹ Shabecoff, *Green Fire*, 103.

⁴² *Ibid.*, 90-91.

⁴³ *Ibid.*, 90-91.

⁴⁴ *Ibid.*, 90-91.

warning that the public could not disregard.⁴⁵ In 1968 the environmental debate added a new factor: the discussion regarding ‘limits to growth’ became publicized through Paul Ehrlich’s work *The Population Bomb*. Limits to growth proponents argued that the earth had reached its carrying capacity and could not sustain more growth. Without attempts to manage population, Ehrlich and others argued, humankind would fall victims to famines and other horrors in the future. Ehrlich also coined the term ‘spaceship earth’ whereby earth was seen as one single entity, which could not only sustain a certain number of people.⁴⁶ The ‘spaceship earth’ metaphor gained new meaning and relevance after Apollo 8 captured the first ever photograph of the earth from space in December of 1968. The photograph, called ‘earthrise’, illustrated that the earth was one single entity, the only coloured object in a universe of blackness. The image was widely disseminated and reinforced the apparent fragility of life on planet earth.

All of the issues that became publicized in the 1960s needed the social and political atmosphere of that decade to have the effect on mass society that they did. As Shabecoff states, “the new environmentalism emerged out of the social ferment and activism of the 1960s. it was an era of movements...they believed that social change and political activism were the keys to protecting the environment.”⁴⁷ Baby boomers, conceived in post World War II America, were beginning to come of age during the 1960s with many attending universities across the nation. This enormous generational population revolted against many societal norms of the 1950s in a multi-dimensional movement called the counterculture. The counterculture took aim at war, weapons of mass destruction, societal consumerism, and the degradation of the environment. Here environmental damage was aligned with these other social issues and the general immorality of society. Professional environmentalist and founder of the Natural Resources Defense Council, Richard Ayles, stated that “there was a whole series of issues which people my age saw as part of one seamless web of need for social change – ending the war, a better criminal justice system, dealing with poverty, and protecting the

⁴⁵ Ibid., 103.

⁴⁶ Ibid., 89-90.

⁴⁷ Shabecoff, *Earth Rising*, 6.

environment.”⁴⁸ Many participants in the environmental movement demonstrated because of an overwhelming sense of social injustice, rather than specific environmental issues.⁴⁹ This younger generation also melded with previous conservationists who, until this explosion of environmental thought in the 1960s, had been more concerned with the rise of ecological thought, these conservationists realized that the problems of pollution, population, and urban issues would in the long term affect their areas of wilderness – everything on the planet was interconnected.

Environmental awareness became politicized with this generation; students staged protests, sit-ins, and demonstrations. Those that would not participate in more radical protests felt comfortable defending the environment in peaceful demonstrations; environmentalism was a universal cause, one applicable to every human.⁵⁰ The US government, realizing the scale of the movement, listened. Under the administration of Richard Nixon the US government created the Environmental Protection Agency and the Occupational Safety and Health Administration in 1970 and instituted laws such as the National Environmental Policy Act in 1970, the Federal Water Pollution Control Act in 1972, and the Endangered Species Act in 1973.⁵¹ The following administrations of Gerald Ford and Jimmy Carter continued the wave of legislation regarding environmental protection throughout the 1970s.

A New Utopia for a Newly Awakened Society: The Ecotopia

As we saw in both *Soylent Green* and *Logan’s Run* many of the environmental issues popularized by the modern environmental movement in the 1960s became tropes of dystopic futures: the inappropriate use of technology, over population, war, and pollution created widespread environmental devastation and led to an apocalyptic vision for future humanity. Because of this, the period from the 1960s through the 1980s has been called the end of

⁴⁸ Richard Aryes as quoted in Shabecoff, *Green Fire*, 107.

⁴⁹ Shabecoff, *Green Fire*, 107.

⁵⁰ *Ibid.*, 109.

