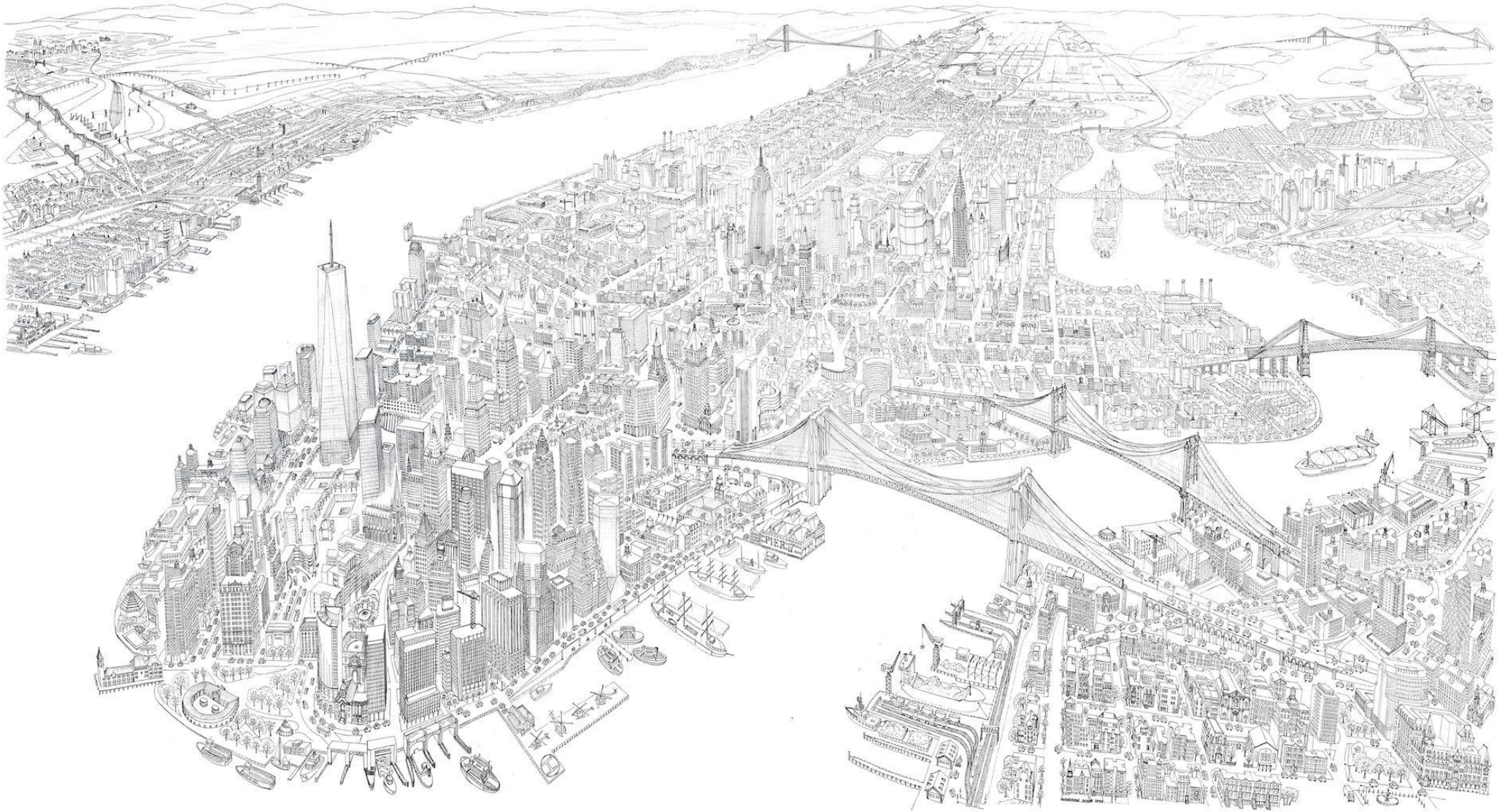


Myles Zhang: Urban history and built environment

I study the history of planning and cities. I have a keen interest in the social [history of the New York metropolitan region](#). I studied architecture and [New York City](#) as a Columbia undergraduate. As a visiting student at Oxford, I researched [medieval history and Amiens Cathedral](#). For my Cambridge Master's thesis, I examined the [history of incarceration](#) and Eastern State Penitentiary. Through writing, art, [digital humanities](#), and community engagement, I aim to introduce new audiences to urban history and to the historic preservation issues facing my community. Name in Chinese: 张之远



