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Julia Ditkoff April 9th, 2019

The Tenement Traps:
A Spatial History of Tenement Housing on the Lower East Side (1850-1940)

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Abstract

The Tenement Traps:

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By Julia Ditkoff

My honors thesis focuses on architectural issues of tenement housing on the Lower East Side of Manhattan from 1850-1940. In an age without social media and live streaming, documentary photographers, such as Jacob Riis, had the power to bring lower class issues of overcrowding, fire hazards, air ventilation and overall vice to the general public. This paper, although based in art history, will take a spatial and interdisciplinary approach to the tenement epidemic -- analyzing not only photographs but also maps, architectural floor plans, and primary-source testimonies. As a native New Yorker, and relative of immigrants who travelled through Ellis island and arrived in these sorts of conditions, I have always had an interest in studying the tenements.

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I would like to acknowledge my Grandparents on both my maternal and paternal side, who both came from a long line of immigrant families. Their stories, and their parent's stories, are what inspired me to write this thesis. I would also like to thank Professor Crawford who challenged me and supported me throughout my entire process.

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> The tenement is generally a brick building from four to six stories high on the street, frequently with a store on the first floor which, when used for the sale of liquor, has a side opening for the benefit of the inmates and to evade the Sunday law; four families occupy each floor, and a set of rooms consists of one or two dark closets, used as bedrooms, with a living room twelve feet by ten. The staircase is too often a dark well in the centre of the house, and no direct through ventilation is possible, each family being separated from the other by partitions. Frequently the rear of the lot is occupied by another building of three stories high with two families on a floor.
>
> -- Jacob Riis, *How the Other Half Lives*: *Studies Among the Tenements of New York*. (New York: Charles Scribner's Sons, 1890) 19.

Between the years 1850-1940 immigrants from all over the world, particularly Europe, relocated to Manhattan's Lower East Side. This working class group lived in tenement homes, densely packed apartment complexes within a single New York City block that were architecturally unsound. The tenements were highly overcrowded, had poor air ventilation, little to no fire safety regulations and attracted overall vice. This paper will focus on the use of social photography, mapping, first hand accounts, and cartoons to create concrete spatial change to tenement house architecture. In an age without social media and live streaming, documentary photographers, cartographers, and public health officials used the communicative tools at their disposal to bring working class housing issues to the general public.

Since its invention in the year 1839, photography was used as a tool for documentation and eventually developed into an art form. Starting with the Mission Heliographic, a commission by the French government in 1851 to document national architecture, through the U.S. Farm Security Administration's documentary photographs of the Great Depression, photography has been used as a medium to expose important social issues. From the late 19th through the early

20th century, New York was a point of entry for European immigrants. They crowded together, mostly on the Lower East Side, in tenement homes. All different types of people lived in the tenements, entire families and extended families, as well as single working men and women. Their living and working conditions were captured in images by the documentary photographers in New York during this time.

The most famous social photographer of the time was Jacob Riis, who focused on the tenements and factories that housed and employed the working class. Riis wrote passionately about the horrific and unsafe conditions within the tenements and criticized the government for not acknowledging the housing problem. He stated, "The law defines [the tenement house] as a house 'occupied by three or more families, living independently and doing their cooking on the premises; or by more than two families on a floor, so living and cooking and having a common right in the halls, stairways, yards, etc.' That is the legal meaning, and includes flats and apartment-houses, with which we have nothing to do."[1] Having seen the tenements first hand, Riis knew that this was an inaccurate description and so he developed a definition of his own, used as this essay's epigraph. The tenements were not only a major architectural failure, but also were situated in one of the poorest and most dangerous neighborhoods in New York City.

Despite the poor living conditions captured in photographs, maps, and testimonials, immigrants flocked to New York City, specifically the island of Manhattan. In the year 1820, the United States government opened the Erie Canal, and there was a large push to increase trade and commerce in New York. There was a need for unskilled labor, so this is where immigrants presented themselves. Developers sought to fit the most people into the smallest space in order to increase their own profits. Roy Lubove, a social historian wrote, "The new owners and lessees,

[1] Jacob Riis, *How the Other Half LIves*: *Studies Among the Tenements of New York*. (New York: Charles Scribner's Sons, 1890), 19.

alert to the economic potentialities represented by thousands of immigrants in no position to haggle over the quality and location of their housing, partitioned the homes of the displaced [upper class]."[2]

Jacob Riis became iconic in the tenement house reformation movement largely because of his ability to reach public officials. Although modern scholars debate whether all of the photographs accredited to Riis were even his own work, he has continued to prevail as the face of the social photography movement during this time. Riis himself was an immigrant, born in Denmark in 1849, who came to live in America in his early twenties. He photographed crime scenes and different events in New York City when he worked for the NYPD as a police reporter. As he became a more experienced photographer, he eventually combined his images and published *How The Other Half Lives* in the year 1890. His book is arguably one of the most influential exposés of poverty of all time. Lubove claims that Riis' book was more accessible than a scholarly work which led to its widespread popularity. "The book did not suggest the ponderous, aloof objectivity of the scholar, the righteous pomposity of the preacher, or the humorless tiresome certitude of the former pedagogue. Riis did present facts like the scholar, moralize like the preacher, and try to win converts like the reformer, but his infectious love of life and his vivid imagination combined to invigorate his words with a sparkle and vivacity always rare, but especially rare in the prose of reformers and preachers to wayward humanity. Riis brought the tenement slum to life."[3] Riis' striking photographs not only showed poor individuals, but also focused on the conditions in which they were living, catching the attention

[2] Roy Lubove, *And the Slums -- Tenement House Reform in New York City 1890-1917*. (Pittsburgh, University of Pittsburgh Press, 1962), 2.
[3] Ibid., 65.

of multiple influential government officials, including President Theodore Roosevelt. On February 17th, 1900 Roosevelt wrote the following letter to Riis:

> I take the greatest pride in having my name in your handwriting at the front of your book and my photograph thought worthy to be put in it. If I were foolish enough to need any reward for what I had done, I should feel that I had it ten times over in what you have said about me, old man, in this book. Most of it is undeserved, because there are rose tinted glasses over your loyal eyes when you look upon those whom you love and who love you. But I won't pretend to say that I regret to have it in, for I do not, and it will ever be a source of keen pride to me to show to my children.[4]

What this correspondence signifies is the intimate relationships with national government officials that Riis was able to develop through to his photographic talents. Later in his career, on May 7th, 1907, Riis went beyond written correspondence and travelled to the White House to meet with Roosevelt in person to discuss his own social reform agenda. Riis' images were not only thought provoking, but also unforgettable, and therefore prompted the President of the United States to revise spatial conditions.

Riis was not afraid to shock his readers, whether through written description or staggering images. One such image, *A Man Atop A Make-Shift Bed (that consists of a plank across two barrels)*, shows a man who has set up a living situation for himself in extreme poverty (Figure 1). The man looks straight ahead at the camera, he is unshaven and his shirt is ripped at the collar. His bed is plank of wood propped up on two barrels. On top of the board there is a filthy, torn comforter folded over. The man lays on top of the comforter, his body barely fitting on the "bed." His face is sunken in due to exhaustion and undereating, and he looks very thin. The floor beneath him is dirty and piled up with trash and debris. Riis claimed that the

[4] President Theodore Roosevelt to Jacob Riis, February 17th, 1900. Manuscript Division, Library of Congress. Washington D.C.

man slept in that cellar four years. Riis not only used this image within his book, but also produced a lantern slide out of it, and toured the country showing the poor living conditions of the working class New York City. Riis also published images of factory conditions as well as housing.[5]

Riis discussed tenement dwellers at every age, particularly children, in order to evoke empathy from his readers. He dedicated an entire chapter of his book to protecting kids on the Lower East Side. Riis wrote:

> Their [the children's] very number makes one stand aghast. I have already given instances of the packing of the child population in East Side tenements... Bodies of drowned children turn up in the rivers right along in summer whom no one seems to know anything about. When last spring some workmen, while moving a pile of lumber on a North River pier, found under the last plank the body of a little lad crushed to death, no one had missed a boy, though his parents afterward turned up.[6]

How the Other Half Lives: Studies Among the Tenements of New York brought attention to and ultimately changed the living conditions of the working class in New York City.

Despite the social awareness Riis raised in order to assist working class tenement dwellers, many modern day scholars point out racist, prejudice, and anti-Semitic language

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[5] Another image published in Riis' book was *Twelve Year Old Boy at Work Pulling Threads* (Figure 2). This complicated and upsetting photograph shows a young boy at work in a factory, surrounded by at least eight men who appear to be twice his age. According to Riis, the boy had sworn that he had been sixteen in order to work, however it is obvious from the photograph that he is definitely underaged. The boy sits on a wooden chair, and to his right there is a pile of fabric and materials that almost reach the top of his head. The men surrounding him stand in intimidating poses, with their hands either placed aggressively on their hips or crossed over their chests. Although this picture was not taken in a tenement, it still demonstrates the type of living and working conditions tenement dwellers experienced. Young children were forced to go to work way before the law permitted, and laws were hardly enforced about child labor. Riis' photograph is hard evidence that the New York City government is not paying attention to the lives of tenement dwellers and the working class. Riis attempted to give a voice to those who could not be heard, and had a strong empathy for children.

[6] Jacob Riis, *How the Other Half Lives*: *Studies Among the Tenements of New York*. (New York: Charles Scribner's Sons, 1890), 179.

throughout his writing, specifically in *How the Other Half Lives.* In his description of the African American community, Riis writes that "the negro accepts [his living conditions] with imperturbable cheerfulness."[7] Riis also plays into unflattering stereotypes about Jewish people, writing "The Jew runs to real estate as soon as he can save up enough for a deposit to clinch the bargain."[8] In his article, *Pictures vs. Words? Public History, Tolerance, and the Challenge of Jacob Riis*, historian Edward T. O'Donnell raises the following question in response to Riis' prejudice descriptions, "What does this more critical reading of Riis mean for public historians? Should they [public historians] shun Riis's photographs when producing public history related to themes of ethnicity, immigration, multiculturalism, and tolerance?"[9] O'Donnell's thesis answers his posed questions, in which he states that despite Riis' upsetting language, historians have an obligation to use his work in order to paint an accurate picture of tenement living in the 19th and 20th century. O'Donnell theorizes that as long as the historian points out Riis' prejudices, his descriptions "provide the public historian with an extraordinary opportunity to delve into the complex questions of assimilation and Americanization, labor exploitation, cultural diversity, social control, and middle-class fear that lie at the heart of the American immigration narrative."[10] Following in O'Donnell's footsteps, I point out Riis' racist and anti-Semitic tendencies not to invalidate his work as a source of evidence, but rather to raise awareness about the social climate of the New York City during this time period.

In addition to social photography of Riis and his colleagues, social workers and pioneers, such as Robert W. DeForest and Lawrence Veiller, worked to produce maps demonstrating the

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[7] Jacob Riis, *How the Other Half Lives*: *Studies Among the Tenements of New York*. (New York: Charles Scribner's Sons, 1890), 154.
[8] Ibid., 42.
[9] Edward T. O'Donnell"Pictures vs. Words? Public History, Tolerance, and the Challenge of Jacob Riis." (*The Public Historian* 2004), 7.
[10] Ibid.

poor living conditions of the tenements. With information published by the New York Board of Health, they were able to convey visually the number of cases of tuberculosis on the Lower East Side. Similarly, using newspapers and first hand accounts, fire insurance companies mapped out high risk areas. These maps were a crucial piece of visual evidence in proving the abysmal housing arrangements.

Lastly, this paper relies heavily on first hand testimonials from doctors and nurses. Doctor John Bessner Huber, a native New Yorker, dedicated his medical career to raising public awareness about tuberculosis. A graduate of Medicine Bellevue Hospital Medical College in 1889, Huber practiced medicine until 1892 when he became a full time lecturer at Fordham University, teaching courses on public health. Additionally, he lectured pro bono for the New York Board of Education, trying to raise awareness for those suffering from tuberculosis. Similarly, nurses such as Johanna Von Wagner volunteered to be sanitary inspectors for the Board of Health in New York -- risking their own health to report the sickly living conditions of the tenements. In Figure 3, we can see a young female nurse climbing across a tenement roof to visit patients. Nurses and doctors during this time period worked long hours and made frequent home visits. Therefore, they were excellent sources of evidence for the types of conditions within the tenements.

This paper follows four main health hazards encountered by tenement dwellers in the Lower East Side: overcrowding, poor air ventilation, fire hazards and vice. My methodology to understand the spatial conditions of the tenements is rooted in plotting out photographs. Throughout this essay, I contribute original autoCAD and hand sketched drawings in order to help the reader visualize the tenements as they existed in the 19th and 20th century. Evidence

such as photographs, maps, and first hand accounts will be used, as they were in their time, to highlight the dangers of the tenement architecture.

