

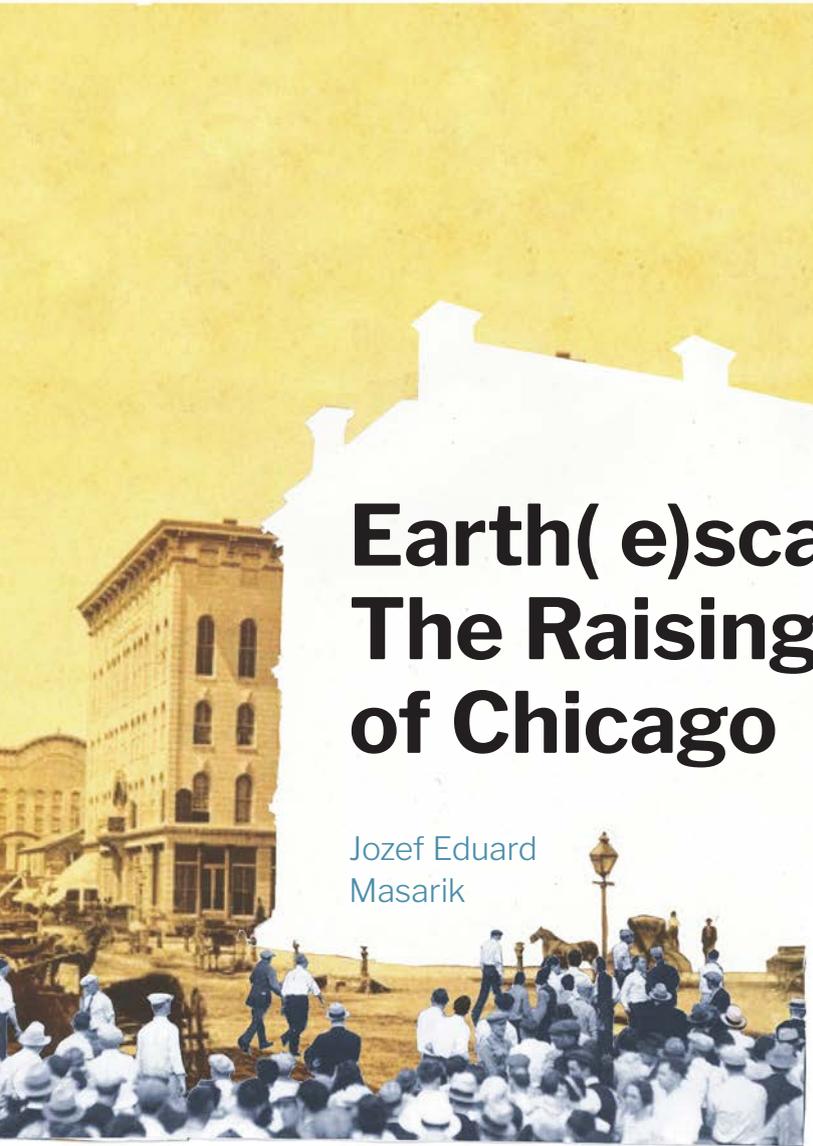
JOZEF EDUARD MASARIK

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THE RAISING OF CHICAGO

2020 /



Earth(e)scape The Raising of Chicago

Jozef Eduard
Masarik

Earth(e)scape The Raising of Chicago

Jozef Eduard Masarik

Supervised by Sébastien Quéquet

MA Space & Communication

HEAD Geneva

2019

Abstract

Raising of Chicago, a visionary project of the 19th century engineering, was a project consisting of lifting the whole city up to 14 feet above the city's original location. Such projects blending the real and the unbelievable were bringing the tradition of technology used to execute wonders or spectacle, which was disappearing at the time, back to life. The evolution of the perception of the relationship between the city of Chicago and the Earth is closely linked to the 19th century imaginary, represented in the research especially by the miasmatic theory and technological optimism. The perception of the city's natural conditions and the steps leading to the project clarify the raising and its aspirations. In order to discover the relationship between the raised city and the Earth, the raising is studied in the context of the 19th century imaginary and theories of built environment.

Raising of Chicago, un projet visionnaire de l'ingénierie du 19^e siècle, était un projet qui consistait à surélever la ville entière jusqu'à 14 pieds au-dessus de sa position originale. De tels projets, mélangeant le réel et l'incroyable, ranimaient la tradition de la technologie utilisée pour exécuter des merveilles ou des spectacles, qui était en train de disparaître à l'époque. L'évolution consécutive de la perception de la relation entre la ville de Chicago et la Terre est étroitement liée à l'imaginaire du 19^e siècle, représenté dans la recherche notamment par la théorie miasmatique et l'optimisme technologique. La perception des conditions naturelles dans la ville et les étapes menant au projet clarifient la surélévation et ses aspirations. Afin de découvrir la relation entre la ville surélevée et la Terre, la surélévation même est étudiée dans le contexte de l'imaginaire du 19^e siècle et des théories de l'environnement construit.

Acknowledgements

Sébastien Quéquet

Alexandra Midal

Jérémie Cerman

Thierry Chancogne

Jaroslava Karnoková

“Les Philosophes”

among many others, whom

I may have forgotten

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Introduction

The Great Exhibition which took place in London, 1851, being the beginning of a long series of international exhibitions indicating a period of popularity and growth of the industry, was proving the public's fascination with industrial achievements. According to the period's records: "*expressions of wonder and admiration saluted the ear on every side.*"¹ The exhibitions as "*festivals to the ideas of progress, mechanization and industry,*"² celebrating "*the mechanical miracle,*"³ were embodying the 19th century's belief in progress. The progress intrinsically linked to the industry in the 19th century mindset had its social value. The great exhibitions were meant to be a display of peace and joint efforts on the field of industry. The values they were representing were showing a belief in the transformative effects of the industry on the society. The vision of the industry's capacities was almost utopian.

The historian and theorist Siegfried Giedion assumes that: "*industry [...] with its unceasing flow of inventions, had something of the miracle that roused the fantasy of*

¹ The Manchester Guardian, May 7, 1851.

² SIEGFRIED GIEDION, *Mechanization Takes Command* (New York: Oxford University Press, 1948), 31.

³ *Ibid.*

the masses."⁴ Indeed, technology had a long tradition of rousing the fantasy which can be traced back to Antiquity, with such inventions as temple doors opening automatically with a flame lit on the altar or a play starring mechanically moved figures. This tradition of invention staging wonders transcended, according to the historian and theorist, until the late 18th century, with automatons taking the role of performers, such as Vaucanson's drummer or flutist. The ancient phenomenon of invention in the service of wonders instead of production could be explained by slavery providing cheap labor and by a different mindset not concerned by using invention for practical purposes, as Giedion suggests. Therefore, he also reasons that the mechanization's orientation changing from staging wonders to production's efficiency increase at the beginning of the 19th century, is a consequence of socio-political changes, such as slavery abolition resulting in scarcity of trained labor and the consecutive salary raises. However, not even with mechanization's new orientation did its wonders disappear. We can say that employing technology for pragmatic purposes could be seen as expanding the spectacular achievements of the wonder technology into the real. With the change, the wonders traditionally linked to technology were transcending into the reality. Such overlaying of the real and the unbelievable must have been stimulating

4 *Ibid.*

the imagination of the society, causing technological optimism to blossom. The international exhibitions and the way they were perceived by the public prove that technology was still a show, a spectacle. Visionary engineers coming up with spectacular projects can be seen as a proof of invention and fantasy still being hard to distinguish.

The 19th century imaginary was, besides technological optimism, marked by the persisting miasmatic theory, especially strong in the USA. This theory was proclaiming that diseases were spread through bad odors. Factories polluting cities with stench, the miasmatic theory was revealing the industry's dark side. The technological progress, 19th century was putting hope in, was transforming lives of entire cities, and in Chicago, the transformations translated into the soil. The words of Beatriz Colomina and Mark Wigley relating to design: "*the human is both inseparable from its artifacts and challenged by them, and the Earth understood as countless interacting life-forms, is also an active protagonist,*"⁵ describe Chicago's situation in the mid-19th century with surprising precision. Chicago, in its difficult location, was facing problems related to human activity, in this case industrialization, with particular severity. The way they transformed their environment challenged

5 BEATRIZ COLOMINA and MARK WIGLEY, *Are We Human?* (Zurich: Lars Muller Publishers, 2016), 25.

them, however, in spite of the problems, Chicagoans kept their technological optimism. The fact that the city asked an engineer to solve its situation can only be explained by their confidence in technology as a powerful problem-solving and life-changing tool.

It was used to save a whole city. But, in Chicago, saving the city meant saving it from the Earth. Technology returned fully to the services of wonder. It was saving an earthly city from the Earth. Chesbrough, the appointed engineer, proposed to lift the city from the Earth's surface. Therefore, we can ask how the 19th century imaginary saw the position of the city during and after the raising. How did the raising transform the relation of the city to the Earth it was initially built on? Is Chicago still an earthly city, according to the 19th century imaginary? Did it become a world on its own, detached from the environment it was built in? Can we venture to say that Chicago has left the Earth in the 19th century? The aim of this work is to explore the impact of the raising on the relation between Chicago and the Earth as well as the impact on the perception of the relations. The research's purpose is to discover if the raising had a transformative effect on the relation, in the context of the 19th century imaginary. Finding out if the "(e)" in "*Earth(e)scape*" should be pronounced, which

would make the raising an Earth escape or not which, would make Chicago an integral part of the earthscape, is the goal of this work.

Even if raising of Chicago was not the only, nor the first case of lifting a city, what makes it particular is its reason. In Chicago, human dwellings were not giving way to a large construction project as it was the case during the enlargement of Eerie Canal, nor was it protecting the city from the ocean as it was the case later in Galveston. In Chicago, we can speak about an attempt to escape the terrors of the Earth marked by human activity.

In spite of the particularity of raising of Chicago, resources dealing with the event are scarce. The exceptions are Chesbrough's well preserved plans and studies and the period's press, mapping the events in the city with a particular interest. The authentic point of view of the articles makes them especially valuable for the research. Due to American Civil War taking place in the time of the raising, travel diaries of travelers and immigrants are not abundant, however, their depictions of Chicago often offer interesting interpretations of the events, recording what they saw without understanding its real motivation. Historians and architecture theorists not showing particular interest in the raising of Chicago, we can hardly speak about a seminal work. Even, the 3 volume exhaustive *A History of Chicago* mentions the raising

only marginally while addressing topics linked to it. Neither did contacting museums reveal much further information. Images depicting raising of Chicago being equally rare, research in Library of Congress, Chicago History Museum or Chicago Public Library archives have not led to many further discoveries. However, raising of Chicago not being the only raising executed in the period, images of better documented later raisings using the same or very similar technique helped my deeper understanding of the process. In few cases, images from other places had to be used in *Earth(e)scape* to illustrate Chicago's situation. The resources being press articles, travel diaries and theoretical works often referencing the above mentioned, I was provided with very subjective information, often full of emotion, which made the raising appear like a spectacle. Therefore, I had to identify a logic choreographing the whole process, which determined the following research. It was necessary to understand the raising in the context of the 19th century imaginary represented by miasmas and technological optimism and in the larger context of the urban development and man-made environment.

In order to understand the decisions taken in Chicago, their motivations and consequences, the raising needs to be followed chronologically. The exploration of the early history of Chicago, in regards to its natural conditions, will cast light on the complicated relation between the city and the Earth. The importance of the relation will be emphasized by the further

development of Chicago represented by the steps leading to its raising. Grasping Chesbrough's plan and the effects, its execution had on the relation between the city and the Earth, will require the acquaintance with both, the 19th century imaginary and theories of man-made environment. The subsequent fantasies born from the raising will provide deeper understanding of how the imaginary shaped Chicagoans' vision of their position in relation to the Earth.



Fig. 1 View of Chicago.
1820.

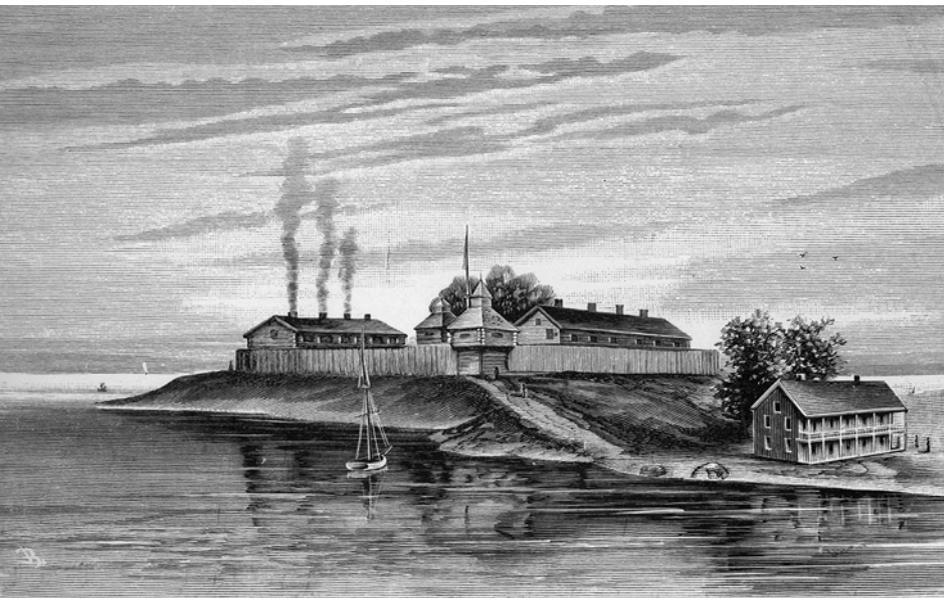
Leaving the Earth, while Leaving the House



Fig. 3 South Water.
1830.



Fig. 2 The original Fort
Dearborn. 1803–12.



The location of today's Chicago has been occupying an important place on the map of the United States ever since its establishment: "*Chicago's superiority rested in its location at the foot of the lake and at the head of the portage routes to the interior.*"⁶ First, in 1803, Fort Dearborn (fig. 2) was constructed on the strategic location, its geopolitical position being the only motivation of its placement. The swampy nature of the location was not beneficial for the fort. It was the farmer settlement (fig. 3), following the fort in Chicago's evolution, which started to benefit from the strong layer of humus constantly generated by the processes taking place in the swamp. However, the place was not fit for the upcoming evolution of the settlement into a metropolis. Henry Ward Beecher assumed that: "*the place has no adaptations for a fine city.*"⁷

The farmer settlement⁸ was growing into a city particularly fast. The growth was stimulated by the growing industry. Chicago's first industrial complex preceding the city's first municipal charter,⁹ we can say that the industry had a head start on the city. Since then, the city was always trying to

6 HAROLD M. MAYER and RICHARD C. WADE, *Chicago: Growth of a Metropolis* (Chicago and London: the University of Chicago Press, 1969), 20.