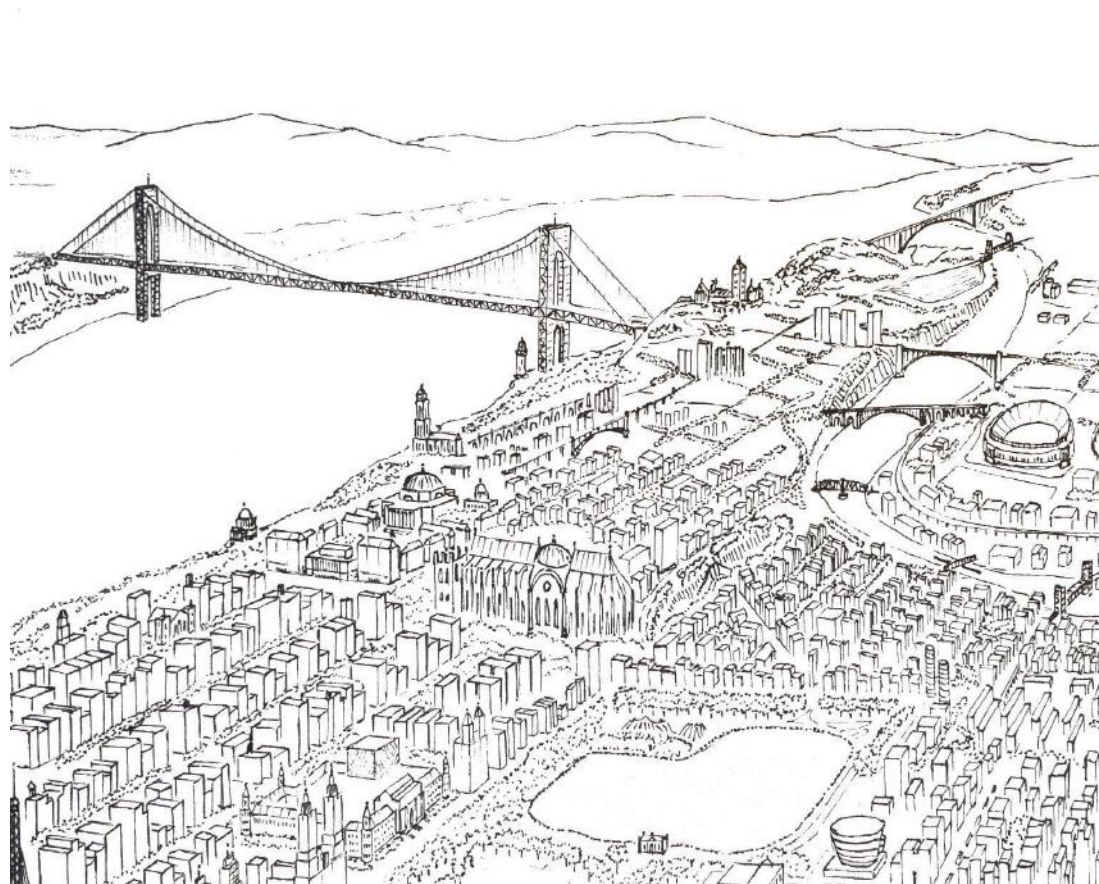
New York City in One Drawing

This ink on paper drawing represents 800 hours of work over several months. It is 45 inches high by 79 inches wide. This panorama shows NYC looking northwest from above Governor's Island and Red Hook. The Statue of Liberty, Ellis Island, and Staten Island are outside the frame. The image features between eight and ten thousand buildings. All of Manhattan's bridges and major parks are included. Any buildings excluded were done so because they were either too small or too distant to include.

[View artwork in detail](#)



^ Lower Manhattan and Wall Street

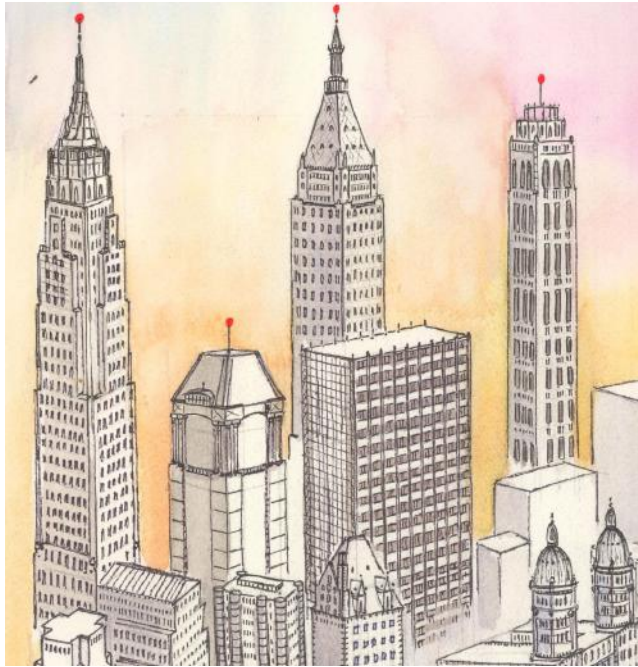


^ Columbia University and George Washington Bridge

Drawing New York City

The image below is one of a series of six, each measuring 26 by 40 inches. Each drawing is of a single neighborhood in New York City, based on Google Earth satellite imagery. The drawing took between 60 and 100 hours of work.

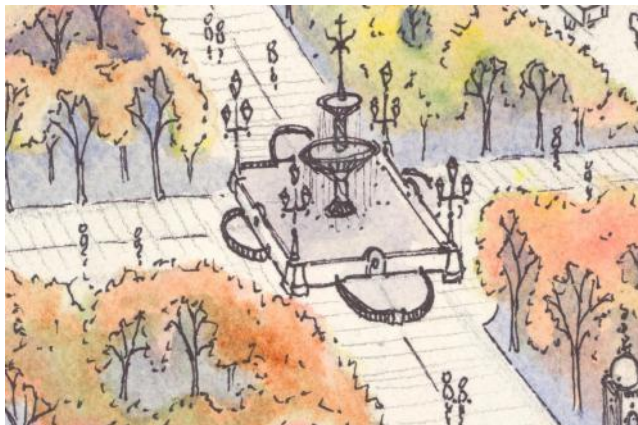
[View more of this artwork online](#)