Historical/Topographical Foundation

The Land

> Neighborhoods thought immune from urban squalor as recently as the 1820s and 1830s became undesirable in the 1840s and 1850s… so many beer halls and tobacco shops had spilled off Broadway onto Bleecker and Bond streets that those addresses, as one paper put it could no longer be considered 'the *ultima thule* of aristocracy.'[11]

Towards the start of the 19th century the Lower East Side was a rural area owned by three wealthy and elite families. These families included the Stuyvesants, the deLanceys and the Rutgers. Edwin Burrows, author of *Gotham: A History of New York City to 1898,* comments that, "New York's economic elite had ballooned in size and complexity as well as wealth."[12] These wealthy individuals began to move uptown and towards the suburbs as immigrants sought refuge in Manhattan. Once the elite had moved, "The new-comers [the immigrants] lived in abandoned commercial buildings and former residences, crowding into every inch of available living space, from dank cellars to leaking attics."[13] Later, in order to accommodate the influx of poor immigrants, tenement houses were constructed under time pressure conditions.

According to Andrew S. Dolkart, an architectural historian, it is unclear when the first tenements were constructed. However, he dates the mass construction of these buildings between 1860-1870. Dolkart states that German developers commissioned untrained and unskilled immigrant architects to construct the tenements. He wrote that these immigrant builders were

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[11] Edwin Burrows, *Gotham: A History of New York City to 1898* (Oxford University Press, 1999), 715.
[12] Ibid., 712.
[13] Joyce Mendelsohn, *The Lower East Side Remembered and Revisited* (Columbia University Press, 2001), 9.

"probably not that wealthy, didn't speak English, and worked within their own communities."[14] However, the immigrant construction workers were highly motivated to fix the housing problems that faced them.

Dolkart pinpoints the root of the tenement problem by stating that the spatial issues were based in the manner "in which New York City's blocks were divided into building lots and the ownership pattern that arose from this division."[15] Dolkart explains that as New York's population grew and residential areas were formed, land owners wanted to make the city into a grid. The landowners divided up their large scale lots into 25 by 100 feet pieces of property. The 2500 square foot pieces of land were the perfect size for a row house, a family home, or even a crowded apartment building in a more rural setting. However, as immigrants arrived and landlords became desperate to accommodate bodies, these pre-sliced land sections became what we know now as the unlivable and unsafe tenement homes.[16]

The People

> Nowhere would the torrent of immigrants have a greater impact than New York City. The new arrivals would transform every aspect of life in the metropolis -- its patterns of work, housing, religion, politics and gender -- and nowhere would the impact be more dramatic than in the arena of class relations.[17]

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[14] Dolkart, Andrew S. *The Architecture and Development of New York City: Living Together. (*New York: Columbia University Knowledge Ventures, 2005), 1.
[15] The Biography Of A Lower East Side Tenement; 97 Orchard Street, Tenement Design, And Tenement Reform In New York City (Columbia University Press, 2001), 4.
[16] Between 1840 and 1850, New York's population increased by more than 60% from 312,710 to 515,547, rising to 813,669 in 1860, an additional 57.8% increase. The Biography Of A Lower East Side Tenement; 97 Orchard Street, Tenement Design, And Tenement Reform In New York City (Columbia University Press, 2001), 4.
[17] Edwin Burrows, *Gotham: A History of New York City to 1898* (Oxford University Press, 1999), 739.

In her book, *The Lower East Side Remembered and Revisited*, Joyce Mendelsohn organizes her history of the Lower East Side based on the immigrant groups that lived there. One of the first groups of immigrants to arrive on the Lower East Side were the Irish. Escaping the potato famine and Great Hunger of 1845, the Irish were seeking a new life in America.[18] In his book, *Gotham: A History of New York City to 1898*, Edwin Burrows writes that "nearly a third of the crop rotted that year, nearly all of it the next. Starving men and women ate grass, then died along the roads. Skeletal children grubbed the fields in search of food."[19] Upon their arrival in New York many Irish men were employed as construction workers for the East River shipyards. Irish women tended to work in domestic services, and eventually transitioned into teachers and nurses.[20] The Irish were met with resistance on the Lower East Side, specifically for their Catholic traditions.

The next large national group to immigrate to the United States were the Italians. Mendelsohn notes the 1860's-1880's were a time of economic instability in Italy, forcing many Italians to Manhattan. By the start of the 20th century, there were over 400,000 Italians living in New York City. Similarly to the Irish, the Italian men worked as unskilled laborers in construction and public infrastructure.[21] However, the Italian female immigrants were employed by large clothing factories, which notoriously mistreated their employees. Finally, the last large national group to arrive in Manhattan were the Germans. The Germans brought with them a variety of religions, ranging from Catholicism to a variety of other branches of Christianity but

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[18] The Irish potato famine was a multi-factor crop drought in which many Irish farmers were left to starve without food. These poor conditions forced many Irish immigrants to the United States. Braa, Dean M. "The Great Potato Famine and the Transformation of Irish Peasant Society." *Science & Society*
[19] Edwin Burrows, *Gotham: A History of New York City to 1898* (Oxford University Press, 1999), 715.
[20] Joyce Mendelsohn, The Lower East Side Remembered and Revisited (Columbia University Press, 2001), 9.
[21] Ibid., 11.

specifically Judaism. The Germans nicknamed their neighborhood *Kleindetschland* and set up their own school system which encouraged the use of the spoken language of German.[22] Burrows writes that the nucleus of *Kleindetschland* "lay within a five-block span between Canal Street and Rivington Street. The cobbled or unpaved north-south arteries of Elizabeth, Bowery, Chrystie, Forsyth and Eldridge were lined with two-to four-story buildings (many of wood)."[23]

Burrows notes that the arrival of the immigrant workforce greatly impacted New York's "niche economy."[24] He explains how newcomers [European immigrants] "broke into particular occupations depending on the skills and resources they brought with them and the degree of resistance or encouragement they faced from those already entrenched."[25] Guided by the new *laizze-faire* economic system, immigrants found jobs based on what the city of New York needed.

Overcrowding

> Neatness, order, cleanliness, were never dreamed of in connection with the tenant-house system, as it spread its localities from year to year; while redress slovenliness, discontent, privation, and ignorance were left to work out their invariable results, until the entire premises reached the level of tenant-house dilapidation, containing, but sheltering not, the miserable hordes that crowded beneath smouldering, water-rotted roofs or burrowed among the rats of clammy cellars.
>
> -- Jacob Riis, *How The Other Half Lives*, 1890, Chapter 1

The main architectural condition that caused all residual health problems on the Lower East Side was the lack of livable space. When the tenements were first constructed by James Allaire in the year 1833, the original plan was a small four story building that designated one

[22] Ibid., 12.
[23] Edwin Burrows, *Gotham: A History of New York City to 1898* (Oxford University Press, 1999), 745.
[24] Ibid., 739.
[25] Ibid.

family per floor. However, in 1834, the city inspector, John Griscom, conducted a report, and concluded that "the crowded and filthy state in which a great portion of our population live" was the number one cause of death in Manhattan.[26] Overcrowding was not the fault of the architects and building developers of the tenements or the immigrant tenants. Rather it was caused by the NYC government and the tenement landlords who permitted a greater number of tenants to live in the tenements than were originally planned to cohabitate the space. Griscom later philosophized about the city's responsibility to house immigrants. He, like most Manhattanites during this time, believed that although high rates of immigration were unfavorable, that the city of New York "*must* receive the poor, the ignorant, and the oppressed from other lands."[27]

Before diving into a description of the overcrowded conditions of the tenements, it is important to note that overcrowding was not a new phenomenon exclusive to the Lower East Side tenements. As long as poverty has existed, working class individuals have been forced into overcrowded spaces. For example, when the pilgrims traveled on the Mayflower at the start of the 17th century, they were crammed onto a ship for an extended period of time. However uncomfortable, this trip was temporary, and despite difficult conditions and a plethora of other problems upon their arrival on land, the pilgrims had breathable air and room to live. What made the overcrowded situation of the tenements so problematic was the urban setting. As Burrows comments, "Tenement areas were intensely crowded. A tenement twenty-five by seventy-five feet deep might have twenty-four two-room apartments, each with a ten-by-ten foot 'parlor'... Such crowding magnified the dangers of fire and disease, and indeed mortality rates began climbing sharply in the working class wards."[28] The overcrowding exhibited in this chapter

[26] Anthony Jackson, *A Place Called Home*, (Cambridge, Massachusetts: The MIT Press, 1976), 4.
[27] Ibid., 5.
[28] Edwin Burrows, *Gotham: A History of New York City to 1898* (Oxford University Press, 1999), 747.

provides the basis for most of the residual health and social problems (*i.e.* tuberculosis, fires, and prostitution) that arose on the Lower East Side.

This shortage of room in tenement housing is demonstrated in Jacob Riis' photograph, *Eastside Cheap Lodging House* (Figure 4). There is some scholarly debate on whether this image was taken by Riis himself or by his apprentice, Richard Hoe Lawrence.[29] It is important to note that although Riis was credited with a plethora of photographs taken during this time period, he was not always the person behind the camera. This image captures a man sleeping on the bottom of a set of bunk beds. The man lays almost completely naked and exposed. His legs are limp, and his foot hangs nearly off the edge of the bed, proving how small the lower bunk is. To his right, we can just barely see the face of another sleeping lodger. Their proximity shows a clear absence of privacy due to overcrowding. The room is filled with bunk beds, each lined up with very little space in between. Similarly to his other photographs, Riis included individuals in this photo not to highlight their identities, but rather to demonstrate scale in the space through the bodies that help visualize the cramped dimensions of the room.

A diagram of this space shows the limited passageway between the beds (Figure 5). Using the center figure's arm as a cubit and measuring it as approximately 1.5 feet (18 inches), I was able to use his limb as a means to scale the rest of the room. The most narrow passageway between the bunkbeds is 10.5 inches, whereas the wider passageway is approximately 2 feet. The bunk beds, designed to fit as many people in a space as possible, were approximately 2 feet by 5.25 feet. These measurements explain why the central man can not extend his legs fully without his feet dangling off the bottom of the bed.

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[29] Richard Hoe Lawrence, along with Dr. John T. Nagle and Dr. Henry G Piffard accompanied Riis on his photographic missions and helped him develop Riis' own skills as a photographer. Maren Stange, *Symbols of Ideal Life: Social Documentary Photography in America 1890-1950*. (New York: Cambridge University Press, 1989) 14.

Riis' 1910 photograph *Family in Room in Tenement House* shows a family unit living in a tenement space (Figure 6). Unlike the bunk bed occupants who were most likely unrelated, yet sleeping in close quarters, this image shows a father, a mother, two young boys, two young girls and an infant. Most of the family members look at the camera, and seem startled by the flash. The mother cradles the baby in her arms. To her left, her husband sits on a makeshift stool. His pants are ripped at the knee, and his vest is stained. The young girl's face in the foreground is almost entirely bleached out by the bright light. The furniture within the room indicates the space has multiple functions for the family. There is a bed on the right hand side, as well as a crib towards the back. On the left, we can see a pot, as well as a case of dishes. The presence of both cooking supplies and bedroom furniture suggests that there was limited space, and therefore this room, like many within the tenement, had multiple functions. Although tenement floor plans indicate traditional room spaces such as "kitchen", "sitting room" and "bedroom", in reality most rooms served a variety of purposes. Despite Riis' attempts to pose the family in order to show their crowded living situation, we can still see semblances of pride throughout the family's presentation of their home. It is important to note that concepts of overcrowding are all relative, therefore, compared to their past living situation, this family may have been content with the tenement space.

In this sketch that demonstrates the crowded dimensions of the space, we can see how there was very little room for a photographer to even stand and take the photograph (Figure 7). Similarly to figure 5, I used a component of the room to help guide my approximations. If the width of the door at the top right hand corner is approximately 2.5 feet, then it follows that the adjacent bed would be approximately 2.5 feet by 5 feet. The room itself is barely more than 10 feet wide. If this room was approximately 100 square feet, each of the seven members of the

household would have on average slightly less than 15 square feet per person. According to the U.S. Department of Justice's special report on population density in state prisons during the 1980's, the average standard individual prison cell is approximately 68 square feet.[30] This stark comparison demonstrates the practically unlivable cramped housing conditions for tenements dwellers.