7 HENRY WARD BEECHER, *Eyes and Ears* (Boston: Ticknor and Fields, 1862), 99.

8 EMMETT DEDMON, *Fabulous Chicago: a Great City's History and People* (New York: Random House Inc., 1953), 4.

9 HAROLD M. MAYER and RICHARD C. WADE, *Chicago: Growth of a Metropolis* (Chicago and London: the University of Chicago Press, 1969), 24.

follow the dizzying pace of the industry's development. First factories started opening already at the end of the 1820's.¹⁰ The city's factories in constant search of workers for sawing and planing lumber, milling, butchering, tanning, meatpacking, brewing or distilling, were attracting migrants from all around the world. In the first seven years of the 1830's Chicago's population grew more than 80 times bigger.¹¹ By 1848, the telegraph line had already reached the city, steam-powered grain elevators went into function, cattle yards were built, the city's railroad opened, Chicago Board of trade was established and the Illinois and Michigan Canal was open.¹² Chicago became America's industrial capital.

From a Fertile Soil to a Contaminated Mud

Chicago's rocketing population led to an important increase of built-up areas. The ground was ever more covered by human-built structures. Chicagoans' access to the Earth itself was reduced. Having evolved from farmers to factory workmen, Chicagoans' interest was shifting from the Earth to industry. In the society composed mainly of factory workmen, working the soil was disappearing as a means of subsistence.

¹⁰ *Ibid.*

¹¹ *Ibid.*, 18.

¹² JONATHAN CARR, *Make Me a City* (London: Scribe, 2019), 153.

The Earth was not cultivated. Human interventions disappearing, the Earth resumed its former life of a wild swamp. According to the 19th century beliefs: "*if care were not taken, fermenting vegetation and rotting mold could create a dangerous swamp, a reservoir of miasmas,*"¹³ even in a healthy soil. Without human control the natural processes taking place in the Earth's surface, previously appreciated for generating humus, were becoming a threat. Therefore, the swamp could have only been seen as safe and inhabitable when cultivated. Chicagoans' lack of interest in the Earth was reportedly transforming it into a dangerous substance.

Once the soil was not being cared of, ties between Chicagoans and the Earth started to disappear. Chicagoans were not relying on the Earth and its generosity. They were just inhabiting a place. The excessive amounts of pollution accumulated in the streets of Chicago,¹⁴ can be seen as an illustration of the relationship Chicagoans' had to the Earth. Coal gas¹⁵ emitted by factories or growing amounts of human

¹³ ALAIN CORBIN, *The Foul and the Fragrant* (Leamington Spa: Berg Publishers, 1986), 190.

¹⁴ ELLIS S. CHESBROUGH, *Chicago Sewerage: Report of Results of the Examination Made in Relation to Sewerage in Several European Cities in the Winter 1856-7* (Chicago: The Board of Sewerage Commissioners, 1858), 63.

¹⁵ DAVID GISSEN, *Subnature: Architecture's Other Environments* (New York: Princeton Architectural Press, 2009), 59.

and animal waste accumulated in the streets¹⁶ must have been seen as noxious by Chicagoans familiar with miasmatic theory. However, nothing was done to harness the pollution of the city without sewers. Chicagoans did see how these conditions were transforming the part of the Earth's surface they were inhabiting. In the city, theories about pollution leading to a creation of an unprecedented kind of environment not existing before industrialization, such as the one recorded by Platt: *"the scale and scope of the changes in the land, water, and air caused by the factories' machines and their coal-fired steam engines were different. The amount of industrial pollution was so great that it enveloped the industrial cities in their own microenvironments,"*¹⁷ prove to be right. By human activity, the Earth was deprived of its fertility. The fertile swamp was transformed into contaminated mud. The transformation of the Earth obviously had an impact on Chicagoans' relation to it. Ever since, the relation was marked by danger and fear. Due to contamination, the Earth started being something to beware of.

¹⁶ HAROLD L. PLATT, *Shock Cities: the Environmental Transformation and Reform of Manchester and Chicago* (Chicago and London: University of Chicago Press, 2005), 98.

¹⁷ *Ibid.*, xiv.

The Devouring Earth

Having lost the benefit of the fertile soil, Chicagoans were left with the drawbacks of the swamp (fig. 4), a dunk and unstable environment. An immigrant in Chicago recorded the situation through a story of: *"a brick-hotel five-stories high that was so heavy, that it had sunk into the soft soil, and had forced the ground up in the street around it."*¹⁸ The mud of the swamp not being a firm ground, it was not providing solid support neither for the city, nor for its inhabitants. On the contrary, the Earth had the tendency to absorb anything it came in contact with. Witnessing the behavior of the Earth, Chicagoans must have understood that the muddy ground was not appropriate for human life and even less for a metropolis. Chicago's mud was in opposition to the 19th century efforts when: *"architects and urbanists sought to remove dank spaces from the city*

¹⁸ CHARLES CLEAVER, *History of Chicago from 1833 to 1892* (Chicago: Published by the author, 1892), 53.

Fig. 4 Subdividing a swamp. 1859.



Fig. 5 A muddy street of the city of Chicago. Date unknown.

and the countryside.”¹⁹ Humidity on its own was considered a mark of failed architecture, of a city which was not able to cope with its natural conditions. Chicago was an exemplary case of a city struggling with dankness (fig. 5).

Even though ever more of the ground was being covered by human built structures, the Earth was still the only constituent of Chicago’s streets. Since they were unpaved,²⁰ using the city’s thoroughfares meant coming into direct contact with the swamp. The dangers of the unsolid soil were fully manifested in the streets. People, horses and even entire coaches²¹ (fig. 6) were stuck or even completely absorbed by the mud. Chicagoans started warning each other

19 DAVID GISSEN, *Subnature: Architecture’s Other Environments* (New York: Princeton Architectural Press, 2009), 30.

20 ROBERT G. SPINNEY, *City of Big Shoulders: a History of Chicago* (DeKalb: Northern Illinois University Press, 2000), 37.

21 *Ibid.*



of the dangers by signs placed along the streets announcing that there was “NO BOTTOM HERE,”²² or that “STAGE DROPPED THROUGH.”²³ Hats dropped on the mud with the notice “MAN DISAPPEARED”²⁴ or “MAN LOST”²⁵ do not even need explanation. Other signs were describing the mud, with a great dose frustrated sarcasm, as “THE SHORTEST WAY TO CHINA.”²⁶ a story of a man stuck in the mud, only his head standing out became a subject of a common joke. When a gentleman came to ask if he needed some help, his answer was “*Oh, no, thank you. I have a good horse under me.*” In spite of the humorous attitude manifested in the way Chicagoans were talking about the mud, they were clearly understanding, the Earth was not a reliable solid base. Without paying enough attention while walking in the streets, anyone could slowly disappear in the depth of the mud.

22 HAROLD L. PLATT, *Shock Cities: the Environmental Transformation and Reform of Manchester and Chicago* (Chicago and London: University of Chicago Press, 2005), 98

23 HAROLD M. MAYER and RICHARD C. WADE, *Chicago: Growth of a Metropolis* (Chicago and London: the University of Chicago Press, 1969), 24.

24 *Ibid.*

25 *Ibid.*

26 HAROLD L. PLATT, *Shock Cities: the Environmental Transformation and Reform of Manchester and Chicago* (Chicago and London: University of Chicago Press, 2005), 98.



Fig. 6 Front Street, Dawson City, Yukon. 1898.

The Earth had become dangerous to Chicagoans' lives. It was devouring them alive. Once they were caught in the trap they were helpless. Without help, they could not do anything but wait for the death to come and set them free from the Earth's terrors. Slowly sinking in the mud, while being perfectly conscious about the inevitable end, was a cruel torture the Earth prepared for Chicagoans right at the porches of their houses. The only solid zones were the floors in the city's buildings. Only in the architecture, could Chicagoans find shelter from the dangerous Earth. We can suppose that Chicagoans' fear of the Earth was growing bigger. Their lives were put in direct danger by the Earth itself.

Death Fogs

Smells were important components of the 19th-century environment. Scientific theories²⁷ were proclaiming that diseases were spread by bad odors, called miasmas, instead of germs.²⁸ In Chicago, a particular form of miasmatic theory

27 THOMAS NEVILLE BONNER, *Medicine in Chicago, 1850–1950: a Chapter in the Social and Scientific Development of a City* (Urbana, Chicago: University of Illinois Press, 1991), 179.

28 Germ theory started gaining importance in the USA only after Koch's discovery of tuberculosis bacteria in 1882. THOMAS NEVILLE BONNER, *Medicine in Chicago, 1850–1950: a Chapter in the Social and Scientific Development of a City* (Urbana, Chicago: University of Illinois Press, 1991), 35.

was largely accepted: “Chicago’s medical spokesmen were attracted for obvious reason to the soil theories associated with the German theorist Max von Pettenkofer, who reasoned that wet ground was the seabed for the spontaneous generation of agents of human sickness.”²⁹ According to the German scientist, clean ground and control of processes taking part in the ground were essential for a healthy environment. The ground’s porosity giving opportunities for exchanges between the soil and the air, caused the Earth to have direct impact on the air’s quality. By Pettenkofer and Chicagoans along, the contaminated mud of the swamp, the city was built on, was seen as a source of dangerous emanations.

In Chicago, these noxious fumes were called “death fogs.”³⁰ We can find origins of this term in numerous deadly epidemics striking Chicago in the 1850’s. Chicago, a fetid place and epicenter of epidemics, was an embodiment of the Pettenkofer’s miasmatic theory. Miasmas were leaving incredible amounts of dead human bodies as a proof. The cholera epidemic in 1854 on its own, killed 6% of the city’s population, which meant dozens of deceased daily³¹ and for Chicago this situation was nothing new: “it was the sixth year in succession

29 HAROLD L. PLATT, *Shock Cities: the Environmental Transformation and Reform of Manchester and Chicago* (Chicago and London: University of Chicago Press, 2005), 118.

30 DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 123.

31 *Ibid.*, 122.

that Chicago was hit by epidemics, including typhoid fever and dysentery, giving it what was believed to be the highest death rate in any city of the century.”³² The culprit, according to Pettenkofer’s theories’ followers, must have been the fetid Earth emitting “death fogs.”

“Death fogs” were killing with much more violence than the Earth passively waiting for the unsuspecting passerby to fall into its bottomless trap. The Earth was actively killing Chicagoans with ruthless cruelty. Miasmatic emanations were causing a terrifying and sudden death. According to the records: “*what made cholera terrifying was the way it struck and killed. The symptoms came on with terrifying suddenness, and they were spectacular. [...] People who were well at noon were in the grave by night, but only after a terrible struggle with vomiting, diarrhea, and stabbing cramps. Even their loved ones had trouble looking at their suffering faces, pinched and blue and cold.*”³³

Therefore Chicagoans must have been afraid of the Earth, as much as they were afraid of the death. We can say, that the first was embodying the latter in the city. If the Earth was poisoning the air, mere breathing was deadly in Chicago.

³² *Ibid.*, 122.

³³ *Ibid.*, 123.

The stench spreading far from its source could kill, which enabled the Earth to kill at distance. It would be hard to imagine that Chicagoans were not terrified at this point.

Fig. 7 Man standing on crusted sewage in Bubbly Creek at West 39th and South Morgan Streets in the Bridgeport neighborhood, 1911.



Ups and Downs³⁴

Chicagoans were trapped on the Earth not fostering life, but death instead. The terrors of the part of the Earth's surface inhabited by Chicagoans must have been frightening them. The Earth had ceased providing support for human life. On the contrary, it was putting an end to the lives of great numbers of its inhabitants. It was devouring them, either alive in the streets or dead in the depth of the graves after "death fogs" had done their job. The action Chicagoans took to protect themselves reveal an effort to avoid interactions with the Earth. Finding shelter in architecture already before, they started building structures helping them not to come in contact with the Earth anywhere within the city (fig. 8 – 13). They started paving the unpaved city of Chicago. The idea that: "*the anxious attention given to the mysterious art of paving, [...] was a means of sealing off the filth of the soil or the noisomeness of underground,*"³⁵ applies with particular accuracy to Chicago.

34 James Stirling, an English visitor invented the city's nickname "the city of ups and downs," already in 1856. At this time the raising was at its beginning, therefore, at this time, the nickname describes rather the activities prior to what is called the raising of Chicago.

35 ALAIN CORBIN, *The Foul and the Fragrant* (Leamington Spa: Berg Publishers, 1986), 90.

The great dose of improvisation visible in Chicago's first sidewalks, could be seen as a testimony to the fear and the urgent need Chicagoans had to avoid the Earth. They preferred walking on poorly crafted sidewalks with nails sticking out of the planks³⁶ to walking on the mud of the streets. The planked sidewalks laid over the ground proved to be inefficient. The mud was coming through gaps between the planks and was squirting all around, spraying pedestrians³⁷ and taking control over the city with even more power. An observer visiting Chicago with its first sidewalks observed that: "*the streets of Chicago [...] were covered with planks, beneath which laid an untold depth of black mud, jets of which were thrown up as wagons passed.*"³⁸ And at the same time, planks coming into contact with the mud rotted almost immediately. In order to make the protection more efficient and avoid the destructive effects of the mud, Chicagoans started building their sidewalks higher and higher, which could be interpreted as an intuitive escape form the Earth and its aggression.

36 EMMETT DEDMON, *Fabulous Chicago: a Great City's History and People* (New York: Random House Inc., 1953), 10.

37 ROBERT G. SPINNEY, *City of Big Shoulders: a History of Chicago* (DeKalb: Northern Illinois University Press, 2000), 37.

38 HAROLD L. PLATT, *Shock Cities: the Environmental Transformation and Reform of Manchester and Chicago* (Chicago and London: University of Chicago Press, 2005), 101.

Fig. 10 772 - 774 State Street. 1868 - 69.

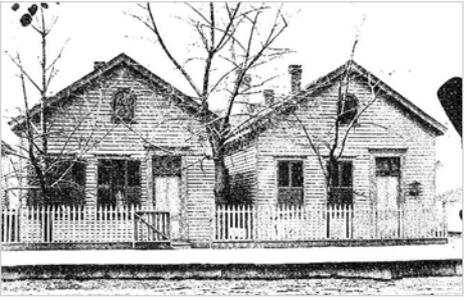


Fig. 9 Birds-Eye View from Water Works Tower. c. 1850.