^ Detail of skyline



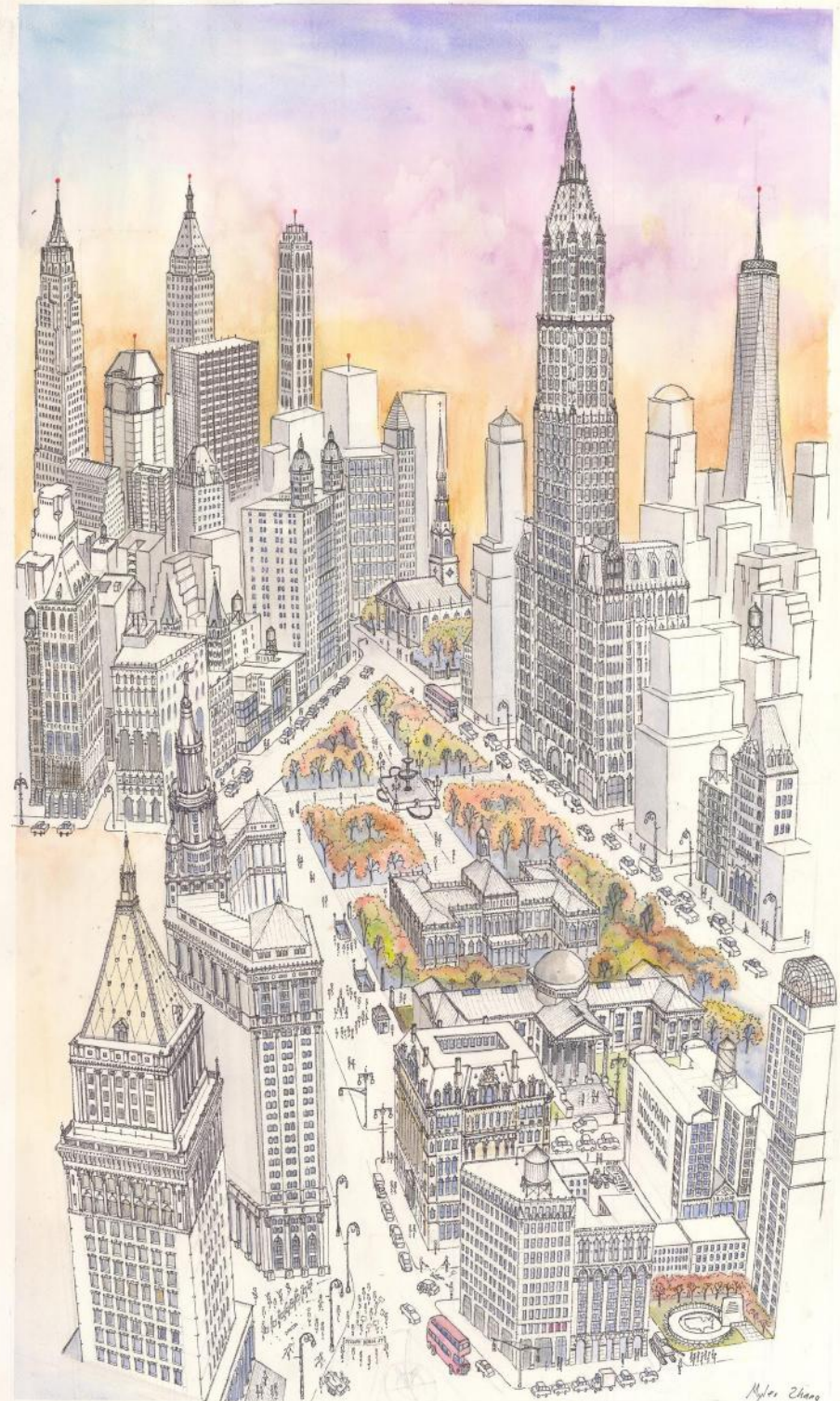
^ Detail of Woolworth Building

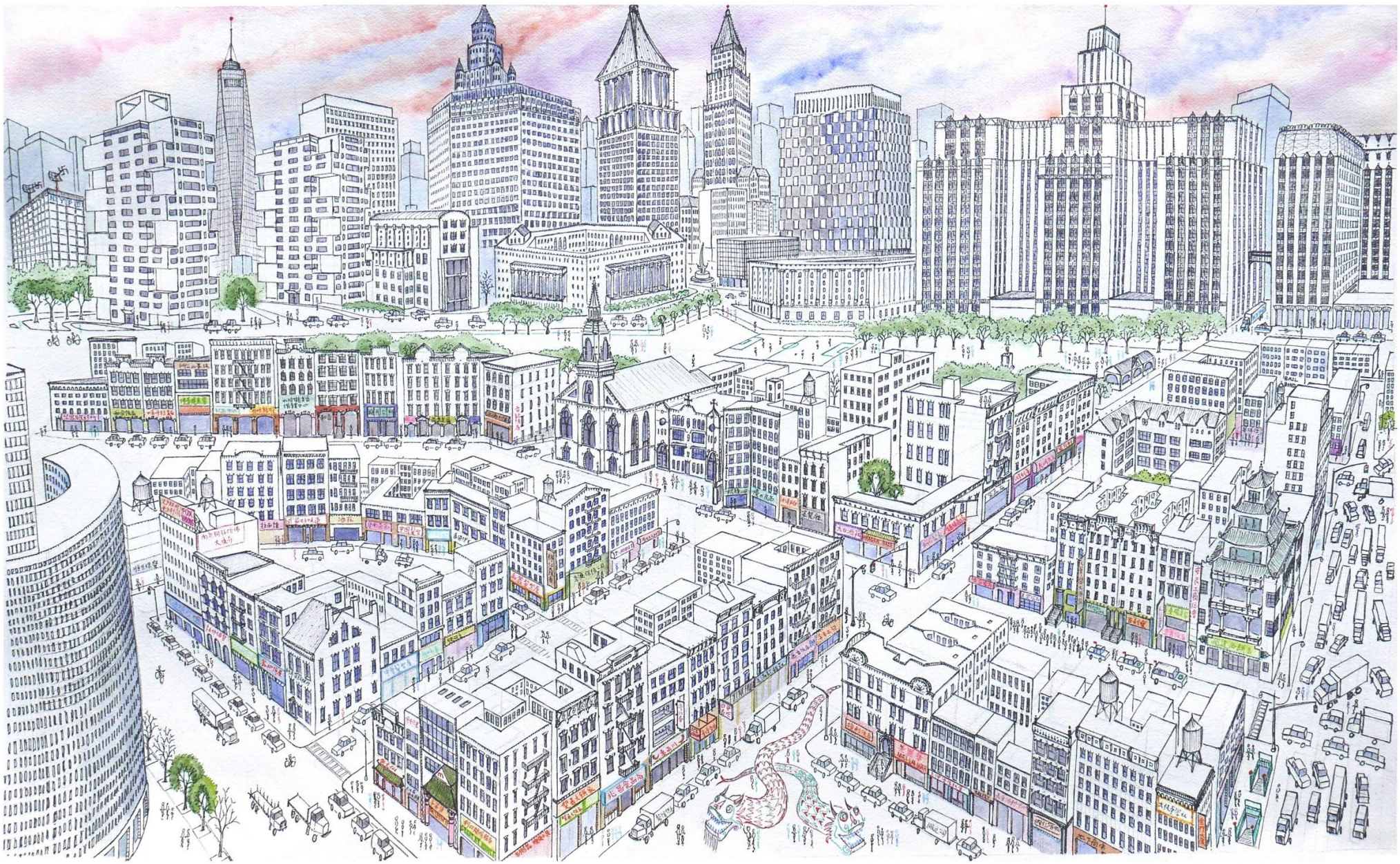