The last example of the conflation of livable space and storage space can be seen in Riis' photograph *Five Cents a Spot* taken in 1888–89 (Figure 8). Even the name of this image demonstrates the desperation to find a "spot" to sleep on the Lower East Side. This image shows a clear division of space. To the right there are six men crammed within the room, two on each bed, laying on makeshift cots. On the left there are stacked trunks, shoes and dishes. Bags of the men's belongings hang haphazardly on the walls, demonstrating the transience of the living conditions. The sheets, bedding, and floors are dirty, and the men look exhausted. Most of them appear to be sleeping, while a few just barely open their eyes for the photo. This room shows typical boarders who travel with all their belongings, and create a makeshift home out of a shared rented room.

In addition to his photographic representations of overcrowding, Riis also wrote explicitly about limited space in his book, *How the Other Half Lives.* Riis described how on the first warm nights in June when the hot air within the tenements made them practically unlivable, tenement dwellers would pour out on to the streets. He stated, "It is in hot weather, when life indoors is well-nigh unbearable with cooking, sleeping, and working, all crowded into the small

[30] Christopher A. Innes, *Population Density in State Prisons*, (Bureau of Justice Statistics, December 1986). https://www.ncjrs.gov/pdffiles1/Digitization/103204NCJRS.pdf

rooms together, that the tenement expands, reckless of all restraint."[31] Due to overcrowding, outdoor spaces became places where people lived. Homelessness was a major problem on the Lower East Side, and the temperate weather during the summers allowed people to live outside for a few months. Riis stated, "Then every truck in the street, every crowded fire-escape, becomes a bedroom, infinitely preferable to any the house affords."[32] Riis described the extreme poverty by pointing out an old man, who "lived in the corner coop, with barely enough room to crouch beside the stove." Riis concluded that if the the old man's spine was not as crooked and deformed as it was, "there would have been no room for him to sleep."[33] Riis' descriptive and visual language allowed wealthier individuals to become more sympathetic to the immigrants on the Lower East Side.

The most notorious and best example of region in New York City suffering of overcrowding was the 11th Ward on the Lower East Side (Figure 9). This area was the most highly populated area of Manhattan during the late 19th century. Located right next to the East River, this ward housed the most tenements per acre on the entire island of Manhattan. The majority of inhabitants of the 11th ward were first generation Americans, who immigrated from Eastern Europe. Between the years of 1880 and 1894 the population of this neighborhood increased by over 28,000 people (rising from 68,778 to 97,435 inhabitants). Out of the 67,778 inhabitants in 1880, 29,754 were foreign born. Additionally, 16,000 of its population was children aged 5-15.[34] Although overcrowding existed in the tenements from the time they first

[31] Jacob Riis, *How the Other Half Lives*: *Studies Among the Tenements of New York*. (New York: Charles Scribner's Sons, 1890), 173.
[32] Ibid., 174.
[33] Ibid., 107.
[34] Ibid., 233.

appeared on the Lower East Side, there was very little legislative work done to eradicate the problem until the end of the 19th century.

Momentum was created by the Tenement House Committee of 1895, formed to fix overcrowding. Mayor William Jay Gaynor followed this precedent by appointing the New York Congestion Commission (NYCC) in 1910. This commission was a group of government employees whose sole purpose was to investigate overcrowding in Manhattan. In 1911, the commission published a report which was unique when compared to other works of government legislation. The report "involved a comprehensive examination of the causes, consequences and possible remedies for New York's oppressive overcrowding of land and people," meaning that the government did not simply produce statistics about lack of space, but rather proposed solutions.[35]

The commission focused their investigation on the living spaces of the unskilled labor force, which included mostly factory workers (the main profession of tenement dwellers during this time). The NYCC generated an exact formula "for a good standard of housing" by making "the maximum value of land not exceed 50 cents per foot."[36] To contextualize these prices, land in some districts of Manhattan ranged from $2.74 to $16 per square foot, so the NYCC formula suggested that landlords in Manhattan should reduce their rates by a minimum 448% per square foot. The commission stated that the high prices of land were an "eternal and irremediable cause of congestion of population so far as housing conditions are concerned. With expensive land no remedy for congestion among unskilled workers can be permanently found."[37] High prices

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[35] Roy Lubove, *And the Slums -- Tenement House Reform in New York City 1890-1917*. (Pittsburgh, University of Pittsburgh Press, 1962), 233.
[36] New York City Commission on Congestion of Population, *Report* (New York, transmitted to the Mayor and the Board of Aldermen, Feb. 28th, 1911), 1.
[37] Ibid, 1.

forced families to live in single rooms, and pushed the tenement buildings' maximum capacity beyond their original plans of the early 1830's. At the conclusion of their report, the NYCC suggested that fourteen improvements be made to housing in order to reduce overcrowding. The first suggestion was the "extension of the rapid transit system to facilitate suburban migration" -- essentially the creation of the Metro North Train line and the subway system to move people to the suburbs of Manhattan.[38] Although this was a smart suggestion, creating such a system of public transportation was an enormous undertaking and indeed this form of train commute was not fully functioning until well into the 20th century. Another suggestion proposed by the commission was "restrictions on height and lot coverage of buildings" to force building developers to be more thoughtful about human wellbeing and build at lower density.[39]

In addition to their comprehensive list of housing suggestions, another major success of the commission was the compilation of resources such as photographs, first hand accounts, and maps, in order to reach out to other cities to form a national planning association. In conjunction with other congestion groups, the NYCC sponsored the National Conference on City Planning held in Washington, D.C. on May 21-22 in 1909. This conference included cities that had a common interest in "housing, congestion and urban decentralization" and became a "significant link between the housing and planning movements."[40] The main recommendation of the conference was to move away from purely aesthetic thinking in regards to city planning.[41] Urban

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[38] Roy Lubove, *And the Slums -- Tenement House Reform in New york City 1890-1917*. (Pittsburgh, University of Pittsburgh Press, 1962), 233.
[39] Ibid.
[40] Ibid., 234.
[41] During this time architects and city planners were highly influenced by the City Beautiful Movement. This movement focused on aesthetics and monumentality in city planning, as seen in such projects as Daniel Burhnam's Plan for Chicago in 1909.

planners from across the United States began to focus on the needs of the city's inhabitants, specifically the working class.

Air Ventilation

> The consumptive's room, where bedding, floor, and furniture are covered with expectoration, where the children play on the floor, and wife and baby share the same bed; where out of fear a contagious patient is hidden in a closet.
>
> -- Registered Nurse Yohanna Von Wagner (1902)[42]

One of the many major health issues threatening tenement dwellers at the end of the 19th century was the fatal disease of tuberculosis. Tuberculosis (also referred to during this time period as consumption) is a lung infection that spreads easily in spaces with poor air ventilation. When an infected person coughs, microscopic particles of the tuberculosis bacteria (*tubercle bacillus*) dissipate in the air. Therefore, humans are more likely to contract tuberculosis in areas where air is stagnant. The tenements on the Lower East Side were breeding grounds for the disease, due to their poor architectural planning which limited fresh air intake and circulation . To begin, photographic examples from Jacob Riis demonstrate how tenement dwellers lived in conditions of subpar air circulation. In addition, non-photographic evidence such as tenement building codes, maps that recorded tuberculosis outbreaks, and first hand doctor testimonials all chart the pervasiveness of tuberculosis on the Lower East Side.

The iconic photograph, *Bandit's Roost*, 59 ½ Mulberry Street, by Jacob Riis, captures the dirty air of the tenement alleyways (Figure 10). The photograph's name comes from the street's notorious reputation as a hangout for New York City gangs. Riis shows the white, polluted fog seeping into the surrounding windows using flash technology. During this time social

[42] Yohanna Von Wagner, *"Tenement House Inspection"* (The American Journal of Nursing, 1902).

photographers posed their subjects and used flash powders of ground aluminum, magnesium or magnalium.[43] Cameras did not have the capacity to capture moving people and objects. Despite the limited scope of photography, it was still highly dangerous, due to the fact that the elements in powder form are extremely combustible. Riis risked his own personal safety in order to demonstrate the grim living conditions of the tenement houses. As the air rises in Riis' photograph, it becomes opaque, distorting the upper level of the alleyway. The clothes on the drying lines appear damp due to the lack of fresh air. Along the sides of the buildings are barrels filled to the brim with trash. The doorways are attached to rickety wood staircases and fence work. The entrances and exits to the buildings are dilapidated, run down and hardly functioning. Riis captures multiple figures within the photograph. Some stand in the alleyway, while others peer out through windows. Towards the back of the alleyway on the left hand side Riis even captures a little boy. The photograph does not focus on the figures' faces. Rather, the bodies are used as a form of measurement and scale to show the narrowness of the air shaft. Based on floor plans of this time, these alleyways and air shafts ranged from five to ten feet wide, and were unable to circulate sufficient fresh air into dwelling units.

In a later work by Riis, *Mott Street Barracks*, taken in 1890, he uses children as scale figures to show the narrowness of the courtyard between two buildings (Figure 11). Although Riis took the photograph straight on, there is a lack of symmetry. Similarly to *Bandit's Roost*, this photograph demonstrates disorganization with the haphazard construction of stairwells and bridges between the buildings. The air is not quite as polluted, but it is evident that it is nearly impossible for any fresh air to enter through the windows that open into the adjacent alley.

[43] Paul Morgan, The Complete Book of Flash Powder, (Branford, Florida, 1993), 5.

When the first tenements were constructed in the mid 19th century there was very little housing regulation in Manhattan. Tenements were built directly next to one another, with absolutely no space between and up to 90% of a tenement lot was permitted to be built on.[44] These buildings were likened to railroad carriages, which eventually resulted the nickname, "railroad flats." The railroad flats had a very specific architectural plan in contrast to later tenement houses because the entire lot was taken up by the building. Sometimes, at the rear of the railroad flat tenement house there would be a small yard space, but most buildings did not include this type of landscaping. Although there were some windows they were placed only in the most expensive units. Additional windows faced out into the alleyway, where this air was not fresh.

Between the years of 1867 and 1879, the Tenement House Committee worked to generate the Tenement Acts, a list of spatial and housing suggestions to improve the quality of living. The acts slightly revised the railroad flats from apartments with absolutely no ventilation, to lots where only 65% of the plot could be built upon. These new building codes caused architects to generate a new layout nicknamed the "dumbbell" floor plan, because the air shaft space in the middle made the adjacent tenement buildings resemble a dumbbell weight (Figure 12). This change was a major improvement, because air was now flowing from the interior and the exterior of the building. However, the air from the interior was still highly toxic because many dwellers used the courtyard as a trash disposal. The dumbbell plan was not a total failure because it provided more clean air than the railroad flats, however the alleyways were still incredibly narrow. This originally digitally drafted reproduction shows that the widest part of the courtyard

[44] Laura Vaughn, *Mapping Society*, (London, UCL Press, 2018), 40.

is only 10 feet. Other parts of the airshaft are even more narrow, providing less fresh air. Although the number of cases decreased, tuberculosis was still rampant.

One of the main pieces of evidence that opened the Tenement House Committee's eyes to the consumption crisis was the map depicting tuberculosis outbreaks. After John Snow's groundbreaking work mapping cholera outbreaks in London in 1854, cartographers believed that this was a new method to raise awareness about and possibly eradicate public diseases.[45] The most notorious block for tuberculosis outbreaks was nicknamed the "Lung Block" that encompassed an area between Cherry, Market, Hamilton and Catherine Street on the Lower East Side (Figure 13). The buildings are labeled such that each letter corresponds to a various year (a= 1894, b=1895, c= 1896, d=1897, e=1898, f=1899) representing an outbreak of tuberculosis.[46] Most of the buildings recorded cases of tuberculosis multiple consecutive years. In the map the shaded regions represent courtyards and air shafts -- places with potential for fresh air circulation. There were significantly more cases of tuberculosis on both Cherry and Hamilton Streets because both of these blocks travel North to South and are longer and narrower. Therefore air flowed less freely than in the East to West shorter blocks, fostering more stagnant and contagious air.

Another example of a map detailing the prevalence of tuberculosis in the tenements can be found in Robert W. DeForest and Lawrence Veiller's book, *The Tenement House Problem*, published in 1903 (Figure 14). This section of tenement housing is located one avenue East of the infamous Lung Block, just South of Catherine Street, between Monroe Street and Hamilton

[45] In early 1854, John Snow sourced the city's cholera outbreak to a single water pump. Before it reached the city of New York, cholera had killed tens of thousands of people in England. By tracking people's main water supply, Snow concluded that feces infected water was the source of the disease. By cleaning the city's water supply, cholera was virtually eradicated in London. UCLA, Department of Epidemiology: Fielding School of Public Health. https://www.ph.ucla.edu/epi/snow/snowcricketarticle.html

[46] Laura Vaughn, *Mapping Society*, (London, UCL Press, 2018), 44.