Fig. 8 Drake Block. 1865 - 1870.



Ups and Downs



Fig. 11 Custom House and Post Office. 1860.



Fig. 13 Customs House and Post Office. c. 1850.

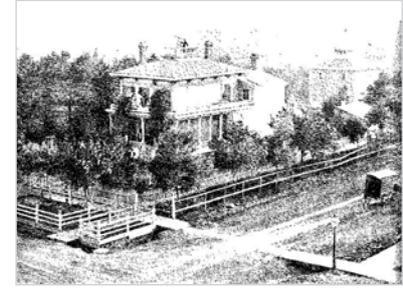


Fig. 12 Looking Northeast from the Badger Home in 1870 across Congress and Reubens (Ashland Avenue). 1870.

Fig. 14 Frederick Wallis Residence, 85 Huron (Huron and Sedgewick), 1863.

What was still being built on the surface of the Earth were buildings. However, their position was one of the few, if not the only, link to the Earth they had. Entrances of the individual newly built buildings were constructed on arbitrary levels decided by the owners according to their own needs. Proposals for regrading the city, in order to drain it, were being done and publicly known since 1849.³⁹ Therefore, property owners were not counting on the ground as a base level in the plans

39 BESSIE LOUISE PIERCE, *A History of Chicago, Volume II: From Town to City 1848–1871* (Chicago and London: Chicago University Press, 2007), 317.



Handsomest Brick Cottages in Chicago
Price, Only \$1650 to \$1800 each.
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Siehe Höhe
 Zweiter Stock 8 Fuß hoch.
 Erster Stock 10 Fuß hoch.
 Basement 3 Fuß über der Erde.

Siehe Zimmer an!
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 1 Vorder-Zimmer.
 2 Hinter-Zimmer.
 2 Kleine Zimmer.
 1 Küche.
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 128 CLARK STREET, CORNER OF MADISON STREET.
 Particulars within.

Fig. 15 The Handsomest Brick Cottages in Chicago advertisement, 1883.

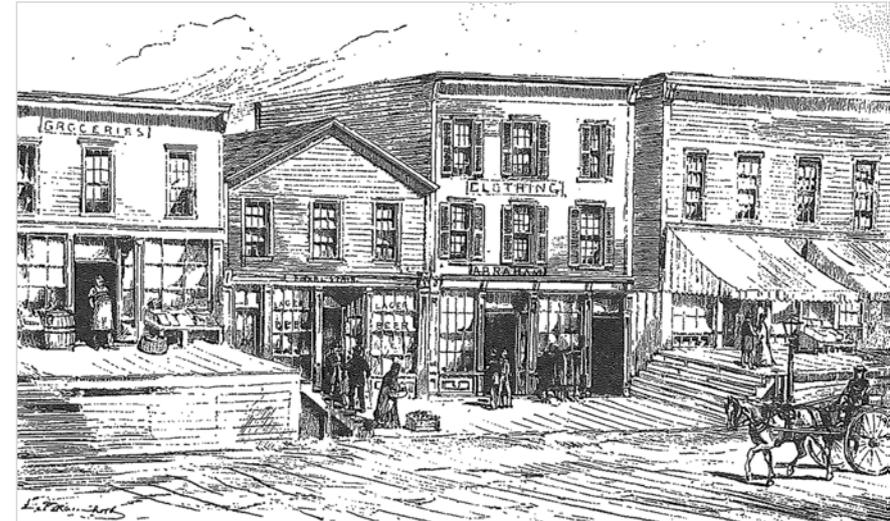


Fig. 16 Clark Street, 1857.

of their buildings (fig. 14). A whole typology of houses called *Chicago Cottage* (fig. 15), with the entrance and the porch on the second-floor level instead of the ground level was developed in Chicago in this period.⁴⁰ We can say that Chicago's architecture was losing its relation to the ground.

Since the sidewalks were connecting individual entrances built in various heights, the city ended up with a system of ramps going up and down (fig. 16), reaching from one entrance level to another one. A historian's depiction of a passage through the city points out that: "*frequently it was necessary to walk from one sidewalk level to another several times in a single block [...] It was with justification that periodic signs warned to pedestrian to 'USE YOUR INTELLECT.'*"⁴¹ Chicago's array of ramps and platforms brought the city its nickname of "*the city of ups and downs.*" Avoiding any potential contact with the Earth, the system was growing ever more complex. Sidewalks on the opposite sides of the streets were connected by ramps or even wooden pedestrian bridges: "*from side to side rickety boards served as unsafe bridges and the unfortunate hordes waded laboriously along as best they could.*"⁴²

40 EMMETT DEDMON, *Fabulous Chicago: a Great City's History and People* (New York: Random House Inc., 1953), 13.

41 *Ibid.*

42 *Ibid.*, 10.

The system of sidewalks, Chicago's inhabitants built for themselves in order to avoid any contact with the Earth, had no relationship to the place's topography. It was an artificial environment, built as an alternative to the Earth which was too dangerous to human lives. Building artificial environments as a protective system proves theories presenting: "*the human as under some kind of threat that needs to be urgently countered by design.*"⁴³ In Chicago, the humans felt in danger and to counter the threats they built an environment allowing them to avoid dangers. The system of sidewalks was an alternative to the part of the Earth's surface where Chicago used to lay. It enabled Chicagoans' lives not to take place on the Earth anymore. Even if their houses were still laid on the Earth, every time they stepped out of their dwellings, they were entering an artificial environment, a system of platforms and ramps in the air, more or less high above the ground. Everything was built in such a way, that the Earth disappears from the Chicagoans' lives. However, we could say that what actually happened was, that Chicagoans started disappearing from the Earth. Making efforts to expel it from their lives, they were practically leaving it.

43 BEATRIZ COLOMINA and MARK WIGLEY, *Are We Human?* (Zurich: Lars Muller Publishers, 2016), 127.

Fig. 17 Photography of the lumber district, 1870.

The choice of the sidewalk's material could, equally, be explained by the intention to expel the Earth from Chicago. The smell of “*the fragrant piles of drying pine*”⁴⁴ spreading throughout the surroundings of the city's lumberyards (fig. 17)

44 WILLIAM CRONON, *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton & Co, 1992), 207.



can be seen as a stronger reason to choose this material than its availability in Chicago.⁴⁵ If we look at it from a miasmatic point of view, it is possible to see spreading the fragrant pine-wood around the city as an effort to expel the Earth's stench from Chicago and replace it by the strong pine scent. The smell being the Earth's ultimate power, according to the Pettenkofer's theory, replacing it would mean not leaving any space for “*death fogs*” to kill. Such efforts are also linked to the 19th century urbanism emphasis on controlling and cleaning the aerial space.⁴⁶ However, when the mud made fragrant pine boards rot, they became a source of bad odors themselves and therefore they were a potential danger.

Earth Fighting Against the City

After a while, the Earth always found a way to make Chicagoans' efforts vain. As if it was a malicious being teasing Chicagoans. After a short moment of hope, it showed its

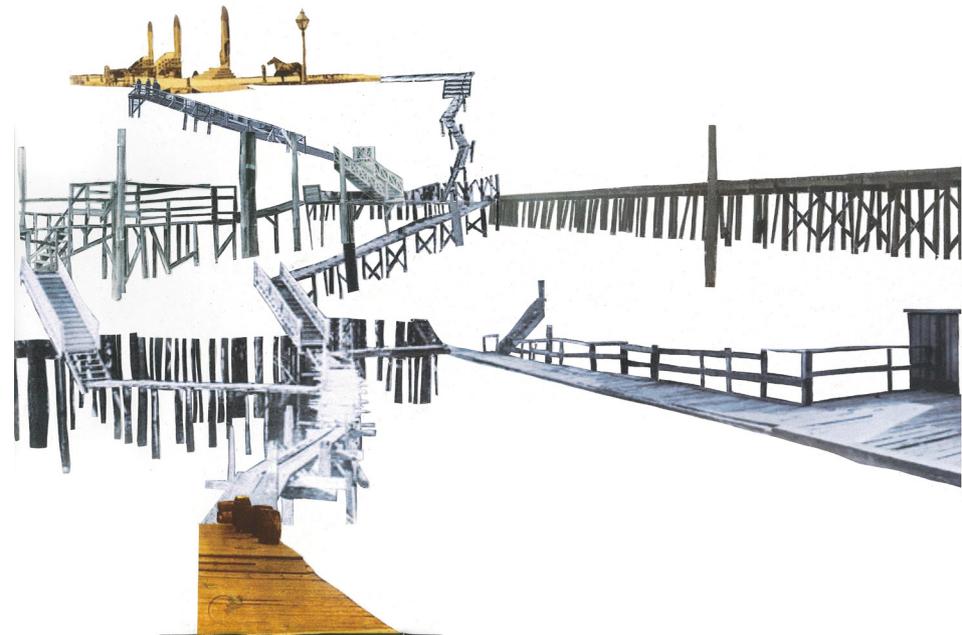
45 Chicago was the American center of lumber industry with vast lumberyard storing and drying important amount of pinewood coming from the forests North of Chicago. HAROLD M. MAYER and RICHARD C. WADE, *Chicago: Growth of a Metropolis* (Chicago and London: the University of Chicago Press, 1969), 24.

46 DAVID GISSEN, *Subnature: Architecture's Other Environments* (New York: Princeton Architectural Press, 2009), 58.

power again, often even more violently. Their lives were put in danger by the Earth which was always one step ahead of them making any protection impossible.

The fear must have been growing together with the feeling of helplessness. The Earth Chicagoans had chosen for its qualities manifested itself as a deadly environment. It is even possible to say that it was Chicagoans who transformed it into a killing substance themselves. The vision Colomina and Wrigley have of the human impact on the Earth nowadays, could easily be applied on what happened in Chicago in the first half of the 19th century: *“they [humans] now encircle the planet with layer upon layer of technocultural nets, posing an ever-greater threat to their own survival.”*⁴⁷ Chicago, as an industrial metropolis, was creating an ever more complex system, which was alienating it from the Earth, and at the same time, it was putting Chicagoans in danger. Paradoxically, in Chicago, continuing the alienation, continuing the development of the artificial system seemed to be the only possible way to save its inhabitants.

⁴⁷ BEATRIZ COLOMINA and MARK WIGLEY, *Are We Human?* (Zurich: Lars Muller Publishers, 2016), 12.



Leaving the Earth for Good



Chicago had arisen from a village to a city in just a few years because of fast construction methods, such as balloon frame (fig.18).⁴⁸ The city's development was inseparably linked with the method, colloquially called "Chicago

⁴⁸ The technique consisted in thin plates and studs, horizontal and vertical framing members, running respectively through the height and width of the wall, which were connected only by nails. This technique replaced the traditional and expensive mortise and tenon joints. It allowed the erection of a house in less than a week.

HAROLD M. MAYER and RICHARD C. WADE, *Chicago: Growth of a Metropolis* (Chicago and London: the University of Chicago Press, 1969), 20.



Fig. 18 St. Mary's Catholic Church (one of the first balloon frame structures in Chicago), carte-de-visite photograph. c. 1833.

construction.”⁴⁹ Even if Chicagoans' improvised efforts to escape the Earth could not compare to the efficiency of balloon frame construction, moving to another place on the Earth's surface and starting from scratch was not an option for them. Neither the inhabitants, the municipality, nor the engineers had come with the idea of moving the city horizontally. When, after the epidemics of cholera, in 1854, the frightened public demanded public action,⁵⁰ demands “*were met with bold, imaginative programs,*”⁵¹ the municipality's answer was the construction of a sewerage system.⁵² Sewers were supposed to prevent any further pollution of the ground and thus regain control over the air by controlling the Earth. The Board of Sewerage Commissioners selected Ellis Sylvester Chesbrough to plan the whole system.

⁴⁹ *Ibid.*

⁵⁰ DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 123.

⁵¹ HAROLD M. MAYER and RICHARD C. WADE, *Chicago: Growth of a Metropolis* (Chicago and London: the University of Chicago Press, 1969), 94.

⁵² DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 124.

Fig. 19 Ellis Sylvester Chesbrough. c. 1870.

Chesbrough

Having to leave school and starting to work at the age of 9, Chesbrough (fig. 19) did not receive a proper formal education. However, already at the age of 15, while working on the construction of the first American railroad, Baltimore & Ohio,⁵³ he was astonishing Colonel S. H. Long, an established engineer, by rationalizing the common railroad construction techniques. At the age of 17, he was already entitled assistant engineer⁵⁴ while working with Long on Allegheny Portage

Railroad. Since 1831, he was working for the engineer corps of General William Gibbs McNeill, alongside the most accomplished engineers in America.⁵⁵ The financial crisis, severely hitting the industry, affected him only at its culmination.

53 JONATHAN CARR, *Make Me a City* (London: Scribe, 2019), 117.

54 *Ibid.*, 118.

55 JOHN CARBUTT, JOSEPH MEREDITH, *Biographical Sketches of the Leading Men of Chicago* (Chicago: Winston & St. Claire Publishers, 1868), 193.

Afterwards, with the industry gaining its position again, in the services of public improvements,⁵⁶ Chesbrough regained immediately his position of an engineer. Water Commissioners of Boston invited him to plan and survey constructions along the Cochituate Aqueduct. The survey brought him the title of the first City Engineer in Boston's history.⁵⁷

The stunning life story matches perfectly the heroic image of a 19th century engineer. The Board of Sewerage Commissioners of Chicago observed Chesbrough's life story as a substantial justification to appoint him the city's Chief Engineer right at the Board's establishment, in 1855.⁵⁸ The engineer was given a special position by the city of Chicago, where his role was to save it from any further crisis resulting from its sanitary situation.⁵⁹

He was standing in front of a challenge. The natural conditions of the city did not allow common sewer construction methods. Chicago being built on a wetland, underground constructions would be problematic. And at the same time, the land was so low that it did not provide enough declivity for the gravity to empty the sewers into the surrounding water

56 *Ibid.*

57 *Ibid.*, 194.