⁵¹ *Ibid.*, 121-123.

utopian thought. As David Harvey stated, “no one believes any more that we can build that city on a hill, that gleaming edifice that has fascinated every Utopian thinker since Plato and St. Augustine...gloom and pessimism are more common – are Beirut, Sarajevo or even Los Angeles, with its riots and smogs, the only future we can envisage?”⁵² But academics that discuss this end of utopianism have mostly seen the demise of urban utopianism beginning in the 1970s because of economic downturns, not environmental damage.⁵³ Additionally, they have searched for utopias in the same modernist forms as were conceived in the mid 20th century – these examinations have not taken into account the dynamic nature of utopian thought as a response to changing societies. Thus, while utopias were declared dead, no one examined a form of utopia popularized during this period, the ecological utopia.

In 1975 Ernest Callenbach published *Ecotopia: The Notebooks and Reports of William Weston*, a novel set on the eve of the 21st century in an America where Northern California, Oregon, and Washington have seceded from the rest of the United States and named themselves Ecotopia. Callenbach writes that this break was largely due to the environmentally damaging practices and unchanging attitudes of the rest of the country. In Ecotopia citizens now live in a symbiotic relationship to the natural environment – they focus on recycling, reducing consumerism, and generally respecting the world around them. American reporter William Weston travels to Ecotopia to report on this new society and is amazed by how different their entire culture is from the rest of America and the world. Throughout the novel, Weston notes that Ecotopia’s citizens are physically healthier, have shorter workweeks, and in general seem happier than average Americans. In *Ecotopia* these societal and personal gains are a direct response to the changes Ecotopians have instituted regarding the environment and the function of technology.

When Weston first sees San Francisco he finds that “Market Street...has become a mall planted with thousands of trees...the remaining space...is occupied by bike lanes,

⁵² David Harvey as quoted in David Pinder, “Defense,” 229.

⁵³ Ibid., 234. Paul B. Sears’ “Utopia and the Living Landscape,” *Daedalus*, 94, 2 (1965) provides an excellent primary source of the connection between environmental damage and the seeming end of Utopianism made by those in the 1960s.

fountains, sculptures, kiosks, and absurd little gardens surrounded by benches.”⁵⁴ In Ecotopia the city is inundated with the natural environment and the lives of urban residents are filled with encounters with it. Additionally, their urban environment is no longer a tamed, organized, useful form of nature, it is one welcomed in its organic form. This is evident when Weston notes that Ecotopians have spent much money to discontinue diverting creeks in huge culverts underground and instead bring them up onto the streets of San Francisco where they would have naturally flowed.⁵⁵ Furthermore this organic, unorganized mindset has altered physically the way Ecotopians design their cities. When Weston visits the town Alviso he notices that “all streets are named, not numbered, and they are almost as narrow and winding as those of medieval cities,” as opposed to the grid system imposed on most cities due to the influence of modernist, rational thought.⁵⁶

Surprisingly, after all the technological mishaps and horrors of the 20th century, technology still finds a place in Ecotopian society and is still associated with the idea of progress. Here, however, the emphasis has been placed on the responsible and appropriate use of technology. In Callenbach’s vision of the future “Ecotopians are *not*, contrary to popular belief, headed back towards a stone-age life.”⁵⁷ For example, Weston calls the “thermal-gradient” power plant, created by Ecotopians to harness zero emission energy forms, a “staggering [achievement] of Ecotopian science and technology[.]”⁵⁸ Ecotopians abandoned fossil fuel based energy systems already established in their country in order to develop “power sources, which, like solar energy, earth heat, tides, and wind can be trapped indefinitely without affecting even the local biosphere.”⁵⁹ This is reflective of a rethinking, but not discarding, of technology in the 1960s. In his article “Appropriating Technology: The *Whole Earth Catalog* and Counterculture Environmental Politics”, Andrew Kirk states,

⁵⁴ Callenbach, *Ecotopia*, 11. In a possible nod to Rachel Carson, Callenbach also includes Weston noting “the occasional song of a bird,” in this alternative vision of the city.