Street. The buildings are marked with black dots, each corresponding to a case of tuberculosis reported to the Board of Health in the previous five years. DeForest and Veiller pointed out that typically only half of the cases of tuberculosis were generally even reported.[47] The map shows that buildings with the dumbbell floor plan generally have fewer cases of tuberculosis than those with the railroad floor plan, but there are still dots present.

Another way in which the Tenement House Committee convinced the New York State government to create housing reform was by providing shocking, first hand accounts of the conditions of tuberculosis victims. In his book, *Consumption, Its Relation to Man and His Civilization, Its Prevention and Cure*, published in the year 1906, Dr. J.B. Huber described in detail how the tenement architecture facilitated tuberculosis. In Chapter IV he told the story of a young Romainian Jew and described how "with every breath I felt the heavy, foul odor from poverty, ignorance, filth disease" in a room that was only ten feet by ten feet.[48] He stated, "six people lay on the floor packed close, rubbing the heavy sleep from tired eyes, and staring at us dumbly." The infected man said "Breath -- breath -- give me breath… or kill me; O kill me." Huber detailed how the man's "wasted body" was "too feeble to rise; too choked, too tortured to lie down."[49]

In addition, Huber described another tenement nicknamed the "ink pot" due to the absolute filth within. He wrote that, "rooms were held death ready and waiting for years."[50] He described a family in which the father, who was initially infected, passed tuberculosis on to his daughter, wife and son -- who all died within two years. The next person to rent the family's

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[47] Robert W. DeForest and Lawrence Veiller, *The Tenement House Problem*, (London, MacMillian and Co., Ltd. 1903), 12.
[48] J.B. Huber, *Consumption, Its Relation to Man and His Civilization, Its Prevention and Cure*, (Philadelphia, Lippincott, 1906), 147.
[49] Ibid., 148.
[50] Ibid.

tenement home also died due to the high levels of germs and poor living conditions. Huber used long descriptions such as the following to set the highly toxic scene for his readers:

> Up on the third floor, looking down into the court, is a room with two little closets behind it. In one of these a blind Scotchman slept and took the plague in 1894...He died in the hospital. Only a few months later the plague fastened again. Slowly his little daughter grew used to the fever, the coughing, the long sleepless nights. The foul court was her only outlook. At last she, too, died… In this room the germs lived on. They might all have been killed in a day by sunlight; they can live two years in darkness. Here in the darkness they lived, on grimy walls, in dusty nooks, on dirty floors. then one year later, in October, a Jew rented the same room. He was taken, and died in the summer...Then an Irish family came in...six months later the father took the plague. He died in 1901. This is only the record of *one room* in seven years.[51]

In his conclusion on tuberculosis, Huber blamed the widespread presence of the disease on poor air ventilation. He wrote, "every room, especially every bedroom, should be thoroughly ventilated." and "air that is constantly re-breathed soon becomes poisonous."[52] He wrote that a current of air from room to room is not sufficient, and that there must be a window or air source leading directly outside. He also, however, made the important distinction that "cold air… is not necessarily pure." The railroad and dumbbell floor plans simply did not allow for enough fresh air circulation to fight against tuberculosis.

It was not until 1895, when Riis and other social reformers, like Huber, began publishing work with gruesome details of tenement tuberculosis that the New York Legislature felt pressured to create the Tenement House Committee to directly address the spatial conditions that were causing tuberculosis and create the "new-law" tenement.[53] This model, detailed in the

[51] Ibid.
[52] Ibid., 163.
[53] Ibid., 41.

committee report, had regulated alleyways with ample space for ventilation. With the creation of new building codes, tuberculosis rates dramatically decreased. In the year 1895, tuberculosis was the number one cause of death in New York City. Between the years of 1900 and 1920 the city's death rate from tuberculosis fell by half.

Fire Hazards

> The fire originated in a bakery, and the flames shot up the stairway with great rapidity, and extended to the upper floors, which were occupied by twenty-four families. The moment the alarm was given the scene of confusion that ensued was of the most exciting character. The stairway was burned away, and of course all chance of escape in that direction was cut off. Men women and children could be seen, by the spectators on the sidewalk, clustered at the windows, screaming for assistance, and wringing their hands in the agony of their despair. Some of them mustered courage enough to jump from the windows, and escaped with slight injuries.
>
> - *Calamatious Fire.; Tenement House on Elm-street Destroyed. Thirty Persons Supposed to Have Perished In Flames.*, New York Times, February 3rd 1860.[54]

The lack of fire prevention was one of the greatest architectural flaws tenement housing. In an article published by the *New York Times* in the mid 1800s, tenements were referred to as "tenement traps."[55] They were constructed so poorly, "that when a fire breaks out in one of its lower floors, not all the zeal and all the apparatus of the Fire Department, not all the eager sympathy of a whole population wide-awake and hurrying to the spot, can save one-third of [the inhabitants] from perishing."[56]

As demonstrated in Jacob Riis' 1901 photograph, *Typical Fire Escape (Extension off Allen Street)*, fire escapes were sometimes present in the tenements, however they were not

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[54] *Tenement Traps*, New York Times, Feburary 4th, 1860, Pg. 4 (https://www.nytimes.com/1860/02/04/archives/tenement-traps.html?mtrref=www.google.com)
[55] Ibid., 4.
[56] Ibid.

always used properly (Figure 15). Because there was so little living area within tenement housing, many residents utilized this space as a hang out area or, as depicted in this photograph, a drying rack. The metal fire escape shown is draped with various articles of clothing, and shirts dry on the adjacent ladder attached to the escape. This fire escape is part of the first iteration of fire hazard precautions put in place by the New York City government from the new-laws proposed by the Tenement House Committee. This photograph demonstrates, however, that the first fire safety laws in the 1870's focused on implementation of escapes but neglected to monitor proper usage. Even more tenement inhabitants died in buildings with fire escapes than those without, because they were not cleared and ready for use.

This fire safety problem was particularly acute in New York, compared to other US cities. In *The Tenement House Problem*, both DeForest and Veiller noted how other cities were required by the government to have the necessary fire safety precautions. For example, the city of Chicago, "require[d] that stairs in tenement houses shall be adapted in number and width to the area and height of the building, and that there shall be provided for each building at least two flights of stairs, and that where such a building covers 2000 square feet of ground area, the stairs shall be at least 3 feet wide each, and for each additional square feet of ground area covered by building the stairs shall be increased 6 inches in width."[57] The authors also commented that smaller cities, such as Buffalo and Milwaukee, despite their modest populations, also had regulation on fire hazards.

One of the best pieces of evidence that demonstrates the prevalence of fires within the tenements are the Sanborn Fire Insurance maps. These maps, produced throughout the entire country, were used by various fire insurance companies to deem which buildings were good

[57] Robert W. DeForest and Lawrence Veiller, *The Tenement House Problem*, (London, MacMillian and Co., Ltd. 1903), 157.

investments and to help generate insurance rates. In this map from 1895, the pink correlates to brick, the yellow represents wood, and the green signals extremely high risk buildings for fire insurers (Figure 16). The Lower East Side map (prime tenement real estate) is flooded with green, hazardous, buildings, which mostly appear to be multi-family homes while most of the brick buildings are government buildings, such as museums and police headquarters. In 1895 the Tenement House Commmittee's list of recommendations included a new building code which helped to alleviate issues of air ventilation, as well as problems relating to fire. However, these architectural changes took decades to implement, therefore many of the buildings colored green on the Sanborn maps remained at risk for years to come.

The first significant fire that led to governmental reform and additional fire codes within the tenements was the Elm Street Fire of 1860. In an article from the *New York Times*, published February 3, 1860 the newspaper reported the following:

> A fire broke out in the basement of a double six story tenement house, No. 142 Elm Street.... Ladders were immediately elevated to the windows, but the longest of the them could not reach above the fourth floor. As the firemen stood on the ladders, they could see many women and children lying prostrate on the floor, surrounded by flames, which rendered all attempts to approach them ineffectual.[58]

Another article, also published in the *New York Times* in 1860 reported:

> Two mothers and their eight children--in all ten human beings--were burned to death yesterday morning, in one of a row of tenement-houses… [the tenements] were mere wooden shells, four stories in height, and partitioned so as to permit of their being occupied by the very largest number of families possible. The fire was discovered soon after 1 o'clock in the morning, when all who were in the house were in bed. Before any of them were awakened

[58] *Tenement Traps*, New York Times, Feburary 4th, 1860, Pg. 4 (https://www.nytimes.com/1860/02/04/archives/tenement-traps.html?mtrref=www.google.com)

> to their danger, many of them were nearly stifled by the dense smoke that filled the various rooms. The alarm was given, and all who were able ran to the stairs, but only to be met and driven back by the ascending flames… The inmates could be seen running hither and thither, seeking a way of escape, but finding none. While the increasing flames rose higher and higher, and they were forced from one floor to another by the intense beat, the shriekings of the women and children were terrible to hear. Those outside looked on with feelings of horror, for, until the firemen arrived with their apparatus, they could do nothing to save them. With remarkable alacrity, even for New-York firemen, Hook and Ladder Company No. 8 came to the scene… All being anxious to rescue someone, too many [fire fighters] climbed the ladder, and it gave way, bringing them all to the ground. Those inside who saw the ladder break, and who were not yet suffocated, gave one heart-rending cry, and it was the last. All who were able rushed to the windows and sprang out, preferring to die by the fall rather than by fire.[59]

The details of these fires were so tragic and gruesome that the New York City government was compelled to solve some of the architectural issues causing fire hazards. Seven years after the fire, in 1867, the government created The First Tenement House Act. However, the vague language and major loopholes within the act rendered it ineffective at causing any sort of productive change. In his article, *The Architecture and Development of New York City: Living Together*, Andrew S. Dolkart notes the lack of real reform in the 1860's due to poor oversight. He writes, "those rules [from the First Tenement House Act] that were on the books were largely ignored by owners because there was no way of making sure that these rules were followed."[60]

The invention that was ultimately adopted to eradicate fire-related deaths on the Lower East Side was the fire escape (Figure 17). Very little is known about the inventor, Anna Connely,

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[59] Destructive Fires.; Four Tenement Houses Destroyed, March 29, 1860, 2. (https://www.nytimes.com/1860/03/29/archives/destructive-fires-four-tenement-houses-destroyed-two-mothers-and.html)

[60] Andrew S. Dolkart, *The Architecture and Development of New York City: Living Together*, (Columbia University Digital Knowledge Ventures, 2005), 1.

but her original patented design for the fire escape looks much as we know it today. What was revolutionary about Connely's design was the fact that the fire escape was attached to the exterior of the building. Essentially, Connely's fire escape design increased the square footage of the tenement apartments. Connely's invention was implemented not only in the tenements, but also in the factories to alleviate work related fires.[61] Numerous other inventors had attempted to solve the fire problem within the tenements, like B.B. Oppenheimer, whose fire escape helmet parachute was patented in November of 1879 (Figure 18). This almost comical design shows a man wearing a head contraption with a parachute attached. It seems that Oppenheimer was suggesting that if tenement dwellers were equipped with this type of headgear, they could avoid death by jumping out of the windows. This unrealistic and poorly thought out invention demonstrates how desperate urbanites were to solve the fire hazard problem.

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[61] Although this paper deals only with tenement architecture, it bears noting that safety hazards were found in workplace architecture as well. There were many first hand reports of workers who stated how inhumane the conditions Lower East Side factories were. One noteworthy account was that of Clara Lemlich, who described the state of the factory in an exposé in the New York Evening Journal in 1909 -- two years prior to the Triangle Waist Fire. She wrote that there "is just one row of machines that the daylight never gets to… The girls at all the other rows of machines back in the shops have to work by gaslight, by day as well as by night." She states that the shops work all throughout the night, and the bosses are "hardly what you would call educated men". She explains that, "the shops are unsanitary", but that word does not even begin to explain the filth within the factory. These poor conditions, detailed by Lemlich, led to fatal fires. The most famous example is the Triangle Shirtwaist Factory fire of 1911. This fire was particularly tragic, and led to the deaths of 146 young factory workers (123 of which were women).