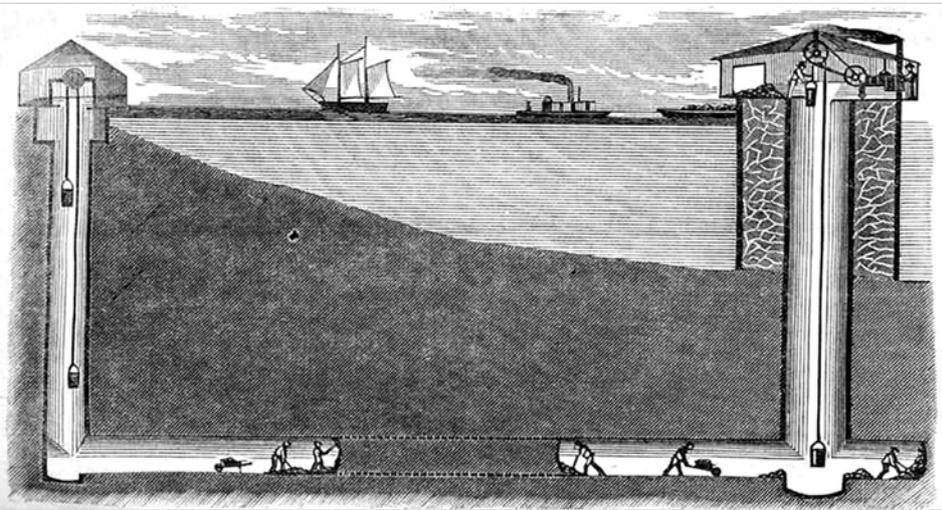
58 DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 124.

59 *Ibid.*

Fig. 20 Diagram depicting the construction of the lake tunnel to connect the Two-Mile Crib to Onshore Water Works. 1867.

areas. Therefore, Chesbrough decided: “to give the sewers such inclinations as the nature of the ground and the proposed modifications of the grade of the street will admit.”⁶⁰

What he eventually proposed, was laying the sewers on the streets of the actual city of Chicago, and afterwards raising the city up to 14 feet higher. In this way, the streets of the original city with the sewers became Chicago’s underground providing sufficient declivity for the latter. After sewers were installed, Chesbrough used the soil (fig. 21), excavated in



60 ELLIS S. CHESBROUGH, *Plan of Sewerage for the City of Chicago, Illinois, Adopted by the Sewerage Commissioners* (Chicago: Office of Charles Scott, 1855), 10.



Fig. 21 The Mule Train in the Tunnel. 1874.

Fig. 22 Dynamite Blasting Through Bedrock During the Construction of the Chicago Sanitary and Ship Canal. May 22, 1895.



the parallel construction of an underground tunnel (fig. 20) providing Chicago with drinking water, to fill the space between the Earth and the raised city. Chesbrough was constructing the whole system bringing the water into Chicago's households through the tunnel connected to a pipe-system, and

water, caused further problems. Chesbrough resolved them later by reversing Chicago River (fig. 22), which has ever since been running from the lake and not into the lake. The raising of the whole city being done in increments, street after street, the whole process took a couple of decades. As Chesbrough's plan (fig. 23) shows, the sewerage system was covering almost all the city, throughout all the length of Randolph Street from the East to the West, and all the length of Clark from the North far to the river's South Branch, which made it the first comprehensive sewerage system in the USA. Until 1870, 239 miles of pipes were laid under the city.⁶¹

By reversing Chicago River, one of the contacts with the sewer system was avoided. The gigantic project illustrates the degree of Chesbrough's concerns about the contacts between the underground world of sewers and the world above the newly established ground. Since the sewers were following the same pattern as the city's streets, the relations between the two worlds urgently needed to be defined. The dangerous original ground having, after the raising, the position of the new underground, it was then necessary to avoid the underground. Chesbrough's tendency to avoid contacts between the two is clearly visible in the report from his research trip to Europe where he was trying to identify

then diverting the waste water from the households through the sewers into Chicago River. Emptying the sewers into the river running into the lake, the city's source of drinkable

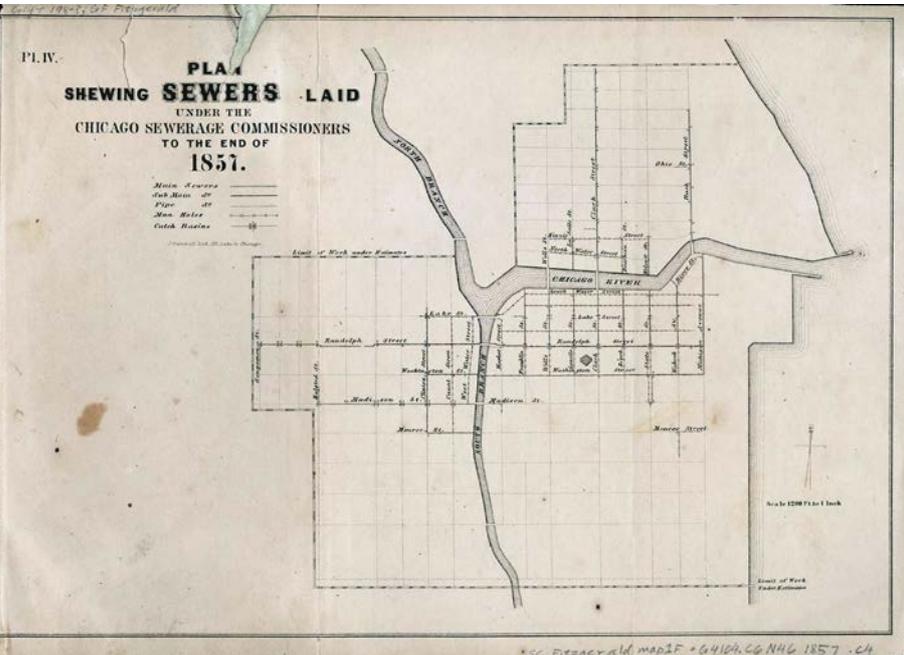


Fig. 23 Plan showing sewers laid under the Chicago Sewerage Commissioners to the end of 1857. 1858.

61 BESSIE LOUISE PIERCE, *A History of Chicago, Volume II: From Town to City 1848–1871* (Chicago and London: Chicago University Press, 2007), 334.

Fig. 25 Magnolia Avenue sewer system. August 11, 1933.



Fig. 24 Bryn Mawr Avenue, bricklayers, north heading. July 9, 1930.

the best solutions for Chicago's sewers. The possible contacts between the two worlds he was addressing consisted in exhalations from the sewers and access to the sewers for those who were maintaining them (fig 24, 25). Chesbrough's preference for a self-cleaning sewerage system, not requiring human access to the sewers, would also fit Chicagoans' avoidance of the Earth. However, having learnt in Europe that a self-cleaning model was not possible, he established a system of manholes through which the access to the sewers as well as the exhalations were controlled.

While executing his task to prevent another health crisis, Chesbrough, through his proposal and authority, validated Chicagoans' efforts to escape the Earth. His conception of Chicago's sewerage system confirmed that leaving the Earth was necessary and simultaneously helped it come true. Chesbrough went further than Chicagoans' imagination ever wandered. Not only sidewalks were raised into the air, entire buildings together with horsecar tracks, lampposts, hydrants and even shade trees were supposed to leave the Earth.⁶² Whole blocks of buildings were going to be jacked-up, certain buildings even moved to other locations (fig. 26). Chesbrough chose and created a new environment for the city, the whole Chicago was transformed.

62 DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 125.

According to Chesbrough's plan, streets and public spaces were to be raised on public expenses, while building raising was financed by their owners. Everyone had to pay their transportation to the new Chicago, which was a utopian vision corresponding to the democratic spirit of the times: *"the Jacksonian ideal of devolving political power*



Fig. 26 Moving a Building in Chicago. 1877.

directly into the hand of property owners represented a utopian goal that was inherently unstable and doomed to collapse under the weight of external pressures and internal

*divisions.*⁶³ And this was the case in the raising Chicago. The opposition of property owners resulted in some cases into legal trials, where the owner or the city were suing one another for damages or inconvenience caused in the process of raising. Such was the case in *Chicago City vs. Robbins*,⁶⁴ where the Supreme Court of the US had to decide who bore responsibility for the damages caused. The regular conception of a public space, its delimitations, rights and duties were questioned by the raising. The Supreme Court has decided that Robbins, a citizen and property owner, was responsible for the safety in the neighboring public place.

Chesbrough's daring plan was raising opposition during its execution, as well as at the time when it was just a proposition. *Chicago Daily Tribune* recorded that: *"the conservatives of science were incredulous; the conservatives of finance raised a sullen growl."*⁶⁵ The same periodical reported about: *"many animated and angry discussions [...] over the matter,"*⁶⁶ and about the *"fear that a very large majority of the owners of Chicago 'inside property,' do not fully comprehend the practical working of the proposed 'new grade,' of thirteen or*

63 HAROLD L. PLATT, *Shock Cities: the Environmental Transformation and Reform of Manchester and Chicago* (Chicago & London: University of Chicago Press, 2005), 131.

64 United States Supreme court, *Chicago City vs. Robbins*, volume 67 U.S. 418. judgment of Mr. Justice Davis. December 1862, 418 – 429.

65 JOHN CARBUTT, JOSEPH MEREDITH, *Biographical Sketches of the Leading Men of Chicago* (Chicago: Winston & St. Claire Publishers, 1868), 194.

66 *Chicago Daily Tribune*, Wednesday morning, March 25, 1857, front page, column two.

fourteen feet above low water.”⁶⁷ But Chesbrough silenced his opponents “by the success of his undertaking. The success has made him famous.”⁶⁸ in spite of any opposition, Chesbrough gained the image of an engineer for whom almost nothing was impossible. The reputation he obtained through his previous accomplishments grew bigger in Chicago where he was seen as “a visionary engineer with an incorruptible sense of civic duty and an ability to plan and carry on through gigantic public projects, he became a new kind of hero to Chicagoans.”⁶⁹ He was the hero who set Chicago free from the Earth.

However, as far as building raising was concerned, there was still a question Chesbrough hadn’t answered: How to raise buildings? Chesbrough had calculated the necessary elevation of the whole city and confirmed the necessity to lift buildings, but being commissioned by the municipality, not taking responsibility for building raising, he never addressed the question of raising methods in his plans. This situation created space for various engineers and entrepreneurs to

67 Chicago Daily Tribune, Thursday morning, April 9, 1857, page one, column two.

68 HAROLD L. PLATT, *Shock Cities: the Environmental Transformation and Reform of Manchester and Chicago* (Chicago & London: University of Chicago Press, 2005), 131.

69 DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 124.

ESTABLISHED 1847.

E. F. BOSLEY

BRICK BUILDING

Raiser and Mover

—AND—

BUILDING RAISER.

Shoring Up Fronts, Floors, Girders, Setting Columns, etc.

TELEPHONE WITH M. W. POWELL & CO.

OFFICE HOURS, 12 TO 1:30.

Office: 173 LA SALLE STREET, Basement.

Residence: 35 PARK AVE.

Fig. 29 E. F. Bosley Brick Building Raiser and Mover Advertisement. Date unknown.

Fig. 27 Advertisement, Chicago Daily Tribune's front page, January 29, 1858.

ap13-1w Press and Tribune Office, 51 Clark-st.

INTERESTING TO PROPERTY HOLDERS.

The undersigned would respectfully notify those interested in the

Raising of Brick, Stone or Iron Buildings,

That he has now arrived in this city from San Francisco, and is prepared to take contracts in the above line, and would most respectfully invite patronage, &c., from the citizens of Chicago. The power used being

HYDRAULIC,

And far superior to the present method adopted here.

I feel warranted, after eight years experience, in asserting that for

ECONOMY, DISPATCH AND CONVENIENCE

To occupants, the power and method adopted by me stands

UNRIVALED.

Shop in the rear of Marble Yard, corner of Clark and Exchange Street, between Adams and Monroe streets. Room No. 78 Tremont House.

ap13x1m JOHN C. LANE.

INSURANCE.

Fig. 28 Advertisement, The Press and Tribune's front page, April 13, 1860.

Raising Business Blocks.

THE SUBSCRIBER WOULD ANNOUNCE that he is ready to make contracts for

RAISING BUSINESS BLOCKS TO GRADE,

and all other operations pertaining to the removal or raising of Buildings of wood, brick or stone, of any size, to any desired height or to any distance.

A long residence in this city, enables him to refer with confidence to many of our best citizens, for all inducements as to character and reliability.

May be found at the of J. G. Wright, Esq., No. 51 Clark street, between the hours of 9 A. M. and 4 P. M., daily.

JAMES HOLLINGWORTH,
Chicago, Jan. 29th, 1857.—Sw-194

take charge of the building lifting. Private companies were offering their services to Chicagoans willing to raise their real estate (fig. 27 – 29).

Pullman's jackscrew magic

One of the principal engineers working on the actual building raising was George Mortimer Pullman (fig. 30).⁷⁰ He came to Chicago to lift buildings in 1859, when the raising had already begun and there were already other engineers executing the raising of individual buildings. However, right after his arrival, he raised Matteson house (fig. 31), arguably the largest building ever raised in Chicago and proceeded by raising a whole block of commercial buildings. The spectacular achievements were made possible by Pullman's own raising technique.

When arriving to Chicago, Pullman had already had previous experience with raising and moving buildings from similar works executed along Erie Canal (fig. 32).⁷¹ However, this time, he proceeded differently. He abandoned his father's

⁷⁰ DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 125.

⁷¹ SIEGFRIED GIEDION, *Mechanization Takes Command* (New York: Oxford University Press, 1948), 453.

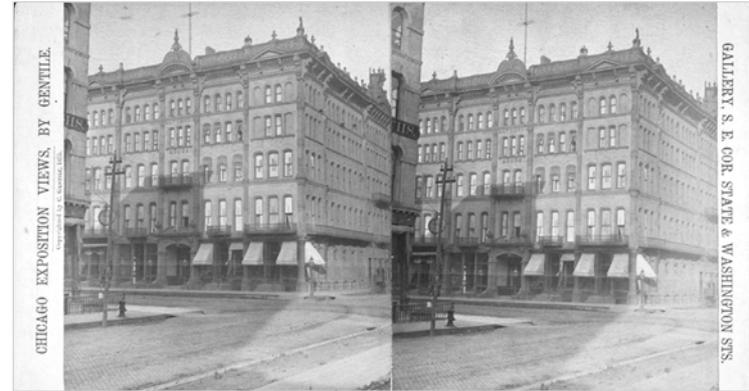


Fig. 31 The Matteson House. 1875.