^ Detail of City Hall Park

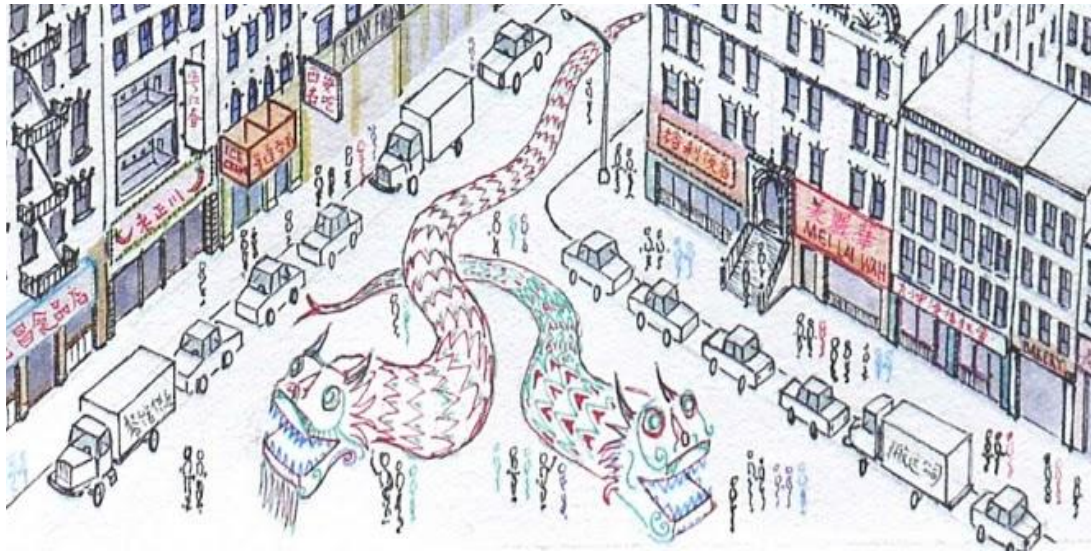
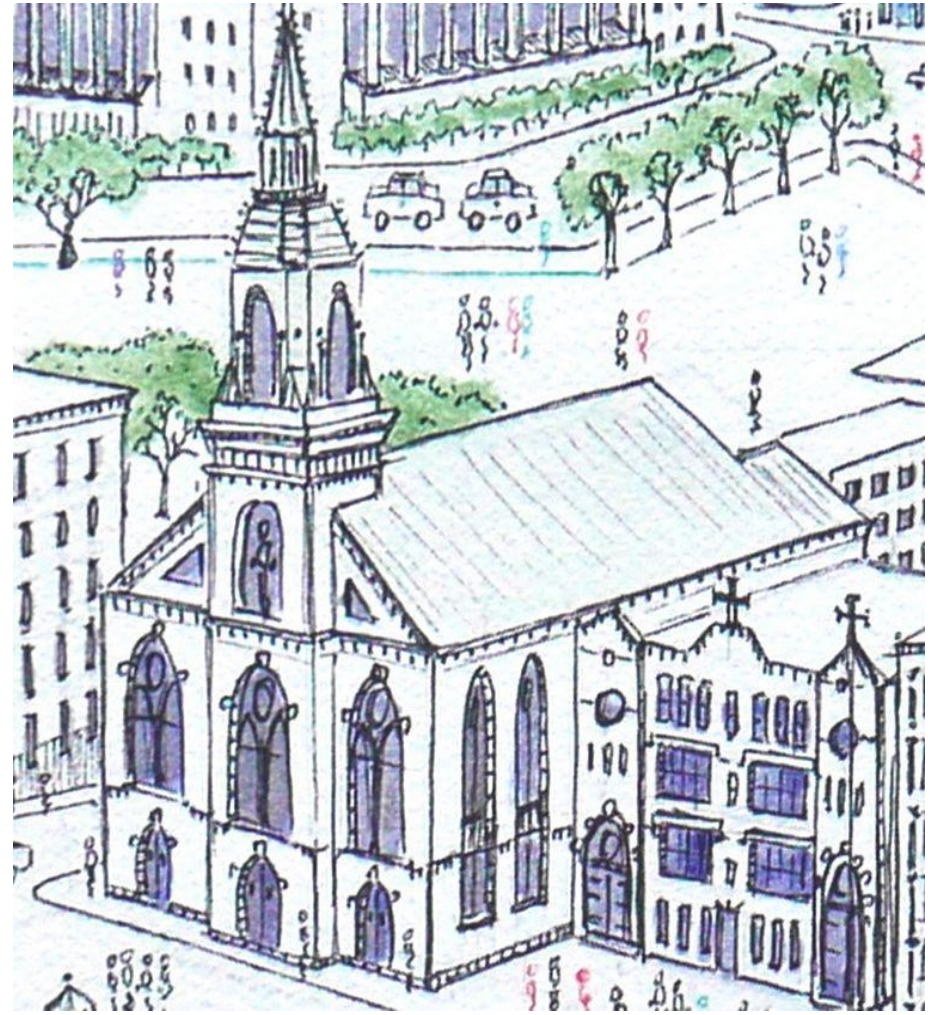