After the numerous factory and tenement fires, a commission was formed to investigate the New York State Factory situation, meeting immediately after the fire, and submitted its final report in February of 1915. In response to the tragic casualties, the commission listed out 36 improvements that they suggested in order to prevent this type of event again. The suggestions ranged from simple ideas such as number twenty three, "seats for women in factories" , to specific laws about the hours women were able to work. Suggestion number thirty five stated, that "hours of labor of women in mercantile establishments limited to 54 hours a week in the entire state." The commission also took note of the child labor crisis in suggestion number thirty six and stated, "hours of labor of children between fourteen and sixteen in mercantile establishments reduced from 54 to 48 hours a week and their employment prohibited for more than eight hours a day or after 6 o'clock in the evening." These suggestions ultimately became a bill, and the lives lost in the Triangle Shirtwaist Factory Fire eventually pushed New York State government to reform working conditions.

In addition to tenement architecture, one of the central problems, that led to fire-related deaths and injuries was the lack of government oversight of fire safety standards. A cartoon entitled "Inspector of Buildings", depicts a fire inspector whose face is drawn in as a skeleton, and whose hands are just bones (Figure 19). He is wearing a hat that features a skull and crossbones as he emerges from the smoky doorway. The sign to his right is in reference to the Triangle Shirtwaist fire, and reads "*145 lives lost!!!! Building fire proof. Only fire escape collapses. OK - Inspector.*" Although this fire resulted in the highest number of casualties within the Lower East Side during this time, very little was done post-fire to improve fire safety.

Real legislative change came in the form of the the Tenement House Committee's official 649 page report published in 1895, which was heavily influenced by the visual narrative created through Riis' photographs and prints. It listed a series of recommendations for ways to improve fire conditions. It banned, for instance, "the storage in any tenement house of feed, hay or straw."[62] Additionally, the committee noticed a high correlation of fires in tenements that were connected to local businesses, such as bakeries. The committee wrote that they have "been urged that where any business whatever is conducted in the basement or first floor of any tenement-house the wall into the hall should be closed solidly, not only as to transoms and windows, but as to doors also.'[63] The committee investigated every detail, ranging from the removal of hazardous wallpaper to the improvement of lighting within hallways. The committee focused most of their recommendations on improving the spatial qualities of the tenements. The committee admitted that they were highly influenced by the "testimonies taken and examinations made" --

[62] New York State Legislative Assembly, *Report of the Tenement House Committee* (New York: Albany, J.B. Lyon State Printers, 1895), 66.
[63] Ibid., 68.

demonstrating how first hand accounts were circulating and influential as the government created spatial legislation.[64]

Vice

> There were hundreds of prostitutes on my street. They occupied vacant stores, they crowded into flats and apartments in the tenements… On sun-shiny days the whores sat on chairs along the sidewalks. They sprawled indolently, their legs taking up half of the pavements. People stumbled over a gauntlet of whores' meaty legs…[65]
>
> - Michael Gold (*Lower East Side tenement dweller*)

Tenement architecture permitted and supported criminal activity and vice on the Lower East Side. Due to the absence of education and resources, many tenement dwellers participated in unsavory activity such as drinking, incest, organized crime and prostitution. As Elizabeth Alice Clement stated in her book, *Love For Sale: Courting, Treating and Prostitution in New York City*,

> The ultimate integration of prostitution into working-class communities occured when women prostituted in the city's tenements. Prostitution had always existed in the housing stock of poor New Yorkers, but it became even more prevalent after the demise of the brothel in the early years of the twentieth century. The city acknowledged the growing problem in 1901 when it introduced laws prohibiting solicitation and prostitution in the tenements. Until that time, the laws governing prostitution had involved streetwalking or the keeping of disorderly house. The new laws did little to suppress the trade.[66]

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[64] Ibid., 69.
[65] *Luc Sante, Low Life: Lures and Snares of Old New York.* (New York: Farrar Straus Girous, 1991), 185.
[66] Elizabeth Alice Clement, *Love For Sale: Courting, Treating and Prostitution in New York City, 1900-1945*, (The University of North Carolina Press; 2006), 99.

The presence of alcohol and bars on the ground floor of some tenements caused problems for the residents. A map entitled "A Map of Beerdom" shows the prevalence of bars in the previously mentioned 11th Ward, the one with the fastest growing population. The map is from the year 1885 and shows the Western boundary as Avenue B, and the Eastern as the East River (Figure 20). The map indicates churches with a "+" symbol and bars with a dot. According to the map, within the 11th Ward, there were only 19 churches and Sunday schools but 346 saloons. The key of the map notes that there was one church (counting Protestant, Catholic and Jewish places of worship) for every 3700 people, while there was one bar for every 200 people. Therefore, it was much easier to obtain an alcoholic beverage than it was to attend a religious service.

In a cartoon published in 1877, now archived at the New York Public Library, men are shown in a chaotic room waiting to apply for their liquor licenses (Figure 21). The caption states, "New York City -- the excise excitement -- liquor dealers and saloon-keepers applying for licenses at the office of the board of excise." The black and white sketch shows a crowded space and a hectic crowd anxiously waiting to speak with a few people behind a counter. These men are applying to make profit from liquor sales within their bars and saloons. One man holds a form above his head, while another rests impatiently on the counter. There are papers hanging from the light fixtures and the walls, as well as a conspicuous bottle placed behind the counter. This cartoon demonstrates the increasing interest in selling alcohol during this time, and the immense profits it could provide to various business owners within the Lower East Side.

Another major moral crisis within the tenements was the presence of incest. In the year 1856, a committee of the legislature of New York was formed to create moral reformation within the tenements. One of their major goals was "the prevention of prostitution and incest, by

providing that only a sufficient number of rooms, or a room properly divided into separate apartments, shall be rented to families, and by prohibiting subletting."[67] In his book, *Domestic Intimacies: Incest and the Liberal Subject in Nineteenth Century*, Brian Connolly notes that, "while it was unlikely that the reformers actually witnessed incest, given their short visits, the spatial organization of the apartments was such that there was no reasonable expectation of privacy."[68] He explains that the families within the tenements, "exhibited none of the signs of the sentimental family and thus were deemed incestuous."[69] Reformers and government reports cited the overcrowding of the tenements as the primary reason for the widespread incest. Additionally, it is worth noting that there is still very little proven evidence of incest in the tenements, and this may have been an unflattering assumption made my New York City elite and projected onto the tenement dwellers.

The Lower East Side during this time was also home to the gangs of New York. In his book, *The Bower Boys: Street Corner Radicals and the Politics of Rebellion*, Peter Adams described the Bowery Boys as a "gang that emerged as part urban legend and part street fighters for the city's legions of young workers." Adams explains that, "poverty and despair led to a gang culture that was easily politicized" -- and that Manhattan itself was a unique place which had a "mixture of wealth and abysmal poverty, high society and saloon brawls, mansions and immigrant shanty towns of jerry rigged log cabins."[70] What was different about this gang was that it was comprised of the working class men who led traditional nine-to-five jobs during the

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[67] *Tenement Traps*, New York Times, Feburary 4th, 1860, Pg. 4 (https://www.nytimes.com/1860/02/04/archives/tenement-traps.html?mtrref=www.google.com)
[68] Brian Connoly, *Domestic Intimacies: Incest and the Liberal Subject in Nineteenth-Century America*, (Pennsylvania, University of Pennsylvania Press, 2014), 16.
[69] Ibid.
[70] Peter Adams, *The Bower Boys: Street Corner Radicals and the Politics of Rebellion*. (New York: Praeger, 2005), 23.

work week. However, during their free time this gang of nativists would attack immigrant groups, who they believed were taking away job opportunities. The close proximity of nativists and immigrants led to high rates of violence on the Lower East Side.

A police photo in Luc Sante's *Evidence: NYPD Crime Scene Photographs 1914-1918* shows a dead man lying in a tenement hallway (Figure 22). His body lays lifeless as his feet point outwards and his hands face up. He fell on a slight diagonal, and he barely fits in the hallway, demonstrating the small width of the space. Through the doorway, we can see a large crowd that has gathered outside to see the dead body. While multiple people are carrying umbrellas, suggesting it was raining outside, the weather does not stop the accumulating crowd. According to Sante's research from the NYPD photo collection and municipal archives, photos like these were highly prevalent during this time period in New York. Many murders such as the one this image depicts were the direct cause of gang violence and nativism in the tenements themselves.

The last major source of vice within the tenements, in addition to alcohol, incest, and gang violence, was prostitution. Historian Deborah Dwork writes, "prostitution, which is closely connected to venereal disease, was rampant on the Lower East Side."[71] The first reason she cites is the fact that "the East Side housed many single men, men who had come alone either to earn money and return to their homelands, or as with the Jews, to send for their families."[72] However, she interestingly notes that the architectural condition and overcrowding may also have "inhibited sexual activity between a husband and wife, thus creating a market for prostitution."[73]

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[71] Deborah Dwork, *Health Conditions of Immigrant Jews on the Lower East Side of New York 1880-1914*. (Cambridge University Press: 1981), 31.
[72] Ibid.
[73] Ibid.

Dwork references the memoir of Michael Gold, a Jewish man living on the Lower East Side during the start of the 20th century. Gold wrote,

> The East Side of New York was then the city's red light district, a vast playground… Earth's trees, grass, flowers could not grow on my street; but the rose of syphilis bloomed by night and by day.[74]

As Luc Sante notes in his book, *Low Life: Lures and Snares of Old New York*, there were very few photographic representations of prostitution during this time period. This lack of photography can most likely be attributed to the taboo subject matter. However, a cartoon from the New York Police Gazette shows a prostitute as she "hooks" a victim (Figure 23). The prostitute dresses in formal clothing, wearing a long dress. She gently holds the hand of a man that she appears to meet on the street. Sante notes that despite the woman's innocent appearance, religious organizations across the city were highly concerned with levels of prostitution. Sante writes, "In an 1866 address at Cooper Union, the Methodist Bishop Matthew Simpson complained that prostitutes were as numerous as Methodists in the city… There were, he declared, 20,000 whores— equivalent to one-fourtieth of the cities population."[75]

The overcrowded tenements were breeding grounds for immoral and dangerous activities such as prostitution. In the court case of *The People on complaint of William O. Jones against Maria Garcia from the Court of general sessions in the County of New York 1913*, archived by the John Jay College of Criminal Justice, a judge finds a woman guilty not only of prostitution, but also of performing prostitution activities within a tenement. The judge stated, "I did find her guilty of violation of the Tenement House Act, section 150, chapter 99, laws 1909, and adjudged her a vagrant, and as provided by law I did commit her to the workhouse of the city of New York

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[74] Ibid., 7.
[75] *Luc Sante, Low Life: Lures and Snares of Old New York.* (New York: Farrar Straus Girous, 1991), 185.

for a period of six months."[76] The section the judge referenced states, "the presence of many immoral women in the tenement houses, where they are thrown in contact with respectable people, and worse than that, with large numbers of ignorant and innocent children, forms a most deplorable condition."[77] Additionally, the Tenement House Act commented on the historical context of prostitution within tenement housing, stating, "the tenements have always had, and probably will always have, their share of immoral women… women who have been abandoned by their husbands, and who, in order to support themselves and their legitimate children, are driven to depend on some extent of evil income."[78]

In conclusion, drinking, incest, organized crime and prostitution were facilitated by overcrowding and spatial problems in the tenements. Through the work of the NYCC in 1909 and the Tenement House Committee report in 1895, slowly the tenement dwellers dispersed and overcrowding became less of a concern. Once government reduced the number of people crowded into the tenements and alleviated spatial tensions, issues such as prostitution decreased rapidly.

Conclusion

The present day Lower East Side is completely different than the late 19th and early 20th century version depicted in this essay. The only remaining tenements are those that have been preserved at the Tenement Museum, a boutique museum created to tell the story of immigrants living in tenement housing. The Lower East Side has maintained some of its immigrant institutions, such as the famous Katz Delicatessen and Russ and Daughters, but there are far

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[76] The People vs. Maria Garcia (Trial #1771), *Court of General Sessions*, October 28th, 1913., https://www.lib.jjay.cuny.edu/crimeinny/trials/pdfs/1771.pdf
[77] New York State Legislative Assembly, *Report of the Tenement House Committee* (New York: Albany, J.B. Lyon State Printers, 1895), 88.
[78] Ibid.

more high-priced rooftop bars than authentic immigrant restaurants. The Bowery, which was once considered one of the city's most dangerous and impoverished neighborhoods, is flooded with expensive hotels. The Lower East Side has experienced gentrification, and like many NYC neighborhoods eventually has evolved into a practically unrecognizable upscale enclave.

Although the Lower East Side is no longer considered a neighborhood in need of social justice, documentary photography is still being used as a means to expose societal ills and unfavorable spatial conditions. For example, in 2016 social justice pioneers published images highlighting Brazilian slum living (*Favelas*) when Rio hosted the Summer Olympic Games.[79] The photographs showed the impoverished slums adjacent to the glamorous city of Rio. Similarly, Johnny Miller's facebook page, @UnequalScenes, has a following of over 100,000 people who view his drone photographs that highlight impoverished communities and income inequity.[80] Miller uses the aerial perspective to show problematic spatial conditions.