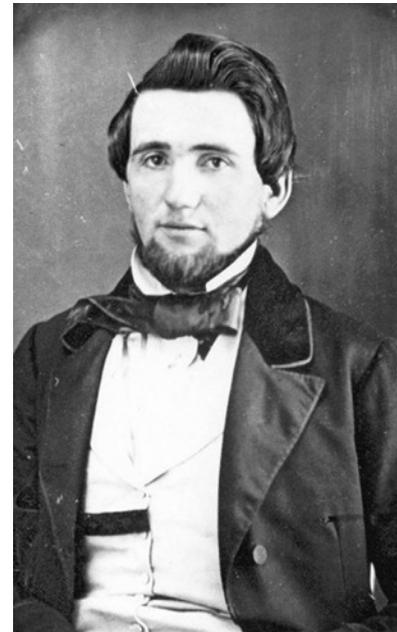


Fig. 30 Tintype of George M. Pullman. c. 1861.



Fig. 32 A Serene View of the Canal Era in Schenectady. 1873.

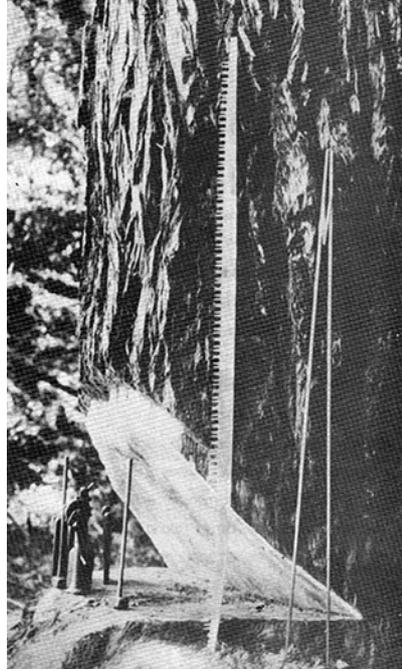
Fig. 35 Jackscrew similar to those used to raise Chicago. 2014.



Fig. 34 Jackscrews in use. Date unknown.



Fig. 33 Jackscrews in use. Date unknown.



patented jackscrew machine for raising buildings.⁷² He used regular jackscrews industrially produced in large scales,⁷³ just the way they were meant to be used, he lifted and moved heavy weights (fig. 33 – 36). He embraced the potential of jackscrews while balancing on the limits of their capacities. By making a city challenge gravity, making it float above the swamp, he challenged the natural laws. Using jackscrews, he freed a city from natural constraints. We could almost say that technology claimed its superiority over natural laws. And if natural laws did not apply we can speak about wonders or magic. Pullman's technique could be seen as a magic done the way an engineer would have done it. Pullman did with the jackscrews what industry was trying to do, maximizing efficiency. And as well as the industry, Pullman's method was causing awe. It was unbelievable but real. Pullman's method was not an illusion.

72 List of Patents for Inventions and Designs Issued by the United States from 1790 to 1847 (Washington: J. & G. S. Giedion, 1847), 240.

73 No further information was found neither by Pullman Museum.

Fig. 36 Railroad Construction Worker Straightens Track for the Union During the Civil War. 1862 – 63.



He did not need to distract observers, making them see only what he wanted them to see. In a place where the ground was not providing a solid support, not even jackscrews pushing buildings off the ground were regarded as cheating. Seeing everything was a part of the magical experience blurring the boundaries between the known reality and the one expanded by Pullman's method.

We can say that Pullman's choreography had a strong spectacular aspect. After the scene was prepared by digging underneath the building's foundations where timbers were inserted, and after placing thousands of jackscrews on their positions, under the building,⁷⁴ the spectacle could begin. Hundreds of workmen entered the scene waiting for the director to give them a whistle signal. Pullman, his brother or the third associate were always at the site, directing the process and giving it its specific rhythm. At the sound of a whistle everyone among the hundreds of workmen gave one of the jackscrews, in the set he was in charge of, a quarter of a turn and passed to another one. Another whistle meant another quarter of a turn on the next jackscrew and passing to another one. Every jackscrew in the set had to be turned before the first one was given another turn. The whistles assured the synchronicity of each movement of the hundreds of men. Buildings being

74 DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 125.

raised up to 14 feet, the process could even take over a week. During the whole time another highly specialized team was doing another operation at the site: "*great number of masons, working at terrific speed, would lay new footings under,*"⁷⁵ the rising buildings. The division of work into individual operations executed by specialized workers with the goal of raising efficiency reminds us of Pullman's engineer spirit. Giedion says about Pullman that: "*organization, enterprise [...] was his field,*"⁷⁶ which proves right in the case of raising of Chicago where he was the scriptwriter, choreographer and director of the whole project, of the whole spectacle and still an engineer saving movement, energy and labor.

Due to the slowness, the rise was almost imperceptible, which was a part of the magic of raising. There was a difference between what people believed was happening and what they could see. The experience of those who have witnessed the raising saying that even while staying in the buildings they had not noticed anything illustrates the mismatch quite well, even if the stories are surely exaggerated, since the unceasing whistles could not remain unnoticed. One of these testimonies was recorded by David McRae a Scottish traveler from the 19th century: "*a friend stayed at Tremont House during its lifting and only realized something was*

75 *Ibid.*

76 SIEGFRIED GIEDION, *Mechanization Takes Command* (New York: Oxford University Press, 1948), 453.

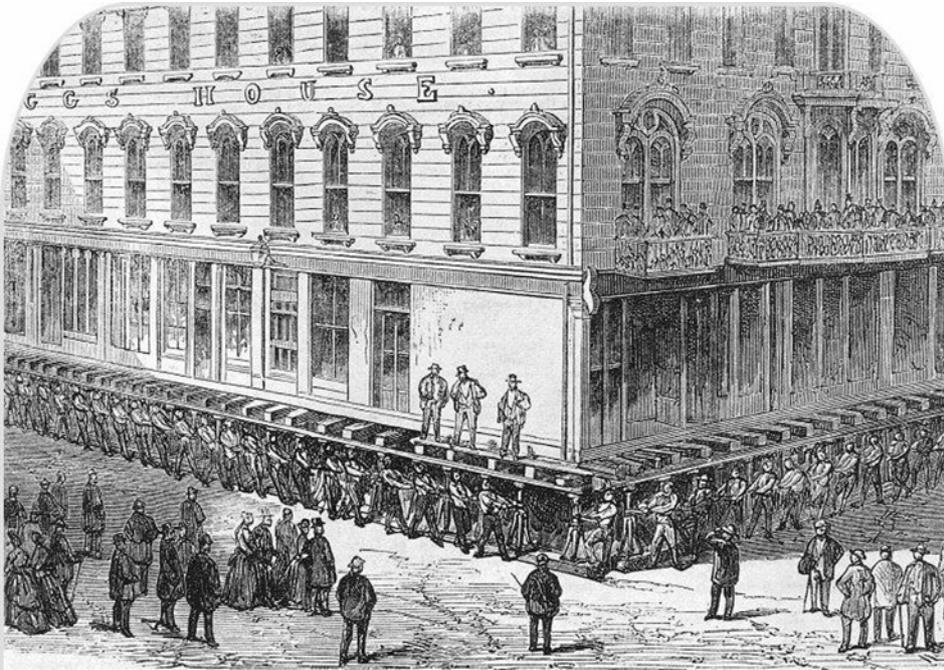


Fig. 37 Raising a Chicago Hotel, the Briggs House. 1857.

*happening because front stairs got progressively steeper each day.*⁷⁷ What the observers could see instead of the rise, was the choreography conceived by George Pullman, the hundreds of men executing synchronous movements at whistles

⁷⁷ HAROLD M. MAYER and RICHARD C. WADE, *Chicago: Growth of a Metropolis* (Chicago and London: the University of Chicago Press, 1969), 96.



Fig. 38 Moving of Briggs House in Chicago. 1857.

given by Pullman standing in the street in front of the building. As Donald L. Miller says: “*Pullman’s procedure in buildings raising was almost elegant in its machinelike coordination.*” Whistle, turn, step. Whistle, turn, step. Whistle, turn, step... The repetitiveness of the process was fascinating people from all around the world who were coming to Chicago and

gathering in its streets to witness the raising.⁷⁸ It was almost as if a repeated symbolic action was making something great happen for real. And we could say it was right. Merely by repeating the movements, with minimal impact separately, they made the Earth and Chicago split. The spectacle was

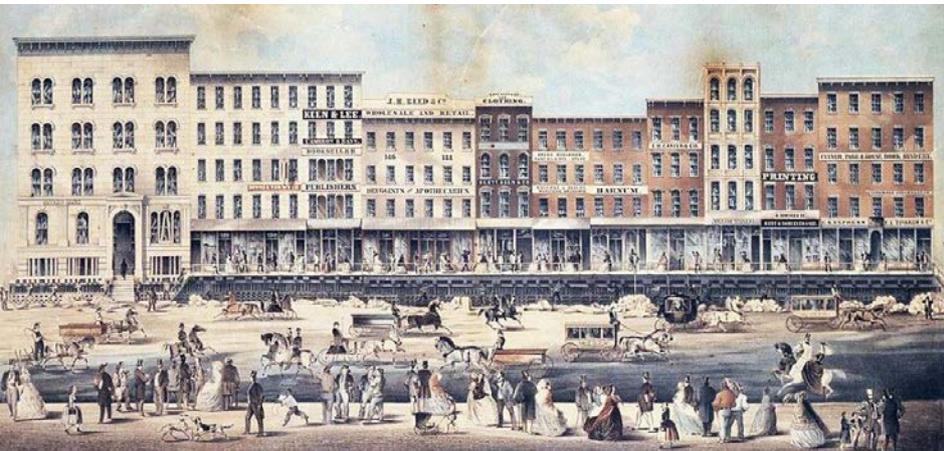


Fig. 38 Raising the Grade, North Side of Lake Street. c.1860.

endowed with a great dose of mysticism.⁷⁹ For several days or in some cases even weeks, the site of the raising became a mysterious mechanic dance floor. It was a choreography

78 DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 125.

79 It was almost as if they were witnessing the traditional mystical 'Dance of Departure' of the local native tribe, Potawatomi, mentioned by JONATHAN CARR in his novel *Make Me a City* (p. 108). It gave the impression of a ritual rather than of public works.

The Great Building-Raising.
 For the past week the marvel and the wonder of our citizens and visitors has been the spectacle of a solid front of first class business blocks, comprising the entire block on the North side of Lake street, between Clark and La Salle streets, a length of *three hundred and twenty feet*, being raised four feet by the almost resistless lifting force of *six thousand screws*.
 The block comprises thirteen first class stores, and a large, double marble structure, the Marine Bank building. Its sub-divisions are a five story marble front block of three stores; a four story block of three stores; a second four story block of three stores, and a five story block of four stores, at the corner of Clark street—these all presenting an unbroken front, in the heart of our city, and filled with occupants. It presents some of the best retail establishments in the city, and some of the heaviest stocks of Drugs, Dry Goods, &c. Its upper stories are full of offices, and contain millinery rooms, printing establishments, binderies, &c., &c., and yet, so admirably has the work been conducted, the ceaseless daily tide of pedestrians has not been impeded, but rather increased, from the novelty of the sight, and the merchants and others even speak of an improved trade, though they will welcome the completion of the work none the less.
 This absence from annoyance to the merchants and the public, is due to the skill with which the contractors have hung the sidewalks to the block itself, and carried up the same with the rise of the building. The block has been raised four feet eight inches, the required height, in five days, ending with Friday last, and the masons are now busy putting in the permanent supports. The entire work will occupy about four weeks.
 An estimate from a reliable source makes the entire weight thus raised to be about **35,000 tons**. So carefully has it been done that not a pane of glass has been broken nor a crack in masonry appeared. The internal order of the block has prevailed undisturbed.
 The contract was taken not jointly, but so carried out, by the several firms of Brown & Hollingsworth, Pullman & Moore, and Ely & Smith, and for an aggregate price of \$17,000. That sum will be nearly doubled by the entire improvements contemplated on the block.

Fig. 40 Article from The Press and Tribune's front page. April 2, 1860.

1017w642-St F & A M Det

The Iron Block !

We now extend an invitation to all Ladies and Gentlemen desirous of seeing the progress of raising this heavy block, to call at the basement entrance on South Water street, from 8 a. m. until 2 p. m. to-day, and from 9 a. m. until 12 to-morrow.

HOLLINGSWORTH & TOUGHLIN,
 Contractors.

w649

ARRIVAL OF MADAME ALWIN, THE GREAT FRENCH ASTROLOGIST AND MEDIUM

Fig. 41 Article from Chicago Tribune's front page. November 17, 1865.

with its specific rhythm. Jonathan Carr proclaims: “*There was no doubt it is a spectacle. Sightseers came every day to watch the show.*”⁸⁰ (fig. 39 – 42)



Fig. 42 Chicago's Tremont House hotel, Frank Leslie's Illustrated Newspaper, July 26, 1856.

The Daily press was providing the public willing to witness the raising with information about the upcoming raisings' times and locations (fig. 39 – 42). The phenomenon of travelling to witness attractions linked to technology was

80 JONATHAN CARR, *Make me a City* (London: Scribe, 2019), 260.

nothing new in America. “*An industry of picture-going,*”⁸¹ had developed with the moving panoramas⁸² and several other types of large-format visual shows at the turn of the previous century.⁸³

It was hard to say if the buildings were being lifted high in the air or if the mud was being pushed deep below the buildings. One thing was sure, the jackscrews were getting longer and they needed space. The raising site became a mysterious factory, an “*assembly line, wherein the entire factory is consolidated into a synchronous mechanism,*”⁸⁴ where all the workmen were perfectly coordinated. In this factory, the new Chicago up to grade was made. Not only had the industry previously transformed the city, the logic of a factory was applied to the city of Chicago. The efficiency of an assembly line was the logic of the choreography. The process was divided into individual operations with a specific succession. Every workmen had his designated working area and each of his movement was planned in advance. Efforts were made to save labor, movement and energy as it was

81 JOHN PLUNKETT, *Moving Panoramas c. 1800 to 1840*, 19: *Interdisciplinary Studies in the Long Nineteenth Century*, 17 (2013) <<http://19.bbk.ac.uk>, 32.

82 Moving panoramas were large scale panoramatic paintings or sets of paintings moving in order to create a visual experience.

83 JOHN PLUNKETT, *Moving Panoramas c. 1800 to 1840*, 19: *Interdisciplinary Studies in the Long Nineteenth Century*, 17 (2013) <<http://19.bbk.ac.uk>, 32.