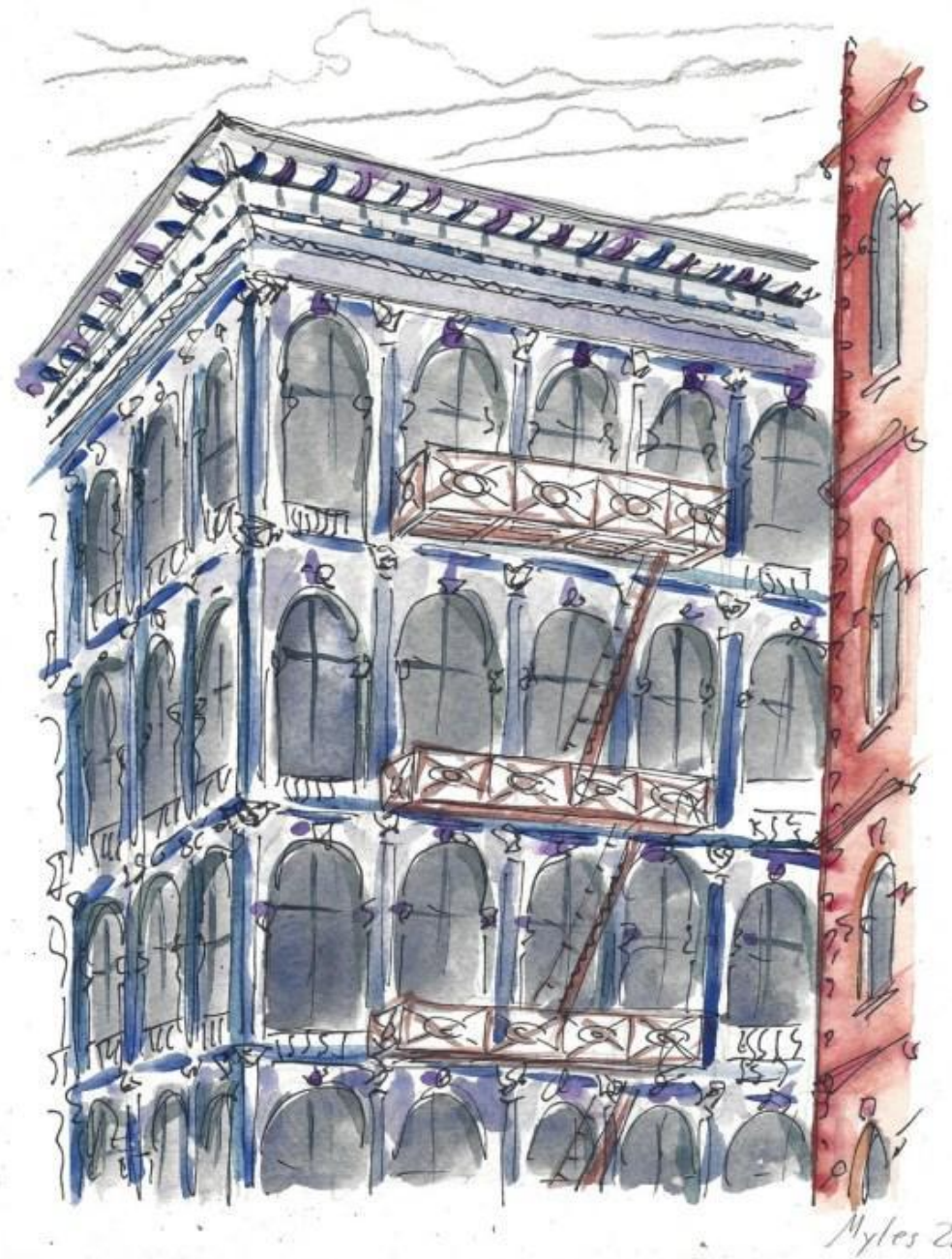
^ Detail of protestors on street



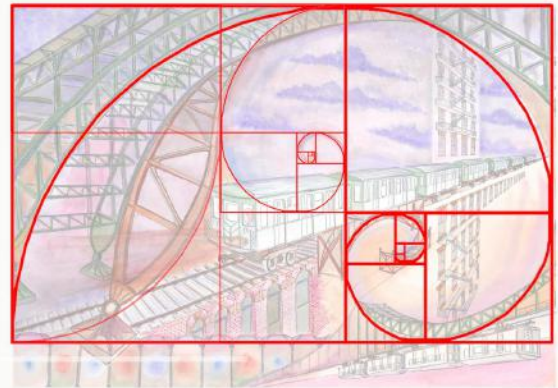
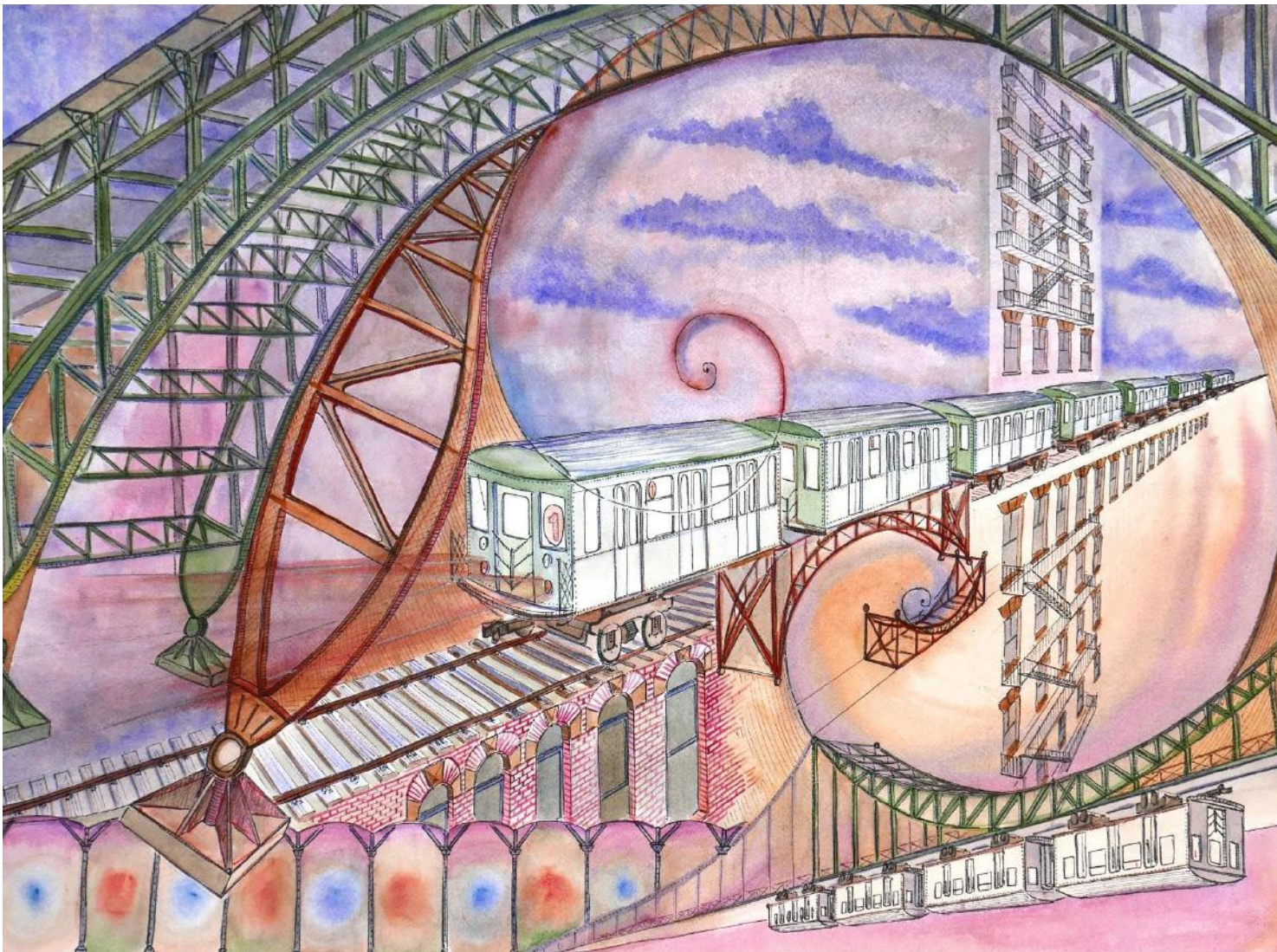