Although this modern use of spatial documentary photography is beneficial, after my research I am not convinced photos are the best way to show overcrowding and poverty in today's society. Due to the fact that our current society is constantly inundated with images, I believe that new technologies such as videography, virtual realities and 3D simulations are the best way to capture public attention. In a recent report from Forbes, Bernard Marr writes that by the end of 2017, the world's population will have taken close to 1.2 trillion photos.[81] In 2012 this

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[79] Michael Powell, *Officials Spent Big on Olympics, but Rio Natives Are Paying the Price* (New York Times, August 2016) https://www.nytimes.com/2016/08/15/sports/olympics/rio-favelas-brazil-poor-price-too-high.html

[80] Direct link to the mentioned Facebook page: https://www.facebook.com/unequalscenes/

[81] Bernard Marr, *How Much Data Do We Create Every Day? The Mind-Blowing Stats Everyone Should Read*, (Forbes Magazine, 2018). https://www.forbes.com/sites/bernardmarr/2018/05/21/how-much-data-do-we-create-every-day-the-mind-blowing-stats-everyone-should-read/#a46fa0660ba9

number was only 660 billion, making its compound annual growth rate 9%.[82] Marr claims that this astounding number is due to the fact that "our smartphones are exemplary cameras."[83] With the invention of the smartphone, specifically the iPhone, everyone is a photographer. Furthermore, images no longer need to be published in a newspaper or a book, rather they can be posted to the internet in a matter of seconds. It is important to note that these photos are not simply stored away on our phones and forgotten about. During the average minute in the year of 2016, 527,760 photos were sent on snapchat, and 46,740 photos were posted to instagram.[84] These large numbers have driven me to hypothesize that the photograph does not have the same effect on the average millennial as it did on a middle or upper class reader of *How the Other Half Lives.*

Through the power of images, maps, first hand accounts, and journalism, social justice pioneers were able to capture the 20th century public's attention not only in New York City, but across the country to improve working class housing architecture for the better. This audience, unlike our present day society, was still greatly affected and moved by the images they saw. The work of photographers, city mappers, doctors, nurses, journalists, and cartoonists made working class families and individuals visible to an audience that had been misinformed and ignorant to the unsafe living conditions of the Lower East Side. The sources highlighted in this thesis are unique because not only do they showcase poverty but also they display spatial conditions within the tenements. Through my own autoCAD and hand drawn sketches and my analyzation of

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[82] *Here's How Many Digital Photographs Will Be Taken in 2017,* (Mylio: Tech Today, December 2016), https://mylio.com/true-stories/tech-today/how-many-digital-photos-will-be-taken-2017-repost

[83] Bernard Marr, *How Much Data Do We Create Every Day? The Mind-Blowing Stats Everyone Should Read*, (Forbes Magazine, 2018). Bernard Marr, *How Much Data Do We Create Every Day? The Mind-Blowing Stats Everyone Should Read*, (Forbes Magazine, 2018). https://www.forbes.com/sites/bernardmarr/2018/05/21/how-much-data-do-we-create-every-day-the-mind-blowing-stats-everyone-should-read/#a46fa0660ba9

[84] Ibid.

primary source texts, I attempt to elucidate the cramped tenement conditions, that were sometimes challenging to see in simply a photograph or testimonial.

Appendix of Laws and Commissions

1867: The First Tenement House Act - required the installation of fire escapes per each apartment as well as windows in the majority of rooms. This was the first iteration of the Tenement House Act, and had to be revised due to extreme misuse and loopholes.

1879: The Second Tenement House Act - required the windows of the first act to face a fresh air source. Was often referred to as "old law" tenement housing -- where there was the "dumbbell" floor plan allowing 65% of a lot to be built upon.

1894-95: Tenement House Committee - a group of 7 government officials (with Jacob Riis as their unofficial consultant) attempting to reform the first and second tenement house acts. They ultimately published a 649 page report listing their recommendations in 1895.

1908-1912: New York Congestion Commission (*NYCC*) - a government formed commission working directly for the Mayor of NYC. They specifically focused on issues of sanitation within the city that resulted from overcrowding. They eventually formed the National Conference on City Planning in May of 1909.

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FIGURE 1

Riis, Jacob August. *A man atop a make-shift bed that consists of a plank across two barrels*. 1890. *How the Other Half Lives: Studies Among the Tenements of New York*, Charles Scribner's Sons: New York, 1890 (The Museum of the City of New York)

FIGURE 2

Riis, Jacob August.*12 year old boy at work pulling threads. Had sworn certificate he was 16—owned under cross-examination to being 12. His teeth corresponded with that age*. 1890. *How the Other Half Lives: Studies Among the Tenements of New York*, Charles Scribner's Sons: New York, 1890 (The Museum of the City of New York

FIGURE 3

Beals, Jesse Tarbox. *Visiting nurse on Hester Street graveling over the rooftops.* Date Unknown. *Luc Sante, Low Life: Lures and Snares of Old New York.* (New York: Farrar Straus Girous), 1991.

FIGURE 4

Riis, Jacob August.* *Eastside cheap lodging house*. 1895 Museum of the City of New York. https://library.artstor.org/asset/AMCNYIG_10313347217.

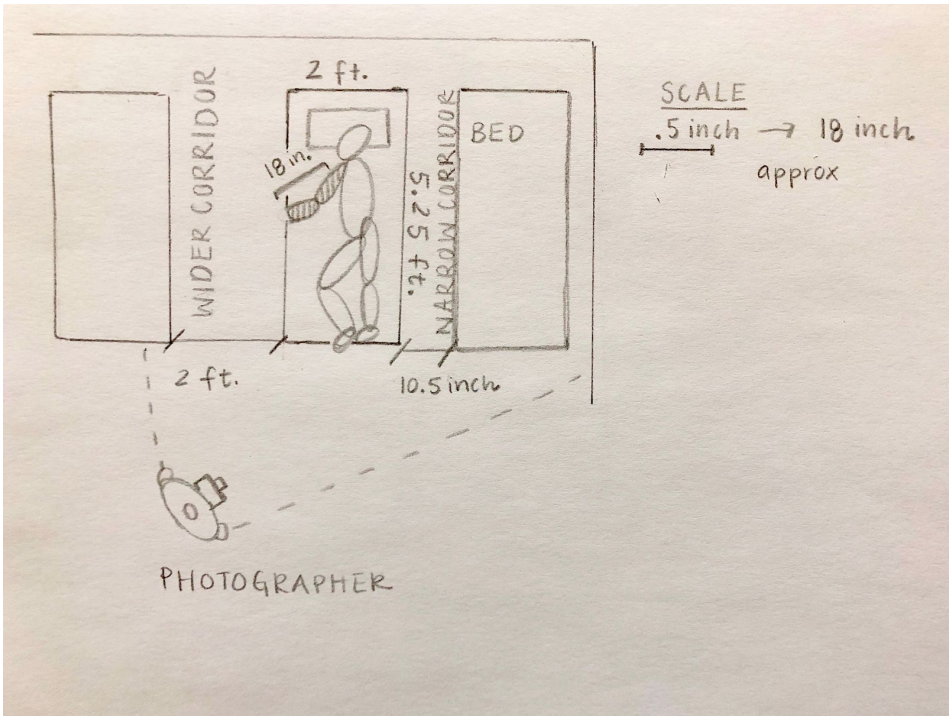


FIGURE 5

Julia Ditkoff
Original Sketch

FIGURE 6

Riis, Jacob August. *Family in room in tenement house.* 1910. Museum of the City of New York. https://library.artstor.org/asset/AMCNYIG_10313347231.

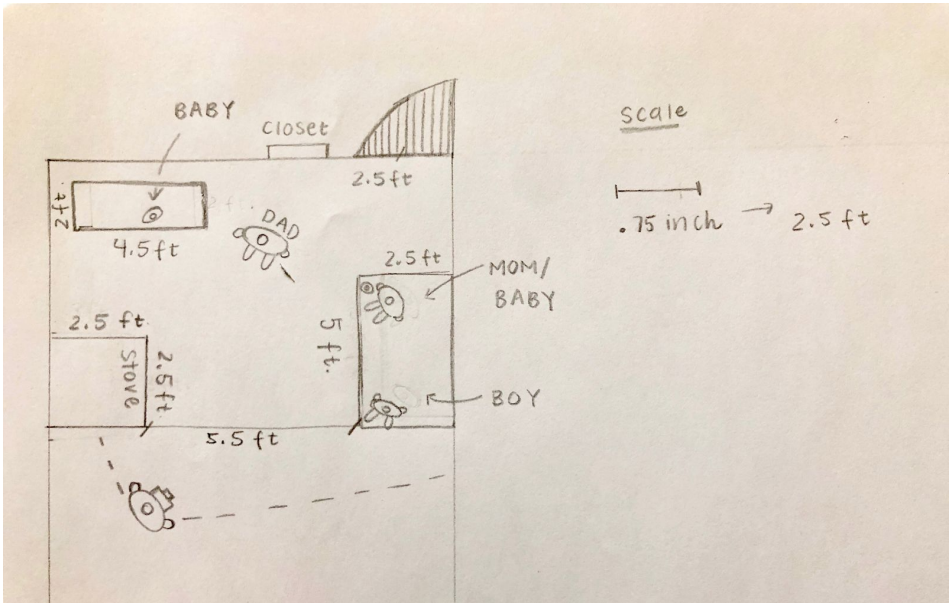


FIGURE 7

Julia Ditkoff
Original Hand sketch

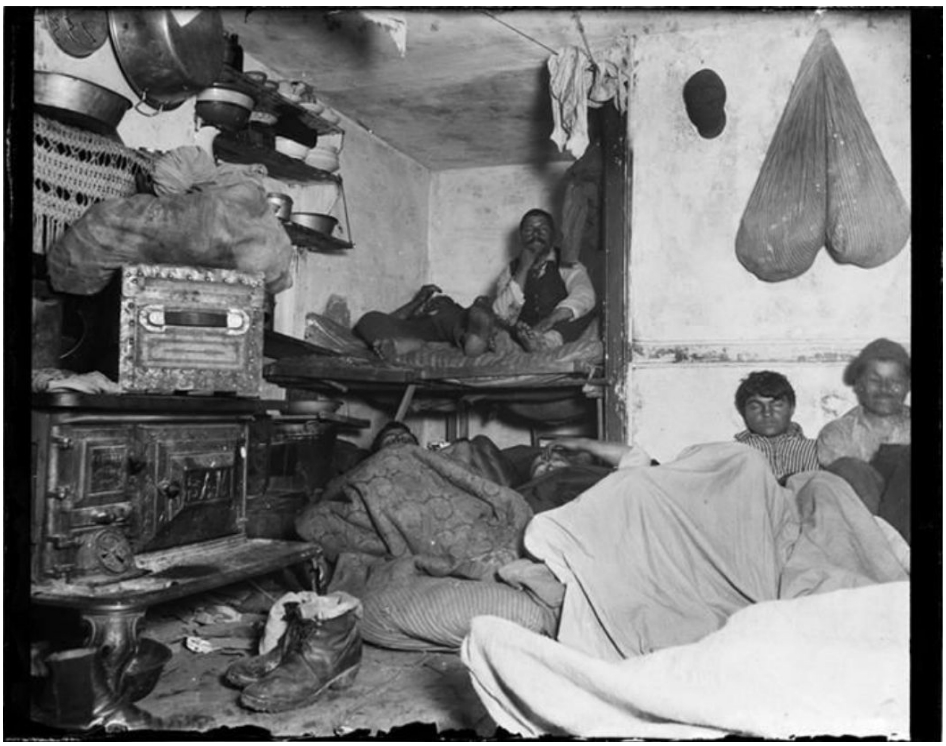


FIGURE 8

Riis, Jacob August. *Five Cents a Spot.* 1888–89. MoMA digital archives: https://www.moma.org/learn/moma_learning/jacob-august-riis-lodgers-in-bayard-street-tenement-five-cents-a-spot-1889/