⁵⁵ *Ibid.*, 12.

⁵⁶ *Ibid.*, 24.

⁵⁷ *Ibid.*, 111.

⁵⁸ *Ibid.*

⁵⁹ *Ibid.*, 112.

“counterculture environmental politics embraced the seemingly contradictory notion that the antimodernist desire to return to a simpler time when humans were more closely tied to nature could be achieved through technological progress.”⁶⁰ Shabecoff also notes this change in the role of technology in his discussion of Murray Bookchin who believed that society required “a reordering and redevelopment of technologies according to ecologically sound principles...based on non-polluting energy sources[.]”⁶¹

By the 1970s utopian thought was largely dismissed as non-existent and novels such as Callenbach’s were seen as purely fictional literature. Yet Callenbach undoubtedly saw his work as envisioning of a future utopian society or else he would have titled it Eco-city or Ecopolis, not *Ecotopia*. In *Ecotopia* the ills of a polluted, immoral, technologically irresponsible present are solved through a reorganization of the human relationship to the natural environment.

Conclusions: The Lasting Influence of Ecotopia and Sustainable Urban Living into the 21st Century

The early part of the 20th century saw the 21st century as space age utopia, the later half envisioned hellish dystopia – one decade into this anticipated century and cities look like neither. Urbanity of the late 20th and early 21st century has attempted to bring the natural environment back into the city wherever possible, consequently recreating that messy, organic city of the 19th century, albeit a little tidier. Additionally, the societal and environmental ideals embodied in *Ecotopia* have survived the 1970s and influenced this idea of the city. In 1996 Joan Roelofs, a professor of political science, published a book called *Greening Cities: Building Just and Sustainable Communities*. *Greening Cities* is a handbook illustrating the successes of ‘green’ communities and detailing suggestions for their replication. Roelofs covers the design of these cities, their dealings with inputs and outputs, such as energy, water, agriculture, and waste, but also discusses their community democracy, and culture – as

⁶⁰ Andrew Kirk, “Appropriating Technology: The *Whole Earth Catalog* and Counterculture Environmental Politics,” *Environmental History*, 6, no.3 (2001), 375.

⁶¹ Shabecoff, *Green Fire*, 90.

in *Ecotopia* the greening of cities is equated with a moral renewal. Much of what is contained in *Greening Cities* represents the future of urban centers and many initiatives that have already been implemented.

In *Greening Cities* Roelofs identifies *Ecotopia* as a landmark in the rise of the ecological utopia and discusses its palpable influence on contemporary sustainable planning. Roelofs notes that many of Callenbach's concepts are already embedded in sustainable urban planning theory and in particular the California urban ecology movement.⁶² Specifically she states that creek restoration, urban density, bicycle sharing, and bioregionalism in energy and economy are aspects of sustainable urbanity that Callenbach has introduced through *Ecotopia*. In terms of the immaterial, Roelofs' guidebook illustrates that Callenbach's model has influenced a moral rethinking of urban centers. She states that Ecotopians live "a materially simple yet emotionally rich lifestyle" because of their sense of community and shorter workweek. In *Greening Cities* Roelofs provides instruction on mimicking Ecotopian urbanity in both its physical design and more immaterial societal structure in hopes of bettering real urban centers in the future.

Also visible in sustainable urban planning is a unique antimodernist tendency. In *Greening Cities* technology is utilized in the same manner as in *Ecotopia*, not forgotten but repositioned; what is extinguished is the modernist hygienic mindset. Roelofs calls for composting, recycling of human wastes for agriculture, urban agriculture, and for the reintroduction of the natural environment into urbanity in an integral, untamed way. The changes that Roelofs and others call for reflect an almost cyclic return to the systems of the 19th century city and their mentality towards the environment.⁶³ As Stephanie Pincetl writes in the article "From the Sanitary City to the Sustainable City: Challenges to Institutionalizing Biogenic (Nature's Services) Infrastructure", "contrary to the modern city, the sustainable city

⁶² Joan Roelofs, *Greening Cities: Building Just and Sustainable Communities*. (New York: The Bootstrap Press, 1996), 14. Northern California is a particularly apt place for Callenbach's work to transform into reality because it is the setting of *Ecotopia*.