This ink and watercolor drawing of NYC Chinatown expresses my lifelong connection with this neighborhood. The Chinese originally moved here by necessity and were condemned by poverty to these narrow alleys and cramped rooms. Over time, they made the space their own through interventions in the cityscape. The large corporate skyscrapers and government offices in the distance tower over the immigrant tenement blocks. [View full size image](#)

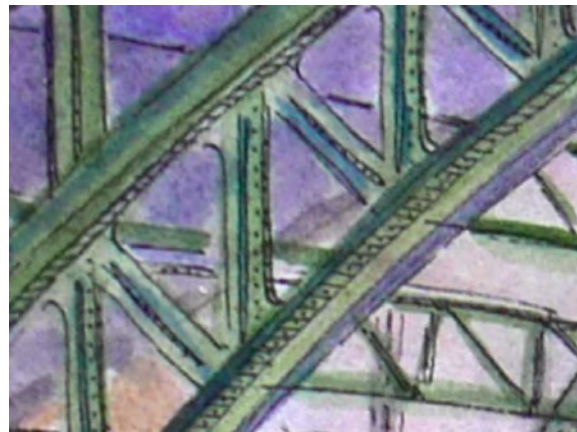


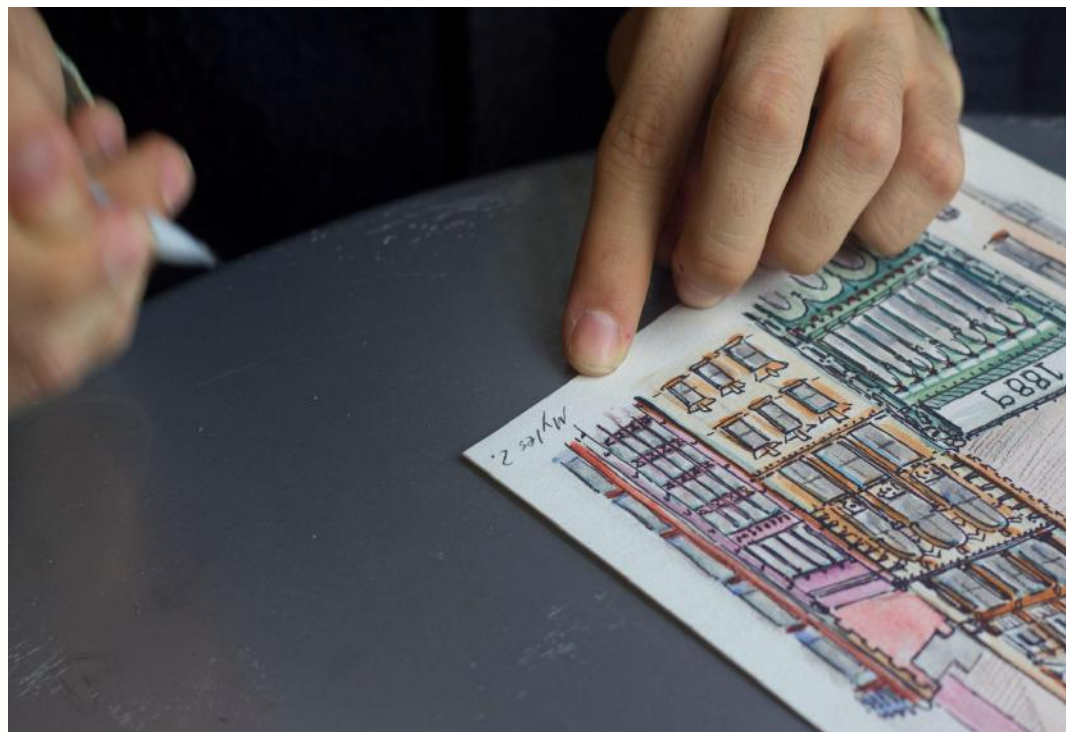


^ SoHo Cast Iron District
 < Canal Street in Lower Manhattan, **view full size**



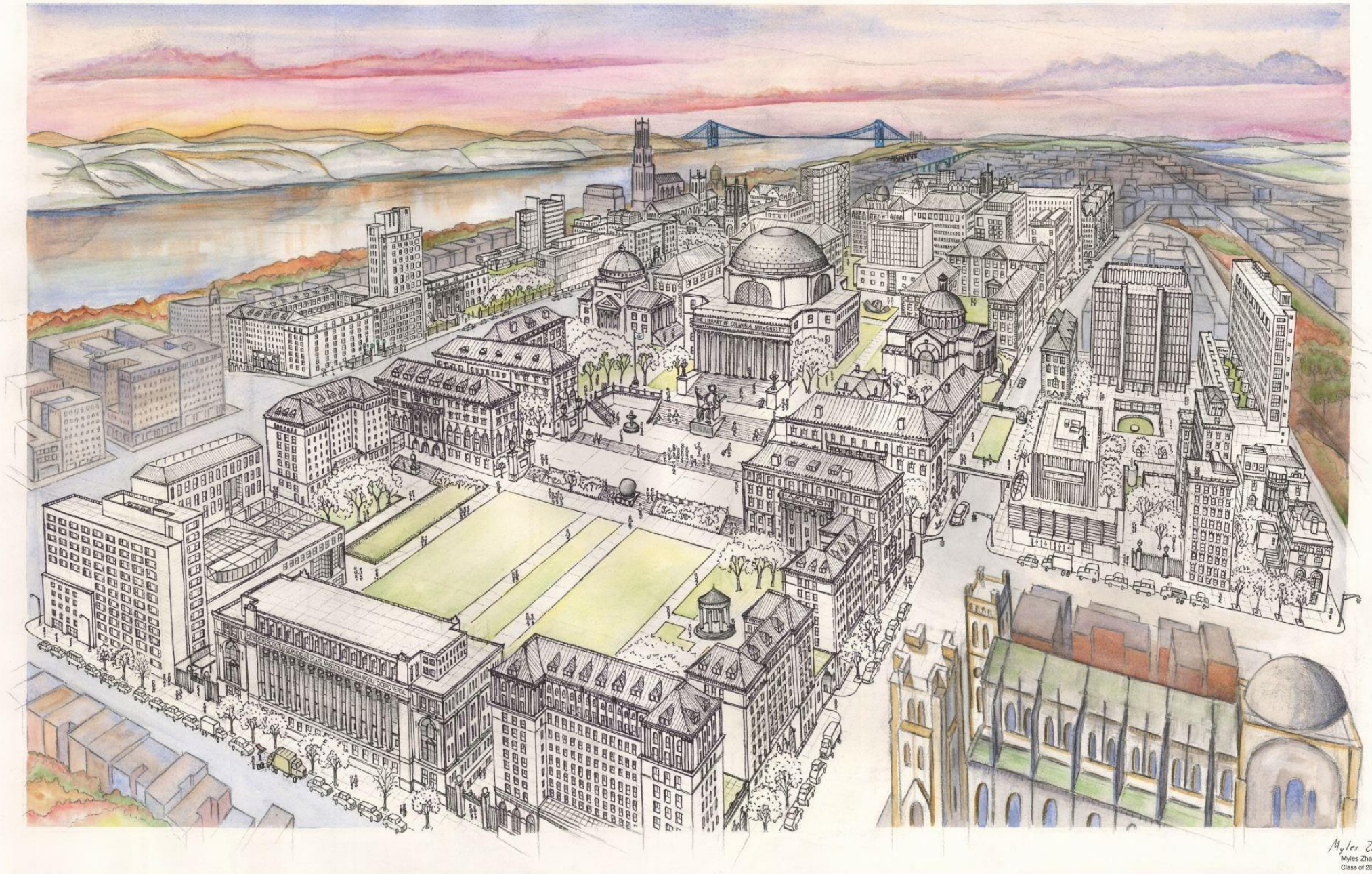
^ Watercolor of the 125th Street subway viaduct in New York's Harlem neighborhood. This composition visualizes movement through circling spirals that align to the **Golden Rectangle**.