84 SIEGFRIED GIEDION, *Mechanization Takes Command* (New York: Oxford University Press, 1948), 5.

being done in the 19th century factories.⁸⁵ The raising site became a continuous working line, with individual operations following each other and depending on each other, almost as if it was an assembly line which according to Giedion is: “*an American institution.*”⁸⁶ Chicago’s components were transplanted individually into its new location and reassembled into a new city, which was a product of the mysterious yet completely logic transformation.

The slowness of jacking the buildings up had its logic reason, which also added to the amazement. The buildings travelled up to 14 feet high above the ground without any harm to the structure. Stories about buildings being raised without any crack in the walls, without any broken window and even without their inhabitants noticing anything were wide-spread in that time.⁸⁷ Pullman was an entrepreneur knowing that property owners were the raiser’s employers, not paying for his services if they were not satisfied. Therefore it was particularly important to transport the real estate to the new place without any damage. Pullman is considered to be: “*one of the first entrepreneurs to master the effective use*

85 SIEGFRIED GIEDION, *Mechanization Takes Command* (New York: Oxford University Press, 1948), 90.

86 *Ibid.*, 5.

87 DAVID MAC RAE, *Les américains chez eux* (Paris : J. Bonhoure, 1880), 322.

of publicity.”⁸⁸ The engineer knew that perfect execution was the best advertisement in raising which had already become a public show, a show he mastered skillfully.

Siegfried Giedion said about Pullman that: “*his invention was luxury in travel. This was his domain.*”⁸⁹ Pullman was developing sleeping cars⁹⁰ later in his career and that is what Giedion is relating to in his words. However, if we see raising of Chicago as a transportation project, we can relate the quotation to the Pullman method as well. In this case, jackscrews took the place of the means of transportation and the city of Chicago took the place of the passenger. It traveled from the swamp to its new place above the ground, which could be seen as pushing the boundaries of human habitat. In the times of staircase any floor above the second was considered inappropriate to commercial activities and any floor above the fifth uninhabitable.⁹¹ in Chicago, the new ground was, in some cases, higher by even more than two floors. Thus, it reached the uninhabitable space “*floating in the thin air of speculation,*”⁹² which became an integral

88 SIEGFRIED GIEDION, *Mechanization Takes Command* (New York: Oxford University Press, 1948), 453.

89 *Ibid.*, 452.

90 Pullman’s sleeping car Pioneer from 1865, was characterized by an original construction with beds folding away. However, his major success was the popularization of sleeping cars, his design became a standard for decades and spread even across the ocean.

91 REM KOOLHAAS, *Delirious New York* (New York: the Monacelli Press, 1994), 82.

92 *Ibid.*

part of Chicagoans' daily life. Raising of Chicago can truly be considered a milestone in the transportation evolution from various perspectives. It helped Pullman finance the development of his sleeping cars.⁹³ Production of “hotels on wheels” as the sleeping cars were nicknamed, is not unlikely to be inspired by the previous step in Pullman's career, the short but demanding extraterrestrial travels, just off the surface of the Earth. Seeing raising of Chicago as extraterrestrial travels, we can say that a travelling revolution took place already before the development of sleeping cars.

The constant generation of new inventions and unprecedented pace of development in mechanization were increasing the belief in technology and progress, making people believe it could achieve almost anything. Therefore, not even the question of space traveling did seem unlike to the 19th century public. And that was a good ground for space hoaxes which were taken seriously by the American public. Edgar Allan Poe's hoax about the first moon travel in a hot air balloon, the *Unparalleled Adventure of One Hans Pfaall* published in 1833 in *Southern Literary Messenger* was such a success that he wanted to continue the cosmic hoaxes. However, he lost his opportunity with the publication of the so called Great Moon Hoax. *The New York Sun's* series of articles was

93 DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 126.

meant as a satire. Claiming the discovery of extraterrestrial life by one of the greatest astronomers of the time, John F. W. Herschel, the hoax's author, Richard Adams Locke, wanted to question beliefs in life outside of the Earth. Being a satire, it was meant to be taken satirically, however the public believed it to be true, doubts were very scarce. The news did spread even across the ocean, where it was enriched by a large variety of images (fig. 43 – 48). The satire went out of control living its own life. This episode testifies to the value cosmic pluralism⁹⁴ had in 19th century society. We could reason that believing in life on other celestial objects also means believing in inhabitable conditions in the outer space, outside the Earth, which was the case in the stories. Therefore, Chicago leaving the Earth in search for a new safe environment could be seen as a logic

94 Belief in extraterrestrial life, particularly popular in the 19th century and advocated in USA by Thomas Dick, a Scottish reverend, who had even calculated the number of inhabitants of the Solar System in *The Christian Philosopher* (1823).

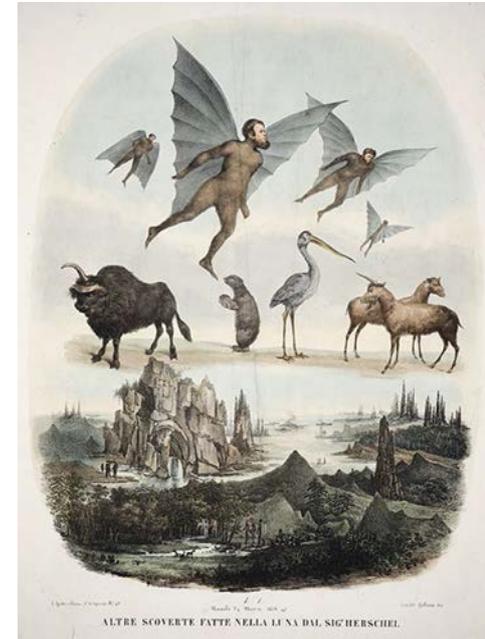


Fig. 43 Other lunar discoveries from Signor Herschel, 1836.



Fig. 46 Lunar animals and other objects discovered by Sir John Herschel in his observatory at the Cape of Good Hope, *Edinburgh Journal of Science*. 1835.



Fig. 45 Lunar Scene, *The New York Sun*. 1835.



Fig. 47 Sapphire Temple, *The New York Sun*. 1837.

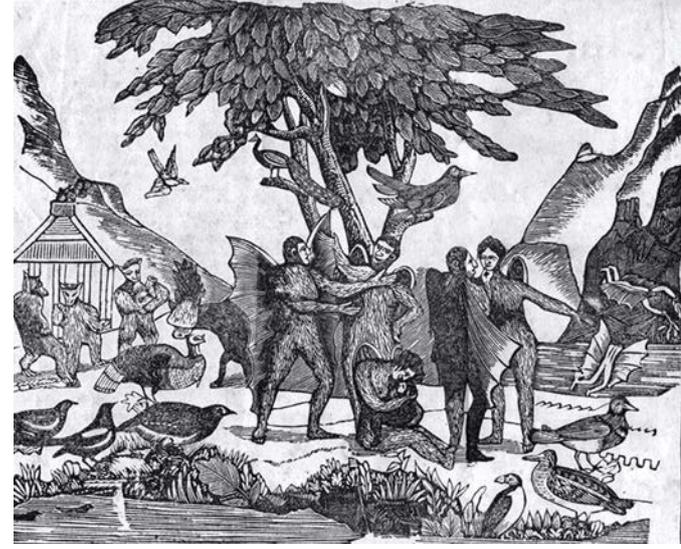


Fig. 44 Lunar Scene. c. 1836.

Fig. 48 The beginning of Richard Adams Locke's series of articles, *The New York Sun*, August 21 1835.

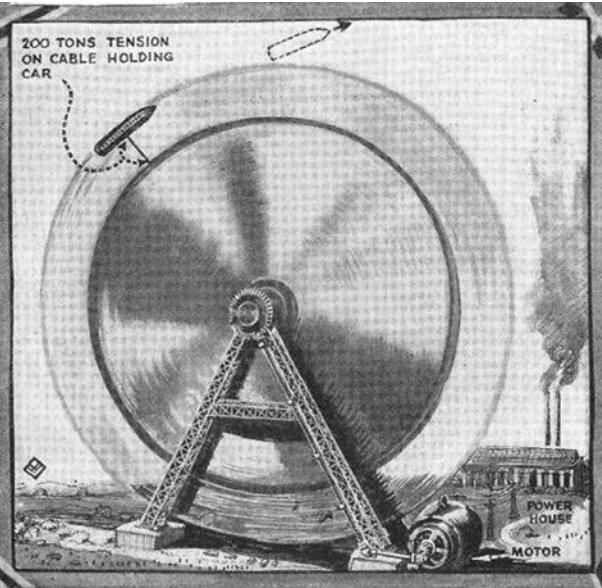


Fig. 50 The Brick Moon Flywheel, *Science and Invention*, February 1924.

step in the mindset of the period. Having acknowledged that the city reached to the outer space to find a shelter, Chicago would become the first geostationary satellite and the first extraterrestrial colony.

During the raising of Chicago, the first story of an artificial satellite appears. Edward Everett Hale's novella *The Brick Moon*, written in 1869, depicts a satellite composed of brick domes creating a sphere. Given its resemblance with architectural structures (fig. 49), links between the satellite and a city leaving the Earth's surface are unavoidable. The Brick Moon is launched by an imaginative device (fig. 50) accumulating energy from a waterfall to shoot it into the outer space. Accidentally, it is launched, while still in construction, with humans on board. These people became the satellite's inhabitants, the first people living in the outer space. Soon a life and a climate developed at the satellite. The text presents the space as an alternative to the earthly environment, a better alternative to the earthly reality. According to the novella, the inhabitants of Brick Moon were better on the satellite, than those living on the 6th



Fig. 49 The Brick Moon, *The Atlantic Monthly*, 1896.



Fig.51 Crosby's Opera House, one of the first gas lamps in front of one of the first theatres in Chicago.1865.

floor of an apartment in Paris, London or Boston. Hale's work was not a singular case, it was a part of fantasy marked by the scientific and technical progress of the 19th century being developed at the time. And together with technology, fiction was infiltrating the daily life of Americans, modifying the American reality.

Raising of Chicago was a show, a show where the real and the fantastic was being mixed to create a new blend of the two. Such show required an appropriate setting. Confounding the real and the unreal was facilitated by the apparition of

the first gas lights (fig. 51) in the streets of Chicago shortly before the raising.⁹⁵ Gaslights were wrapping anything they illuminated in their own peculiar world, as Lynda Nead says: "*the city at night became the city of gaslight [...] space was rearticulated by gaslight, with its alternating rhythm of seeing illumination and blind shadow.*"⁹⁶ The city became "*a hallucinatory, dreamlike evocation of the city as a phantasmagoria of past and present. Inhabited by outcasts, ghosts, and previous existences.*"⁹⁷ Gaslights were detaching cities from the known daily reality, in the perception of the 19th century society. They were transforming cities into a mysterious scenery. In Chicago, it was the levitating city, a scenery peculiar on its own, which was being transformed into an even odder place by the gaslights.

Since theatres were one of the early adopters of gas light, there was an obvious association between the two.⁹⁸ Chicago already having a decades long theatre tradition at the time of raising,⁹⁹ and gas light having hit American theatres even

95 BESSIE LOUISE PIERCE, *A History of Chicago, Volume II: From Town to City 1848–1871* (Chicago and London: Chicago University Press, 2007), 319.

96 LYNDANEAD, *Victorian Babylon; People, Streets, and Images in the Nineteenth-Century London* (New Haven: Yale University Press, 2000), 102.

97 *Ibid.*

98 STEVEN CONNOR, *Gasworks, 19 Interdisciplinary Studies in the Long Nineteenth Century*, April 1, 2008. <http://doi.org/10.16995/ntn.470>.

99 EMMETT DEDMON, *Fabulous Chicago: a Great City's History and People* (New York: Random House Inc., 1953), 84.

earlier,¹⁰⁰ Chicagoans were already familiar with the mysterious world of gas-lit theatre. In order to create an immersive experience, 19th century theatres, were illuminating the stage and the auditorium equally. When the auditorium lights were on *“the stage was practically an extension of the auditorium [...] the lowering or extinction of auditorium lights was accepted only when practiced as an intermittent effect.”*¹⁰¹ There was no clear boundary between the stage and the auditorium, between the real and the fantastic, and the spectators were used to crossing the two worlds. Walking in the streets of Chicago illuminated by gas, along buildings floating in the air, must have, therefore, been making the spectators feel like they were witnessing an incredible theatrical scene. At the time of the raising, even within the stage, the real and the illusory was being overlaid, making it hard to distinguish one from the other. What was initially mere gaslights illuminating the stage, took the form of projectors projecting images in the space of the stage. Images gradually started fading one into another producing illusions,¹⁰² and eventually in the late 1820’s these images began replacing real objects. Most likely, the first one to do so was Edward Fitzball replaced a ghostly

100 TERENCE REES, *Theatre Lighting in the Age of Gas* (London: the Society for Theatre Research, 1978), 19.

101 *Ibid.*, 188.

102 *Ibid.*, 86.

ship by a gas magic lantern.¹⁰³ Phantasmagorias infiltrating the real world through gaslights, alienated Chicago further away from the Earth. The lighting of Chicago being almost theatrical, the stage was ready for the floating city. It was a space where balancing between the real and the fantastic was inevitable. According to Miller: *“Reporters from all around the world went to Chicago to see almost the entire city uprooted and raised to a new height by an engineering ‘miracle’ of enormous cost and difficulty.”*¹⁰⁴

The layer of dust

There is an important question concerning the so called *“layer of dust,”* placed between the Earth and the raised Chicago, which needs to be answered. Is it a link between the Earth and Chicago or is it a barrier between the two? It could simply be seen as a layer filling, erasing the gap between the two. An obvious answer therefore could be that it links the city to the Earth. However, it is also true that without the *“layer of dust,”* there would be nothing to keep Chicago off the surface of the Earth. It can therefore be seen as a separation, too.

103 *Ibid.*, 85.

104 DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 125.

The “*layer of dust*” was designed by Ellis S. Chesbrough with the specific goal which implied leaving the Earth. Chesbrough calculated the necessary elevation of every single street, according to its position in the sewerage system and its relative position to Chicago River, taking into consideration the necessary declivity of the sewers. As a result of his calculations, the whole city had to be raised ranging from 4 to 14 feet (approx. 1.2 – 4.2 meters). The topography of the new Chicago was not determined by the surface of the Earth, it was not following its shape. Chesbrough was imposing a new surface fitting the requirements he set for the city. Its form was the form of a functioning artificial environment almost independent on the original one. The “*layer of dust*” was creating a new ground, a common ground respected by Chicagoans, unlike the original one they started ignoring while trying to avoid it. The effort to avoid the Earth was the only way it shaped the new ground. The “*layer of dust*” became the base for any other designed feature of the built environment of the raised city of Chicago. At the time of raising it was yet a great American metropolis, an artificial environment, composed of a multitude of human-made components excluding nature from its boundaries as much as possible. According to Chicagoans’ experience, any element not controlled by man became dangerous in the city. Already in the mid-19th century, Chicago was embodying what Colomina and Wrigley said one and a half century later: “*design is what you are standing on. It is what*

*holds you up. And every layer of design rests on another and another and another.”*¹⁰⁵ It was a self-sustaining and complex system relying upon itself.