⁶³ In his *Cities for a Small Planet* Richard Rogers includes the model of a closed loop or circular city metabolism, which is much like the metabolism of a 19th century. These models frequent sustainable planning models today.

will be far messier and less sanitized. Vegetation will be climate appropriate...in other words born untidy plants rather than clean green lawns.”⁶⁴ Roelofs’ Ecotopianesque calls have been answered in 21st century urban centers – urban farms for food production are growing by the year in the United States; animal husbandry, especially chickens, has been legalized in many urban centers; composting of organic wastes is becoming more frequent; urban tree planting for air quality control; urban beekeeping bylaws are being passed, and many more ‘greening’ initiatives.⁶⁵

David Pinder has stated that postmodern urban planning is an expressly anti-utopian affair.⁶⁶ While this might be true in the sense that it is explicitly against the modernist vision of the utopia, it does not take into account the newly emerged form of utopia, the ecological utopia. This vision of the ideal future has become *the* vision of the ideal future in the 21st century and has inspired the remaking and rethinking of urban centers in sustainable ways.

The North American popular consciousness during the first half of the 20th century was fixated on the idea of the future, and the role of technology in that future. As we have seen technology transformed the city of the late 19th century from a dirty, messy organism to a clean, ordered machine. Nature was forced out of the concrete modernist city – except for areas of tidy greenery intended for visual pleasure. This positive notion of technology’s power over the environment ensured it would be essential in regards to building the cities of tomorrow. Whether they lived underground, as in *Things to Come*, or in the sky, as in *The Jetsons*, citizens of the ideal future cities had no need for the natural environment because of the superiority of their technology. Beginning in the 1960s this idyllic vision became the embodiment of horror, of the absolute worst-case scenario for humankind and was illustrated

⁶⁴ Stephanie Pincetl, “From the Sanitary City to the Sustainable City: Challenges to Institutionalizing Biogenic (Nature’s Services) Infrastructure,” *Local Environment* 15, 1 (2010), 52.

⁶⁵ Kate H. Brown and Andrew L. Jameton in “Public Health Implications of Urban Agriculture,” *Journal of Public Health Policy* 21, 1 (2000) states urban gardeners in the US increased by 10 million from 1992 to 1995. They also discuss positive legislation that is fostering this rise.

⁶⁶ Pinder, *Defense*, 235.

as such in dystopic movies such as *Soylent Green* and *Logan's Run*. Simultaneously we have seen the rise of a new version of utopia – an ecotopia, where humans live in peace with their natural environment as well as with their technologies. This dramatic shift resulted directly from the realities of environmental degradation, much of which was seemingly caused by inappropriate technology use, publicized by a growing environmental movement. This caused a rethinking of the function of technology – establishing it as useful only in appropriate ways that were not detrimental to the planet. In the contemporary ecotopian age of urban design methods discarded earlier, in an age obsessed with hygiene and cleanliness, are adopted in order to bring the natural environment inwards. This is now seen as essential for both the moral and physical aspects of urbanity and society in general. Thus, this paper has demonstrated how the role of the environment has changed in American cities, both those in reality and those imagined for the future, over the course of the last century. These changing roles, clearly evident within products of American popular culture, illustrate a significant parallel change in the goals of urbanity – a new focus on sustainable living and building in order to preserve and better the planet for the future.

***Media Editor's Note:** The Appendix referred to in the footnotes was unattached to the original publication of this paper and as such, has been left out as a result.