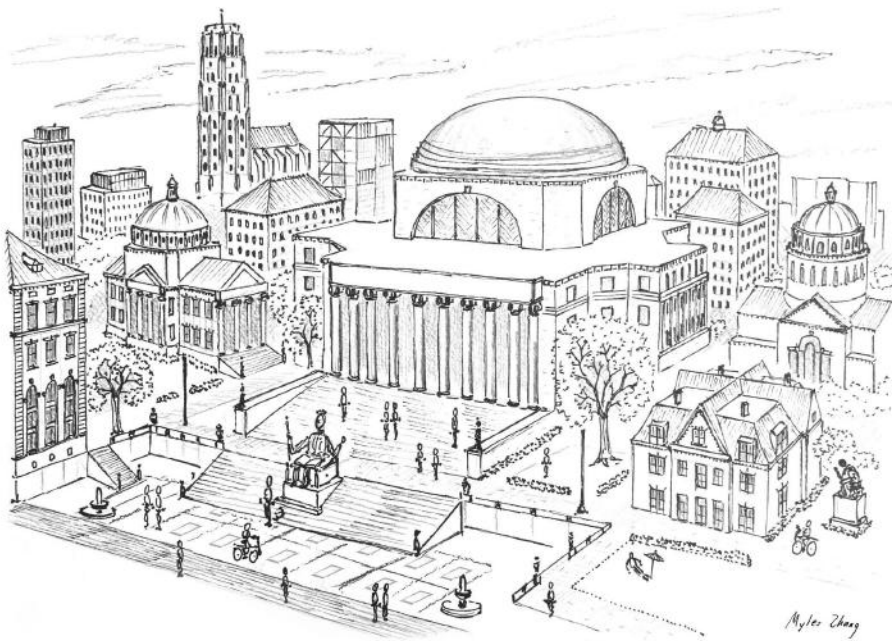
Working on a watercolor of Broadway in SoHo



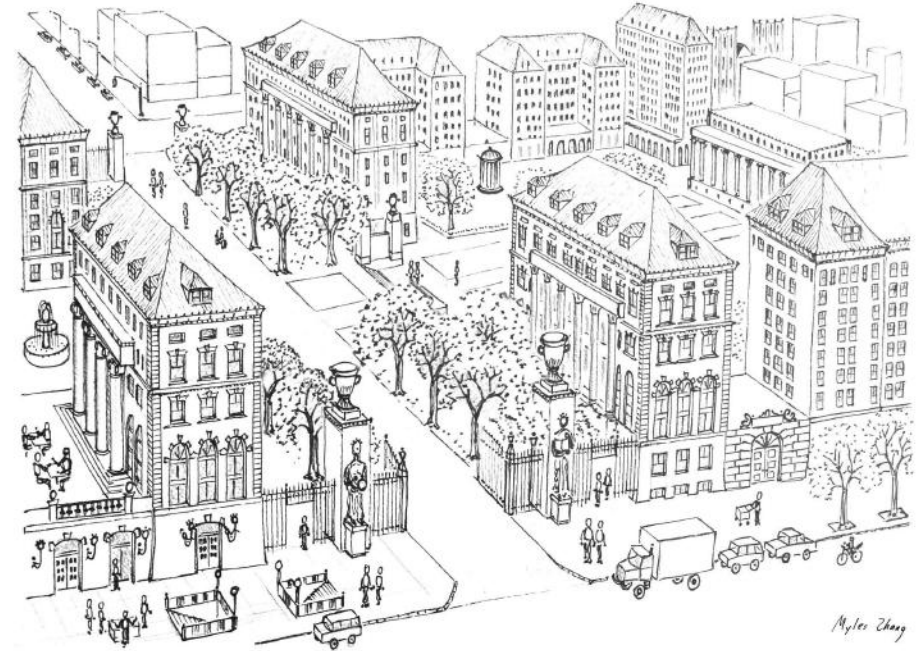


Myles Zhang
Myles Zhang
Class of 2019

Columbia University, Morningside Campus, [view full size](#)



^ Low Library, Columbia University



^ Morningside Campus

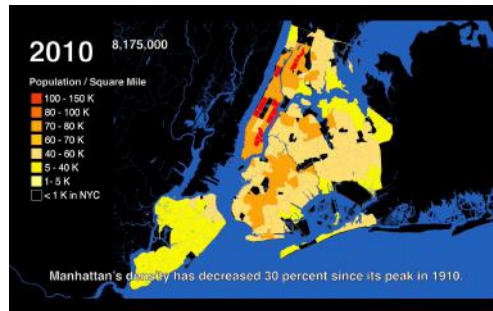
v College Walk



Here Grows New York City

This project animates the development of New York City's street grid and environment from 1609 to the present day, using geo-referenced road network data, historic maps, and geological surveys. The resulting short film presents a series of "cartographic snapshots" of the built-up environment at intervals of every 20 to 30 years in history. This process highlights the organic spurts of growth and movement that typify New York's and most cities' development through time. The result is an abstract representation of urbanism with over **three million** viewers. [View animation online](#)

Developed into my film of Berlin urban history, 1415 to present
Created summer and fall 2018 by Myles Zhang
Inspired by Cambridge University's "London Evolution Animation."