Even while being on the Earth it was trying to isolate itself from its surroundings: „*the acres of sweet-smelling lumber stacked along the South Branch of the Chicago River testified to the fencing of the prairie and the growth of the city itself.*”¹⁰⁶ Through the raising, Chicago defined its territory outside of the Earth’s surface. Proving its alien relationship to its environment,¹⁰⁷ the raised city had to establish its own environment fitting its needs. After getting rid of the earthly Chicago’s aerial space, it was necessary to create a new aerial space appropriate for human life. These efforts can be seen as a sort of terraforming,¹⁰⁸ also referred to as earthscaping, in the miasmatic context. Certain plants were acknowledged being able to fight miasmas: “*their perfume was accepted as the antithesis of the putrid and excremental odors that had*

105 BEATRIZ COLOMINA and MARK WIGLEY, *Are We Human?* (Zurich: Lars Muller Publishers, 2016), 10.

106 WILLIAM CRONON, *Nature’s Metropolis: Chicago and the Great West* (New York: W. W. Norton & Co, 1992), 263.

107 EMMETT DEDMON, *Fabulous Chicago: a Great City’s History and People* (New York: Random House Inc., 1953), 15.

108 Terraforming is a process of creation of an inhabitable environment outside the Earth.



Fig. 52 King Ludwig II Winter Garden. 1870.

to be shunned.”¹⁰⁹ These beliefs enhanced the development of the 19th century gardens and in particular of greenhouses attached directly to houses.¹¹⁰ They were constituting fully isolated, artificial, controlled environments filled with “*perfume, designed by architects, for the greenhouse.*”¹¹¹ The greenhouse phenomenon (fig. 52) of the 19th century can be seen as a human effort to seclude themselves in closed artificial environments in order to stay safe from the dangerous outer world. One of

109 ALAIN CORBIN, *The Foul and the Fragrant* (Leamington Spa: Berg Publishers, 1986), 70.

110 *Ibid.*, 189.

111 *Ibid.*, 189.

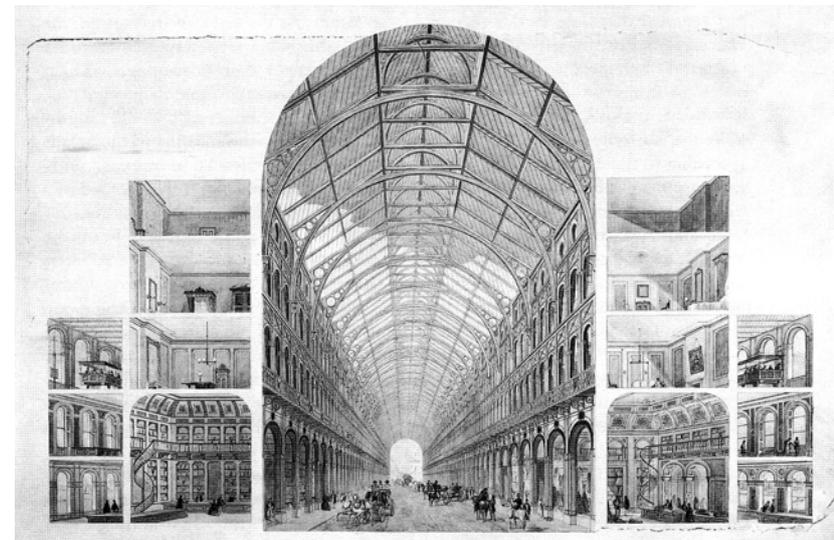


Fig. 53 Perspectival drawing of a section of the ‘Great Victorian Way’. 1855.

the culminations of this tendency was Paxton’s proposal of the Great Victorian Way (fig. 53). The monumental project consisted of a glazed structure protecting the inside from the smoke and filth of London, creating a microclimate inside. Paxton planned a ventilation system assuring the right circulation of the air and even a system controlling the inner temperature of the structure.¹¹² What makes the proposal different are its dimensions, it was supposed to run through every district of central London.

112 LYNDANEAD, *Victorian Babylon; People, Streets, and Images in the Nineteenth-Century London* (New Haven: Yale University Press, 2000), 27–28.

What Koolhaas calls a metropolitan paradox, where: “*the greater the distance from the earth, the closer the communication with what remains of nature (i.e., light and air),*”¹¹³ met the miasmatic theory in Chicago. After the raising, Chicagoans’ concerns about the air were greater than ever before. Having created their new aerial space, they did not want miasmas to invade it again. In the raised city, a police health officer¹¹⁴ took responsibility for fighting against miasmas and diseases, it was not a role for a doctor anymore. Paving efforts were intensified, after the raising. Nicolson pavement used in Chicago: “*quickly became standard on principal thoroughfares and was widely adopted by other cities.*”¹¹⁵ Everyone was obliged to take care of the new ground by the law. Every man in the age of 21–60 had to work 3 days yearly for the maintenance of public spaces or pay the equivalent to the municipality under the threat of a five-dollar fine.¹¹⁶ In 1867 the first contract for cleaning the streets was signed.

113 REM KOOLHAAS, *Delirious New York* (New York: the Monacelli Press, 1994), 82.

114 THOMAS NEVILLE BONNER, *Medicine in Chicago, 1850–1950: a Chapter in the Social and Scientific Development of a City* (Urbana, Chicago: University of Illinois Press, 1991), 177.

115 HAROLD M. MAYER and RICHARD C. WADE, *Chicago: Growth of a Metropolis* (Chicago and London: the University of Chicago Press, 1969), 96.

116 THOMAS NEVILLE BONNER, *Medicine in Chicago, 1850–1950: a Chapter in the Social and Scientific Development of a City* (Urbana, Chicago: University of Illinois Press, 1991), 176.

However, what Chicagoans relied the most on, in order to keep the air clean of any miasmatic emanation, was the “*layer of dust*” on its own measuring up to 14 feet in certain areas. The “*layer of dust*” was sealing the original grade, so that it cannot harm the raised city. In the world of miasmas disinfection meant deodorization. „*Absence of odor not only stripped miasma of its terrors [...] it was an aid to enduring the endlessly repeated agony of death. The most traditional feature of this deodorizing hygiene was the effort to isolate aerial space from exhalations from the earth.*”¹¹⁷ Sealing of the original grade was a part of the purification of the city, an effort to prevent the terrors of the Earth.

Up versus down, death versus life

The intention to defeat the death, can explain the herculean efforts made to lift the city and the lengthy process of raising. We can say that the death was what Chicagoans were trying to escape. They were trying to flee to a land where the death was not an everyday part of life. In Chicago hit by serious epidemics, the death was omnipresent. Miller depicts the atmosphere of the city before the raising, in 1854,

117 ALAIN CORBIN, *The Foul and the Fragrant* (Leamington Spa: Berg Publishers, 1986), 90.

as follows: "people died at a rate of sixty a day, and 'the death cart [...] was seen continually in the streets.' [...] in early July, with streets lined with coffins waiting to be picked up for burial, [...] witnesses claimed it was difficult to find men or boys to help undertakers lift the bodies into coffins, for people feared the 'demon' would enter them if they touched its victims."¹¹⁸ The city was establishing new and new cemeteries to bury all the deceased. Before the raising, the death was transforming Chicago into a scene of horror.

The Earth was closely linked to the death. The Earth was the death's sphere of action. In the city, the death was incarnated by the mud. The mud was destroying Chicagoans' dwellings, killing them by the "death fogs," and devouring them. Therefore, leaving the Earth also meant leaving the death behind. Jackscrews were making the death helpless. They were placed just above the ground in such a way that they do not sink in the mud. Rising higher and higher away from the Earth, they were working outside of its territory and bringing the whole Chicago out of its reach.

The death absorbing people either alive, in the streets, or dead, their corpses slowly descending into graves, was characterized by the downwards movement, in Chicago.

¹¹⁸ DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 122–123.

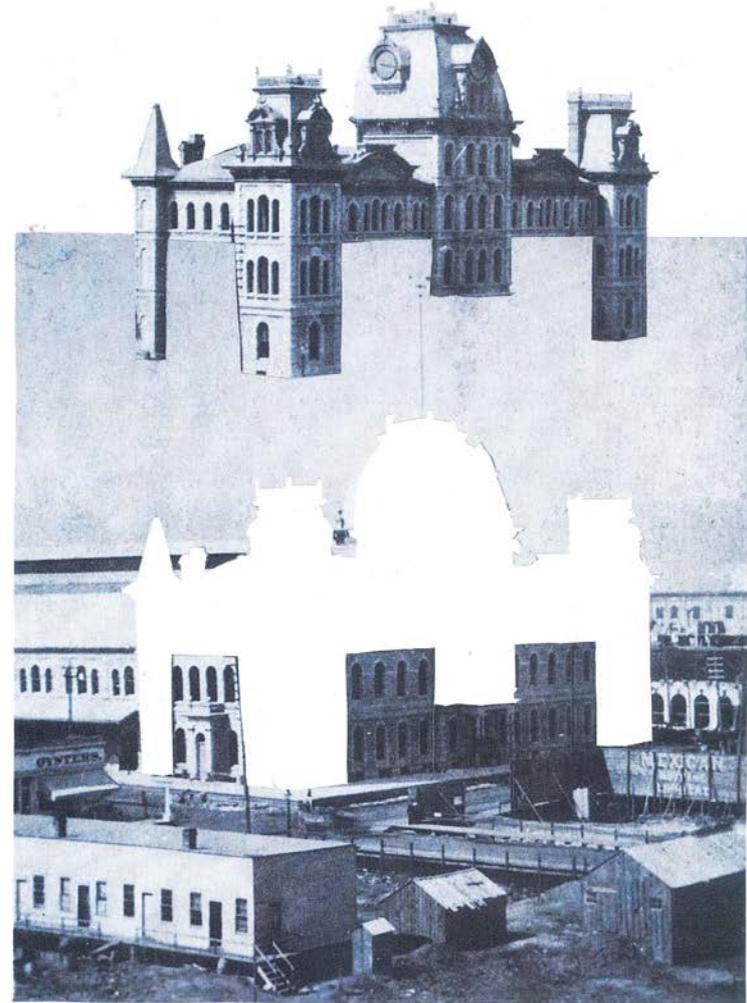
Almost as a magic ritual, the raising of Chicago was mirroring the actions of the mud. Men being slowly absorbed by the mud were executing the contrary movement to a building being slowly raised. The upwards movement of the raising was opposing the death. As if by doing the opposite the death could be defeated. These efforts copy Frazer's conception of sympathetic magic following the Law of Similarity, where "like produces like, or effect resembles its cause."¹¹⁹ a magician can in this way obtain a desired result by mimicking it. According to this logic, we could say that escaping the death can be obtained by getting out of its reach.

Raising was therefore not only a pragmatic effort to escape the omnipresence of the death, it was an effort to create a city in where its power was weakened, which is a step towards the otherworldly. The efforts to expel death make raising of Chicago an almost metaphysical transformation alienating the city from the Earth, its original territory with a given lifecycle. What Koolhaas said about New York is applicable even to the raised Chicago: "the entire city became a factory of man-made experience, where the real and the natural ceased to exist."¹²⁰ They were replaced by the new reality of the new Chicago. Constantly pushing the boundaries of

¹¹⁹ JAMES GEORGE FRAZER, *The Golden Bough, Volume 1* (Crystal Springs: Tapestry Publishing, 2008), 26.

¹²⁰ REM KOOLHAAS, *Delirious New York* (New York: the Monacelli Press, 1994), 10.

the real, the Chicago real was detached from the common earthly reality, it was enriched by fantasy. To live in the raised Chicago meant: *“to live in a world totally fabricated by man, i.e., to live inside a fantasy.”*¹²¹



121 *Ibid.*

The Old and the New City – Urban Legends



The raised and the unraised parts of Chicago could be seen merely as two levels of the same city. However, the differences in the environment, the living conditions, its inhabitants and obviously, the positions make another distinction possible. The raised Chicago and the unraised segments could be regarded as two different cities which happen to overlap.

After the raising, Chicagoans needed to take care of the new ground, while the old one was abandoned to its fetid processes continuing under the “*layer of dust.*” Therefore, any possible way the Earth could reach Chicago was still seen as noxious to the city. The newly built world had to be kept safe from the dangers. Any marks of the presence of the old one were being removed.

The side oglers

While escaping the Earth, the city escaped equally its inhabitants who were not able to raise their houses. Since only the raised Chicago would be existing after the raising, moving one’s dwelling to the new world was the only way to remain Chicagoan. Chicagoans had to purchase the services of raisers, who took the role of ferrymen carrying the buildings from the earthly city to the raised one, from one world to another. Those who had not carried

their dwellings to the new world lost their place in the city. Keeping their place in the defunct earthly Chicago, simply did not qualify them as Chicagoans.

These people were inhabiting the so called “*holes*”¹²² (fig. 55, 56) in the new ground containing their unraised dwellings. What is referred to as “*holes,*” are disruptions in the continuity of the newly constructed ground. The gaps in the surface were reaching as deep as the ground of the original city used to lay. The clear delimitation and the depth of these disruptions allow the use of the term “*hole.*” The buildings seemed they had plunged onto the original ground, the Earth.

Since the “*holes*” were reaching the original city, they were reaching into the past, Chicago’s inglorious past linked to the Earth. The mere fact of inhabiting a place so inappropriate for human life made its inhabitants different from Chicagoans living in the raised city. At the same time, inhabiting the “*holes*” made them a part of a defunct world, of the earthly Chicago. The inhabitants of the houses were living in between the city’s past, represented by the earthly city, and the present, represented by the raised one. Commuting between the two, they could be seen as a sort of phantoms of the defunct city, as remnants of the past.

¹²² “Holes” was the term for the unraised fragments of the city applied by James Stirling, according to DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 125.

The “holes” would then be portals enabling the phantoms to travel between the two worlds, the two eras. Even if the interval separating two time periods was relatively short, the gap separating the two cities was remarkable. The difference was a difference distinguishing a swamp from a paved city, the stench from a deodorized aerial space, the world ruled by the death from a world which had escaped it. Therefore, we can say without exaggeration that people inhabiting the defunct city were reaching Chicago from a different world.