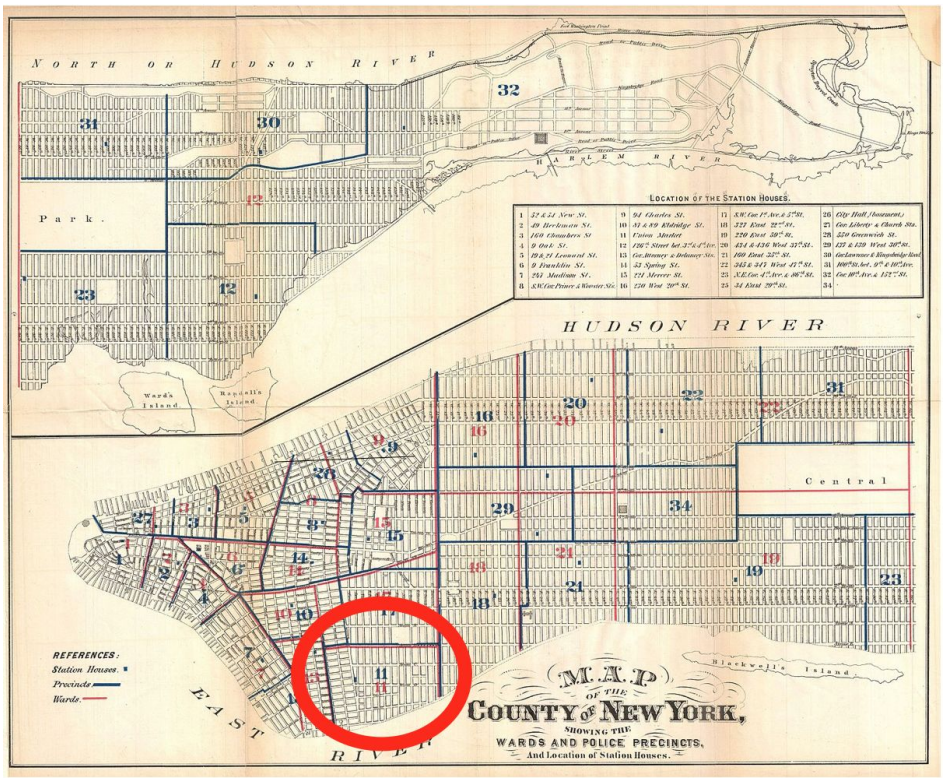


FIGURE 9

Hardy, John. *Map of the County of New York, Showing the Wards and Police Precincts, And Location of Station Houses*. 1871. Manual of the Corporation of the City of New York https://catalog.hathitrust.org/Record/008607621

***red circle is an addition to the original map*

FIGURE 10

Riis, Jacob August. *Bandit's Roost, 59 ½ Mulberry Street.* 1888. MoMA Digital Archives: https://www.moma.org/collection/works/50859

FIGURE 11

Riis, Jacob August. *The Mott Street Barracks*. 1890 Museum of the City of New York. https://library.artstor.org/asset/AMCNYIG_10313346614.

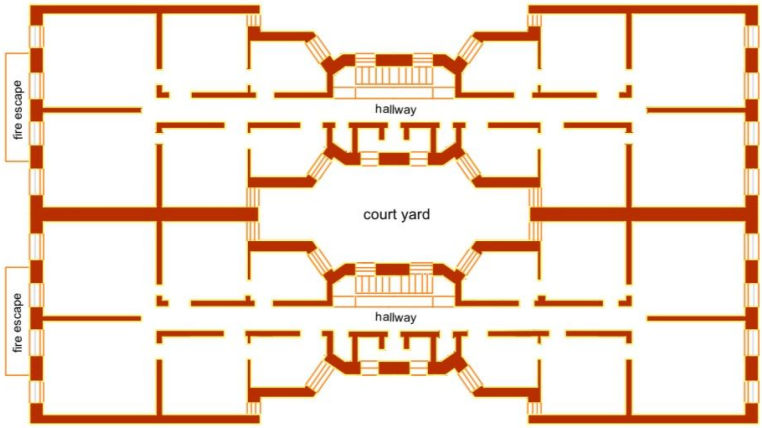


FIGURE 12

Julia Ditkoff

Original autoCAD drawing

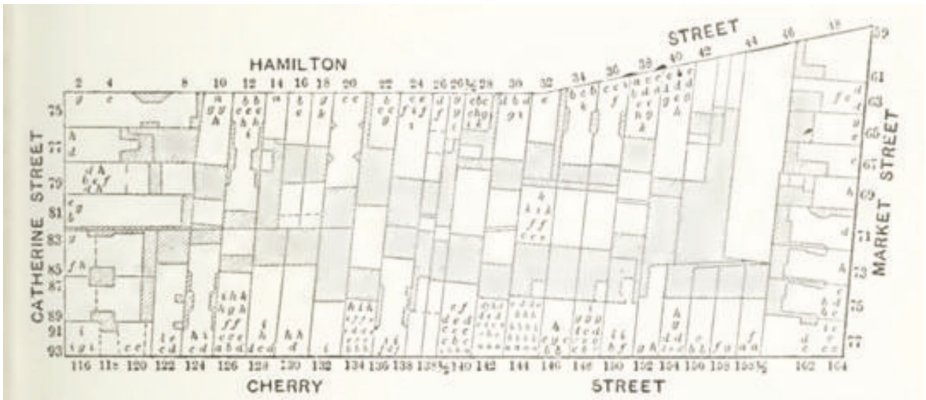
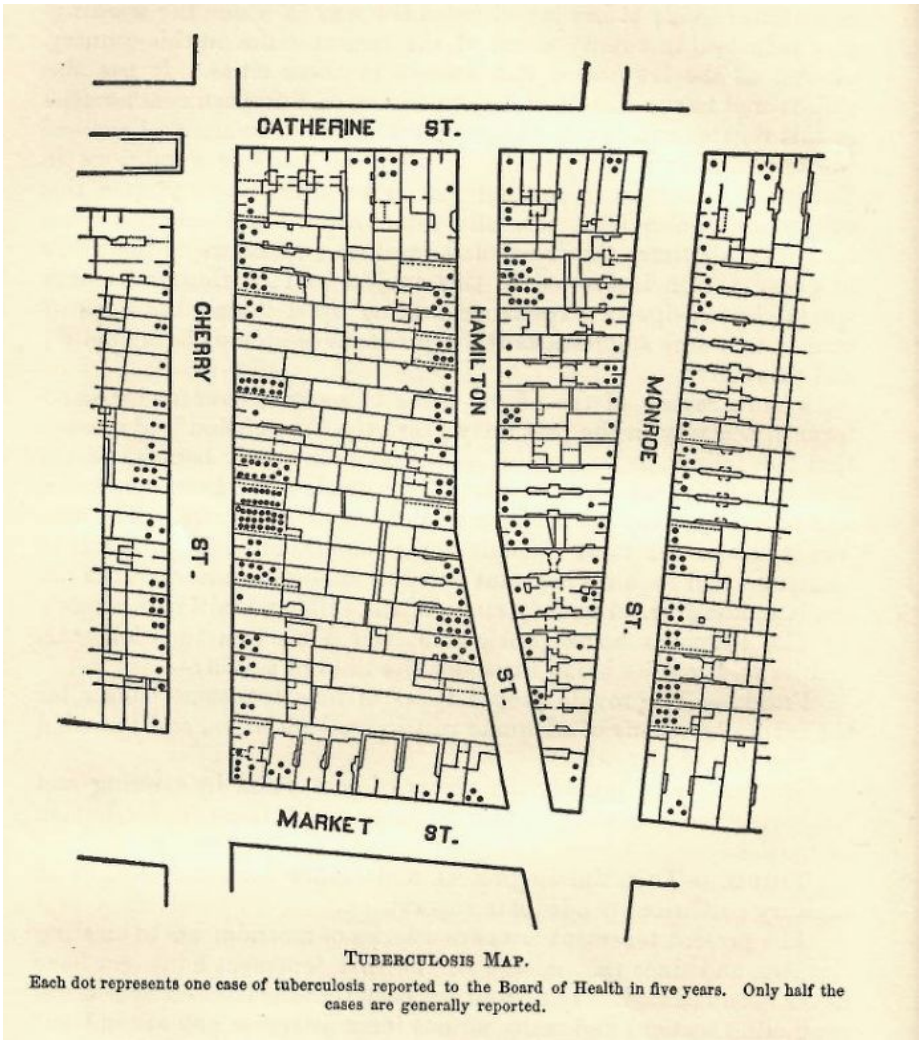


FIG. 37.—Ground-plan of the "Lung Block." The shaded sections are courts and air-shafts. Each letter represents one case of consumption reported to the Health Department since 1894. *a* = one case in 1894. *b* = one case in 1895. *c* = one case in 1896, and so on to *k* = one case in 1903. (As it is not possible from the records to tell whether a given case occurred in the front or rear tenement, all have been assembled in the front building, except in 144 Cherry Street, where there was not room.) In the plans of the Health Department (Part XII, Chapter II) dots (.) take the place of letters.

FIGURE 13

Huber, J.B. *Map of the Lung Block.* 1903 *Consumption, Its Relation to Man and His Civilization, Its Prevention and Cure* (Philadelphia: Lippincott, 1906).



TUBERCULOSIS MAP.

Each dot represents one case of tuberculosis reported to the Board of Health in five years. Only half the cases are generally reported.

FIGURE 14

Unknown. *Tuberculosis Map.* 1900. William DeForest *The Tenement House Problem*, (London: Macmillian & Co, 1903)

FIGURE 15

Riis, Jacob August. *Typical Fire Escape (Extension off Allen Street)*. 1890 Museum of the City of New York. https://collections.mcny.org/CS.aspx?VP3=SearchResult&VBID=&PN=1&IID=2F3XC5U9GLD5

FIGURE 16

Sanborn Fire Insurance Map from New York, Bronx, Manhattan, New York. Sanborn Map Company, - 1902 Vol. 3, 1895. Library of Congress https://www.loc.gov/item/sanborn06116_002/

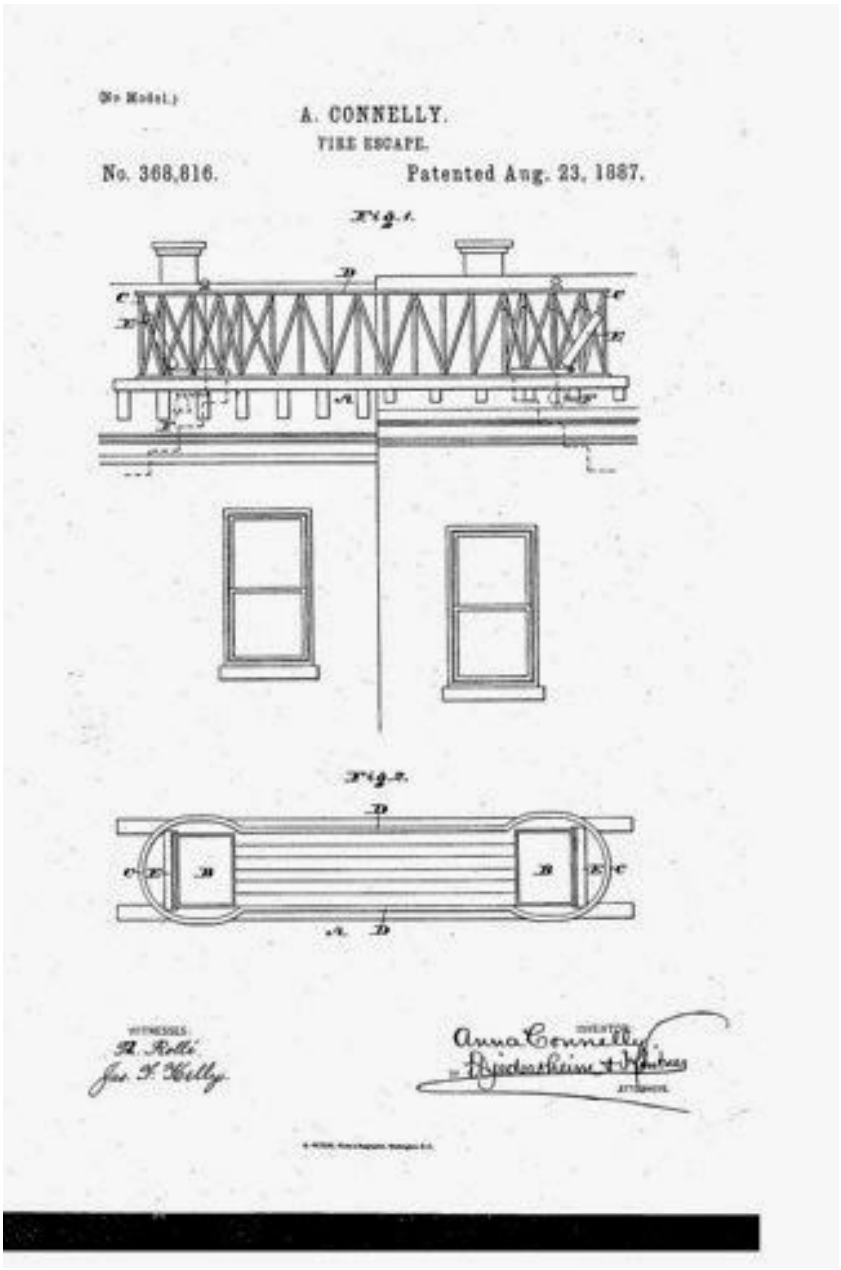


FIGURE 17

Connelly, Anne. *Patent for the fire Escape*. August 23rd, 1887. United States of America Patents #US368816A https://patents.google.com/patent/US368816A/en

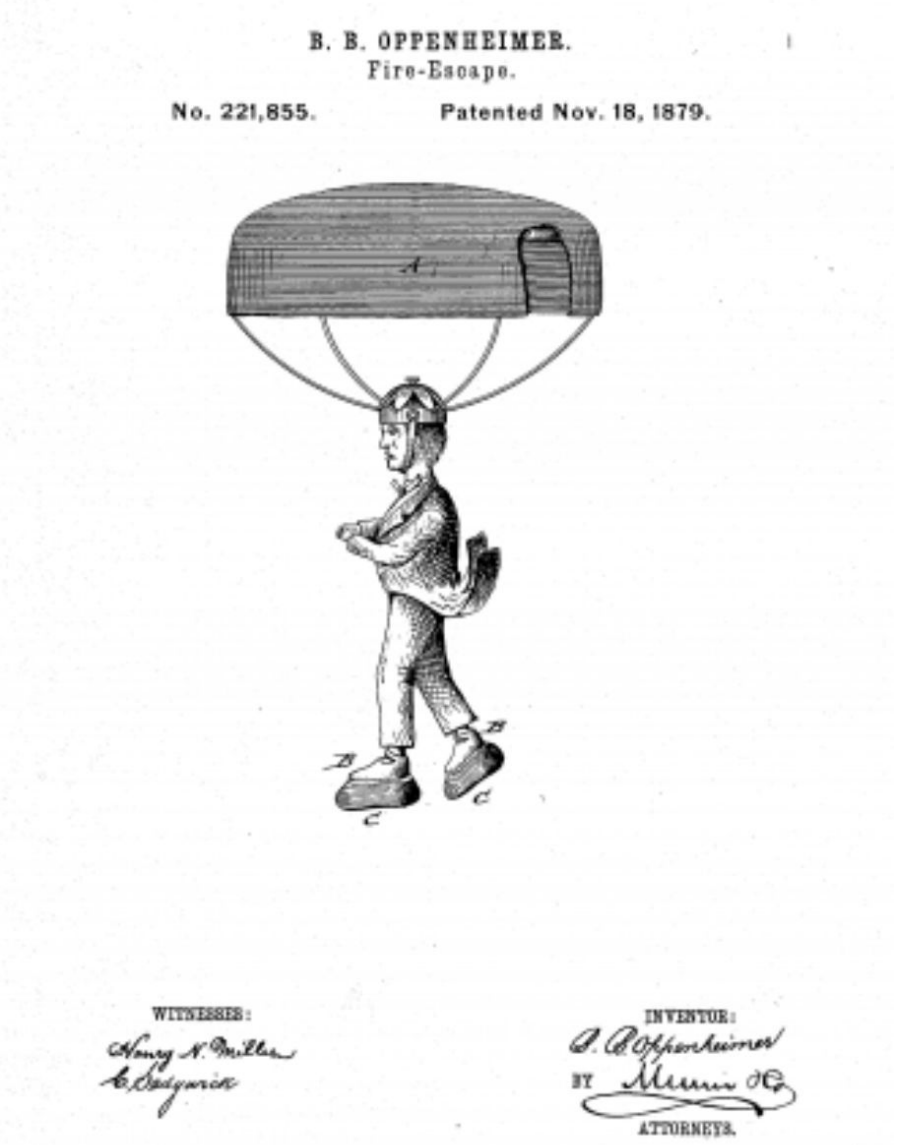


FIGURE 18

Oppenheimer, B.B. *Improvement in Fire Escape.* Nov. 18th, 1879. United States of America Patents #US221855A https://patents.google.com/patent/US221855A/en

FIGURE 19

Unknown cartoonist. *Inspector of Buildings.* 1911. Documentation and Archives Department, Martin P. Catherwood Library, Cornell University. https://library.artstor.org/asset/SS34445_34445_4464906.

(sign reads: "Record fire for New York, 145 lives lost!!!! Guilding fire proof. Only fire escape collapsed. OK-- Inspector.")

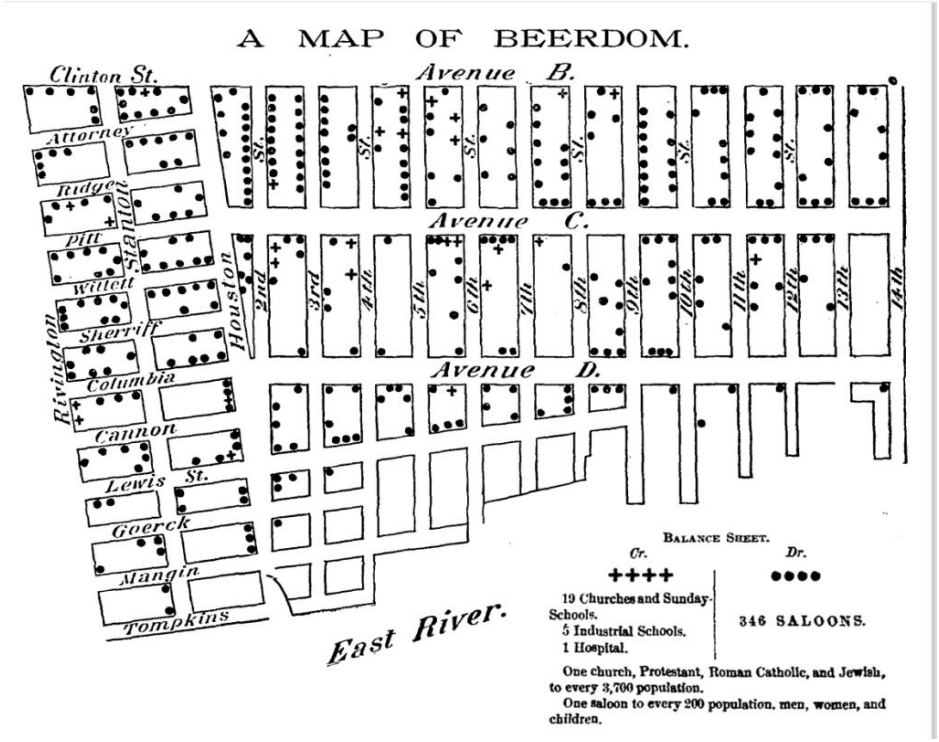


FIGURE 20

Beecher, Henry Ward.
A Map of Beerdom – New York, 11th Ward.
1885.
The Christian Union, (New York: J.B. Ford & Company, 1885.)

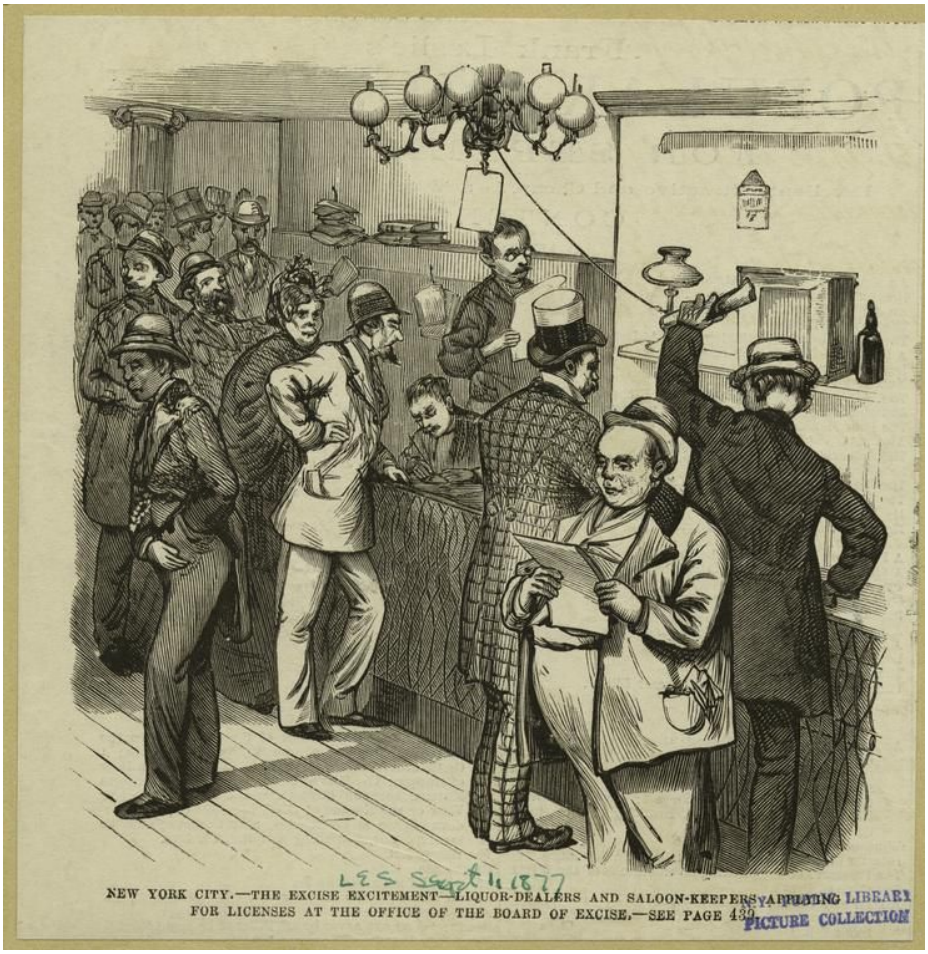


FIGURE 21

Cartoonist Unknown *Applying for liquor licenses* "New York City -- the Excise Excitement." 1877. New York Public Library https://tenement.org/blog/beer-and-morality-in-the-19th-century/

FIGURE 22

Unrecorded photographer, *Dead body in the front hallway of a tenement.* 1914. Luc Sante, *Evidence: NYPD Crime Scene Photographs 1914-1918* (New York: Barnes and Noble Publishing co., 2006)

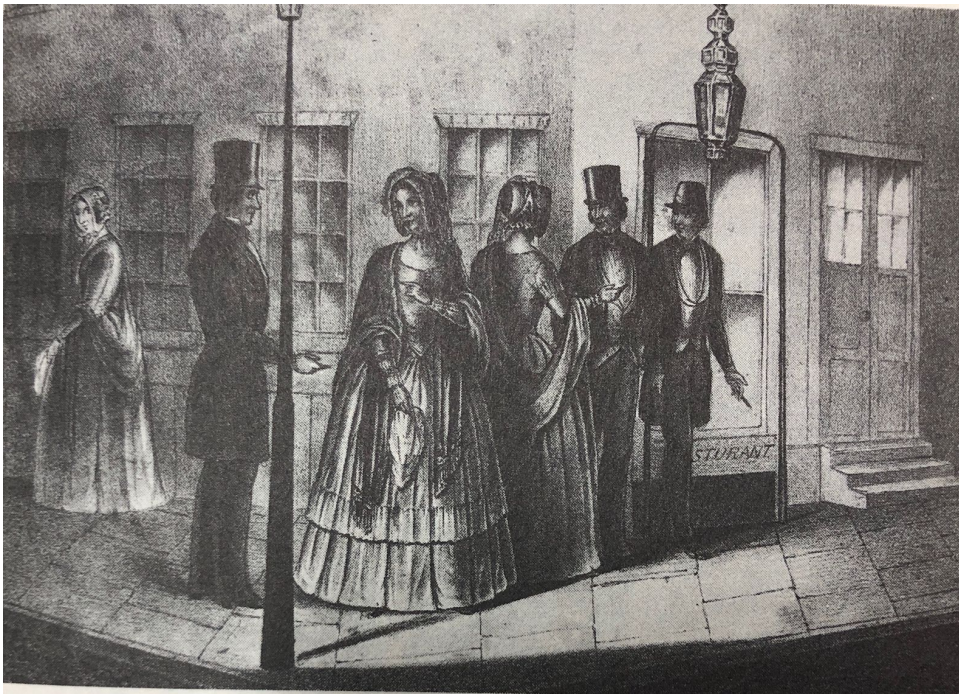


FIGURE 23

NY Police Gazette
Hooking a Victim.
1850.
Luc Sante, Low Life: Lures and Snares of Old New York. (New York: Farrar Straus Girous), 1991.