The estrangement of those who had not raised their houses from the raised city went as far as making them less welcome than tourists. The latter were being warned against Chicagoans still living in the defunct city:

„[James Stirling:] When you walk along even the principal streets, you pass perhaps a block of fine stone-built stores, with splendid plate-glass windows (finer than any in New York), with good granite pavement in front: a few steps on you descend by three or four steps into the old level of the street, and find a wooden pavement in front of low, shabby-looking wooden houses‘ This caused some unexpected embarrassment to women tourists, who were warned in popular guidebook, Tricks

Fig. 54 An unraised house.
Date unknown.



Fig. 55 Chicago Cottage after raising: Date unknown.

and Traps of Chicago, to be on the watch for ,side oglers' who loitered under steep stairs to catch glimpses of ladies' legs.“¹²³

Giving priority to visitors rather than people who used to be a part of the city indicates a remarkable alienation between the population of the raised Chicago and those who were still inhabiting the part of the Earth's surface which had used to be called Chicago. It brings questions about the place of the latter in the new Chicago. These people were not mere visitors in the city. They had been Chicagoans in the terrestrial Chicago. The rising Chicago left them behind. They continued commuting from one Chicago to another daily. And yet, they were not perceived as Chicagoans by Chicagoans from the city replacing the defunct one. The Earth and its inhabitants lost their place in Chicago, while the city was rising. These people did not belong to Chicago anymore. In the raised city, they were aliens. They were different from those who have evolved into Chicagoans from the raised city. It was necessary to evolve into a Chicagoan: “*design is a paradoxical gesture that changes the human in order to protect it.*”¹²⁴ The transformation of the city, meant to protect

¹²³ DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 125.

¹²⁴ BEATRIZ COLOMINA and MARK WIGLEY, *Are We Human?* (Zurich: Lars Muller Publishers, 2016), 127.

its inhabitants, required a transformation of its population. Chicagoans had to adapt to their new habitat. The raised Chicagoans had evolved and the evolved Chicagoans became the only Chicagoans. Their consciousness about the changes in their habitat made them behave differently with it and with one another. It changed the way they behaved in public spaces, the way they treated the ground or the air.

The population of the newly built underground could also be seen as a problem, in terms of controlling the Earth. Chicagoans tried to build a ground where no mysterious processes would take place. However, with the “holes” containing human dwellings, the new ground, similarly to the original one, could be seen as endowed with life. It was incrustated with hidden activity. This time, the mysterious miasmatic processes were replaced by human activity, which was again perceived as noxious to the city. This matches the 19th century vision of the underground as: „*metaphors for the hidden worlds of crime, poverty and political insurrection.*”¹²⁵ The underground spaces being at no point further than 14 feet, but out of sight, what needed to be hidden was happening on the Earth, under the ground of the raised city. “*Side oglers,*” are by far not the only example of this tendency. Illegal activities, such

¹²⁵ MICHEL GANDY, *The Paris Sewers and the Rationalization of the Urban Space*, *Transactions of the Institute of British Geographers* Vol. 24, No. 1 (1999), 24.

as illicit distilleries installed under sidewalks ¹²⁶ could be seen as a metamorphosis of the Earth's previous activity so harmful to the city. The space under the raised Chicago quickly started being "*chiefly noted as the abode of gargantuan rats.*"¹²⁷ As if, in order to create a new better place in the raised city, these activities were all left behind, on the Earth. From this point of view Chicagoans would have created a better world in the lifted city, but once again they forgot about the importance of a pristine ground.

A descent from the raised city to the original one is the backbone of the passage of Stirling's text. The evolution from the "*fine*" and "*splendid*" to the "*old*," "*low*," and "*shabby-looking*," embodies the way Chicagoans were perceiving the Earth after the raising and the effects it had on the perception of its inhabitants. It illustrates a strict differentiation, we can even say a hierarchy between the two worlds and their populations, the raised city being the better one.

The descent into the new underground leads to the Earth, with all its negative connotations concluded by danger. The other way round, the ascension from the underground presents a danger for the new city, being it a miasmatic emanation or a gaze. One of the reasons can be that ascension goes against Chesbrough's plan to use gravity to remove

¹²⁶ EMMETT DEDMON, *Fabulous Chicago: a Great City's History and People* (New York: Random House Inc., 1953), 13.

¹²⁷ *Ibid.*

the filth from the city. The filth copied the behavior of the city, it started floating, rising. And that must have been a frightening discovery for Chicagoans. The danger had an upward direction, ascending from the underground to the raised city. The threat consisted in the mere position of the unraised fragments, allowing the vertical exchanges between the raised and the unraised. The vertical axis of danger was still existing but restrained, and thus concentrated, to the holes in the new ground containing the unraised buildings and manholes. The mere existence of a category containing manholes and human dwellings contained in the "*holes*," illustrates the way the humans inhabiting the latter were perceived.

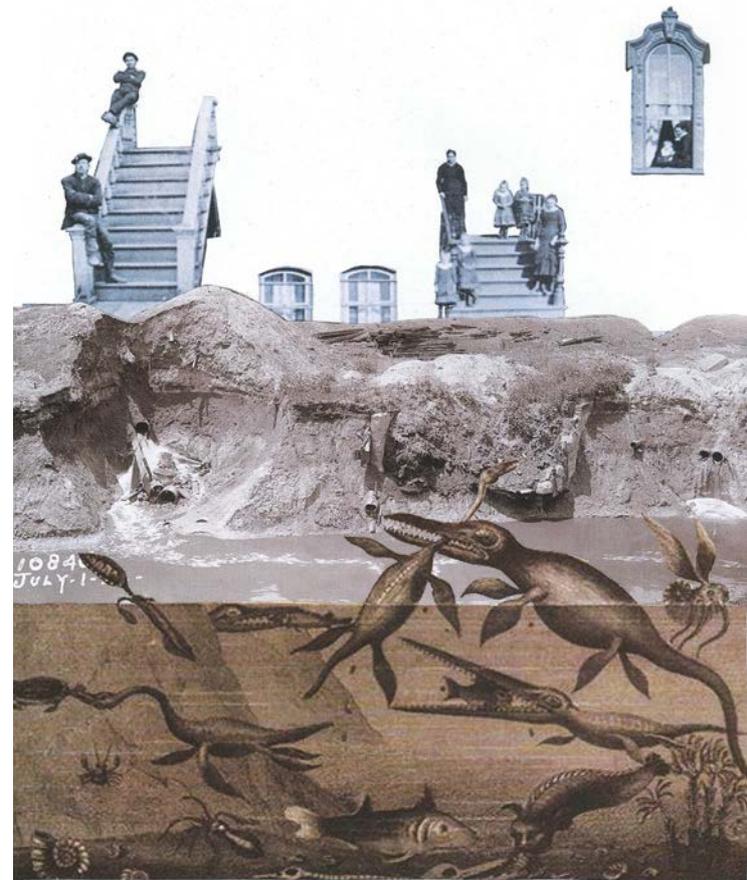
Cannibalism

In the case of "*side oglers*" the earthly humans were representing the Earth's threat for Chicago. However, the direct and obvious links between these people and the Earth, made it too easy for Chicagoans detect the danger. The presence of the Earth in the city was constantly being monitored. Action was being taken to prevent any access of the Earth to the city. Therefore, the Earth could only access the city with a great dose of sophistication:

“One Newspaper ran a story claiming that the water system had turned Chicagoans into unknowing cannibals who were eating their ancestors. The city cemetery on the lakeshore just north of the pumping works flooded over during storms, and small fish, it was rumored, fed on the dead and were drawn into the water pipes and fed to the living. ‘Of course this was nonsense,’ wrote Kirkland, ‘but it was the kind of nonsense, that fastened public attention and made easy the next step in our civil life, the tunneling of the lake and bringing the water from the pure depths of two miles from shore.’”¹²⁸

The cannibal fantasy reveals how lifting the city stimulated the imagination and influenced the perception of both worlds, the raised and the defunct one. In Chicago, where the Earth was seen as a monster trying to kill its inhabitants, this story can be interpreted as the Earth’s latest attempt to regain control over the city which had escaped it, the city which had made all of its deadly activities vain. Chicagoans knew that by raising the city they defeated the Earth. They knew they made the Earth helpless. They understood it was going

¹²⁸ DONALD L. MILLER, *City of the Century: the Epic of Chicago and the Making of America* (New York: Simon & Schuster, 1996), 127.



to make it furious. And knowing the Earth, they must have been waiting for it to strike back with even more sophistication and more maliciousness than ever before.

During the epidemics preceding the raising: *“Chicagoans were afraid to touch the bodies of their deceased [...] witnesses claimed it was difficult to find men or boys to help undertakers lift the bodies into coffins, for people feared the “demon” would enter them if they touched its victims.”*¹²⁹ And here the death, the demon of the Earth found a way.

We could reason, that the Earth found an ingenious way to challenge the system Chicagoans built to protect themselves. Since the city had moved away from the Earth and sealed it, the only connection the Earth could establish with the raised city was through the newly constructed pipe system. Through the complex system hidden in the newly built underground water was travelling from Lake Michigan to Chicago’s households and when used, the water went through other pipes to Chicago River. By contaminating the source, the Earth could affect every household connected to the pipe system. Thus, the Earth was able to appropriate the safety system and used it for its own purposes. The Earth hacked the pipe system and transformed it into a danger. It used the trust Chicagoans had in the pipes to smuggle the danger, in the form of fragments of corpses, from the original ground into the raised city.

¹²⁹ *Ibid.*, 122-123.

The Earth, having learnt from its previous mistakes, was not delivering an obvious danger into Chicago’s households. The danger was disguised in an attractive envelope, the fish. Making the demon attractive, the Earth tricked Chicagoans to help it execute the final step of its plan. What Chicagoans were afraid of happening in the worst episodes of the city’s history, was then happening with their contribution. Chicagoans made the demon enter their bodies, without them being conscious of it. The danger was, equally as miasmatic emanations, invisible. The maliciousness of the Earth went even further by making it imperceptible to any of the human senses. Only with the knowledge and control of the pipe system, the demon could be revealed. Each aspect of the story could be seen as a part of the Earth’s plan. This is how far Chicagoans went in their imagination driven by fear.

The fantasy illustrates Chicagoans’ perception of the Earth as a malicious being¹³⁰ able to think and act following its deadly intentions. What they feared was not nature, they were frightened by the destroyed nature, the nature they gave the power and means to threaten them, the nature they polluted to such an extent. It was not a pristine nature, it was a nature where human interventions transformed

¹³⁰ The perception of the Earth as a dangerous being can be compared to the Potawatomi legend of a monster living in the lake and ruling the southern lake area. Nambi-za, as it was called, was believed to be creating a storm whenever man’s behavior becomes disrespectful. JONATHAN CARR, *Make Me a City* (London: Scribe, 2019), 236.

hidden processes into noxious activities. They knew that at the origin of all the problems there was them, Chicagoans provoking the Earth. The industry did not only empower humans to use natural resources with an unprecedented efficiency, it transformed the Earth, and consequently Chicagoans themselves. The transformations not being balanced, the evolution of both, the Earth and Chicagoans, did not promote coexisting. The humans and the Earth were both being equipped in ways harmful to each other. In the case of the fictional cannibalism, the Earth tried to fight back with escalating sophistication overcoming the human ingenuity. Its smart tricks had evolved from not providing food to its inhabitants to contaminating their food. It hid the danger in the city's inhabitants' food and, so as to make sure they would consume it, it was delivering it right in their homes.

Conclusion

Chicagoans' activities challenging the Earth and its functioning led to major and irreversible transformations in their environment. Chicago had become a dangerous habitat generating fear. Due to the fear and the city's alienation from the Earth, caused by the transformations, Chicago decided to create and define its own environment. The development of isolated artificial environments, a common 19th century effort, was, in Chicago, executed on an unprecedented scale. Chicagoans' initial efforts at architectural scale having proved inefficient, made them understand that microenvironments were not a satisfying solution to the city's situation. It was necessary to create a whole new environment for the entire city. They replaced the noxious Earth thoroughly, in the entirety of the city's area by a man-made environment.

The city was not counting on the Earth anymore. Its architecture was getting ready to be accessed from places other than the Earth, already before the city's raising. The 19th century mindset, seeing the outer space as a possible alternative to the earthly environment, understood that the creation of an alternative to the Earth could not take place on it. Beliefs in cosmic pluralism and space travelling, proving convictions about the outer space being inhabitable, nourished a fantasy of an unearthly alternative. The fantasy

resulted in the decision to lift the rest of the city's elements still laying on the Earth, the buildings, from its surface and thus make the whole city escape.

The thoughts about outer space as a possible alternative were enhanced by the wonders of technology. And it was through technology, by the notable engineer Ellis S. Chesbrough, that the decision to leave the Earth was definitively validated. Chesbrough defined and created a new place, out of the Earth's surface, for the city. The unearthly artificial environment became real. It was an engineer's magic, challenging natural laws. Industrial practices and technology, made the raising a mysterious spectacle where what one saw was not exactly what was happening. The mysterious, almost magical features of the raising's choreography enriched by associations with theatre, magician spectacles or Native American mythology within the period's imaginary, were alienating the city from the Earth the earthly reality. Technology endowed with the mystical power to expand reality, was pushing the limits of the real and at the same time making the imaginary grow ever bigger. The imaginary and the real fading one into another were creating the raised Chicago.

Living in the raised Chicago meant being part of a fantasy. It was an entirely man-made environment. Its design was based on the 19th century imaginary, advocating the transformative power of technology and following the miasmatic

theory. The new city, replacing the Earth, was stripping the natural laws of its terrors. The raised city was imposing its own conditions and functioning establishing new relations and requiring new models of behavior for Chicagoans. The imaginative solutions prompted by the utopian vision of technology helped Chicago survive, while transforming the city and its inhabitants at the same time. Their consciousness of their otherness, compared to the earthlings, was enriching their imaginary. And through the imaginary, Chicagoans' relation to the Earth continued developing even after they had left it. The development of the imaginary transforming human vision of the world for over 150 years since the raising, have not diminished the relevance of the questions this project brought. Relations between humankind and the Earth and the impacts they have one on another became an issue discussed on the fields of design and architecture with ever growing concerns. Visions of contemporary thinkers, such as Beatriz Colomina and Mark Wigley, on the issues remind us of their persisting pertinence.

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