New York City Subway Ridership

The visual language of data addresses a deeper need to humanize and soften the concrete jungle.

In this animation based on subway ridership statistics by station:

- Dots are color-coded according to the subway lines they serve.
- White dots are for junctions between two or more lines of different color.
- Dot size corresponds to the number of riders entering each station within a 24 hour period.
- Larger dots are for busier stations. Smaller dots are for less busy stations.

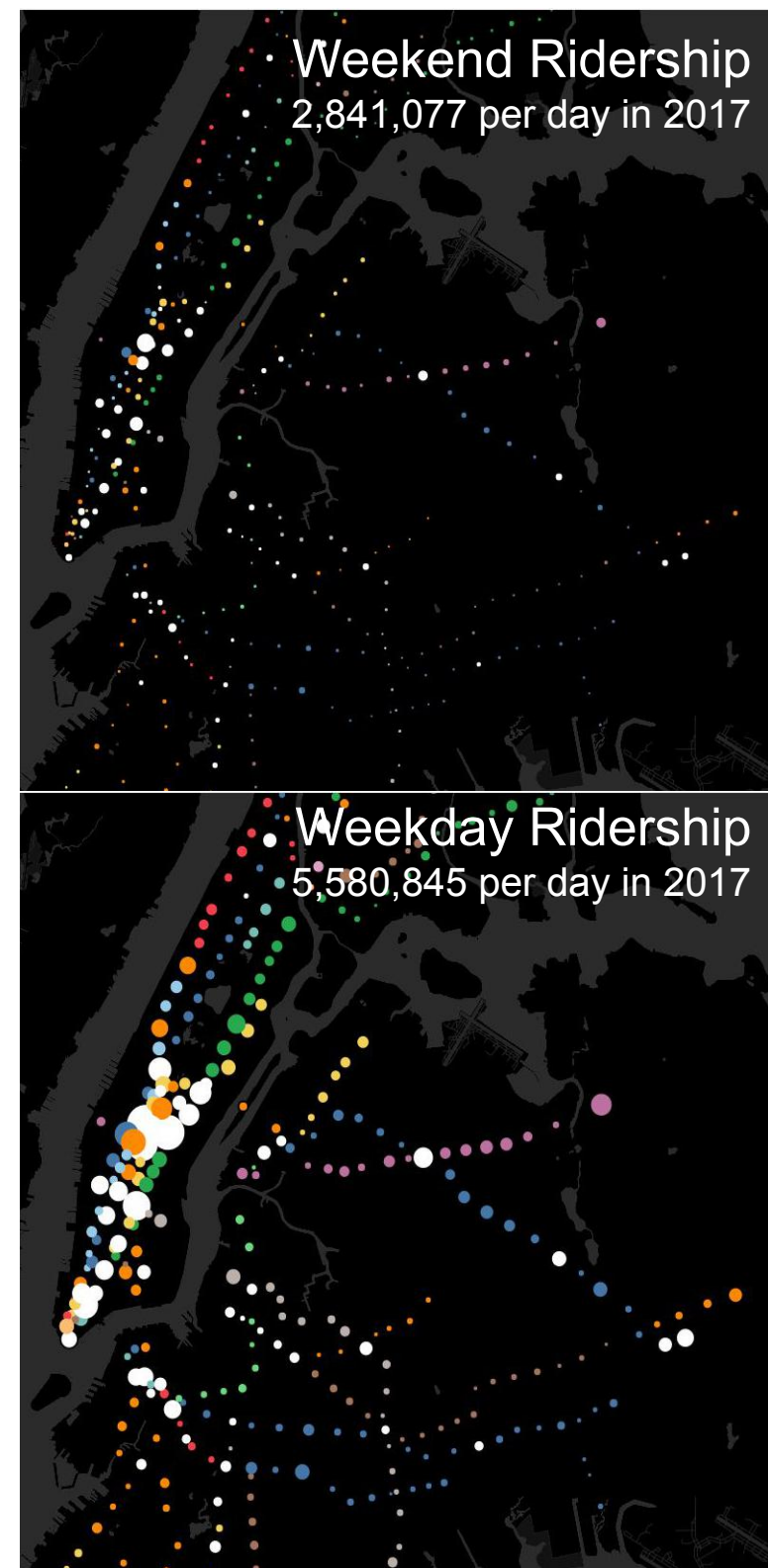
Movements through the New York City subway are analogous to rhythmic breathing.

People often describe cities in relation to the human body. Major roads are called “arteries” in reference to blood flow. The sewers are the city’s “bowels” in reference to our own digestive systems. Central Park is the city’s “lungs.” At various times in history, key industries like garments and finance were described as the “backbone” of New York’s economy. Although cities are complex organisms, wordplay makes the giant metropolis somehow more human and familiar.

The 424 subway stations and 665 miles of track are analogous to the human circulatory system. Every weekday pre-coronavirus, the subway carried 5.4 million people, mostly commuters. This daily commute is highly ordered, structured, and rhythmic – as Manhattan’s population swells during the daily commute and then contracts by night. Each passenger symbolizes the movement of a single red blood cell. With each paycheck, the oxygen of capitalism flows from the heart of Manhattan to the cellular homes in the outer boroughs.

Commuting patterns mirror the rhythmic expansion and contraction of the human body while breathing. By contrasting weekday and weekend ridership patterns, we detect the city’s respiratory system.

[View animation online](#)



Amiens Cathedral

I initiated this two year project to construct a complete computer model of Amiens Cathedral in Northern France. The open source model is accurate to the foot and details the exterior and interior of the church. The resulting visualizations and animated construction sequence are published on the Columbia University website for the instruction of 1,600 undergraduate students per year.

Created fall 2016 through fall 2018
Supervised by art historian Stephen Murray
with funding from Columbia University.

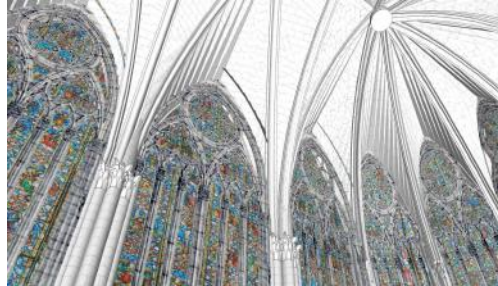
View computer model online



^ External view of apse



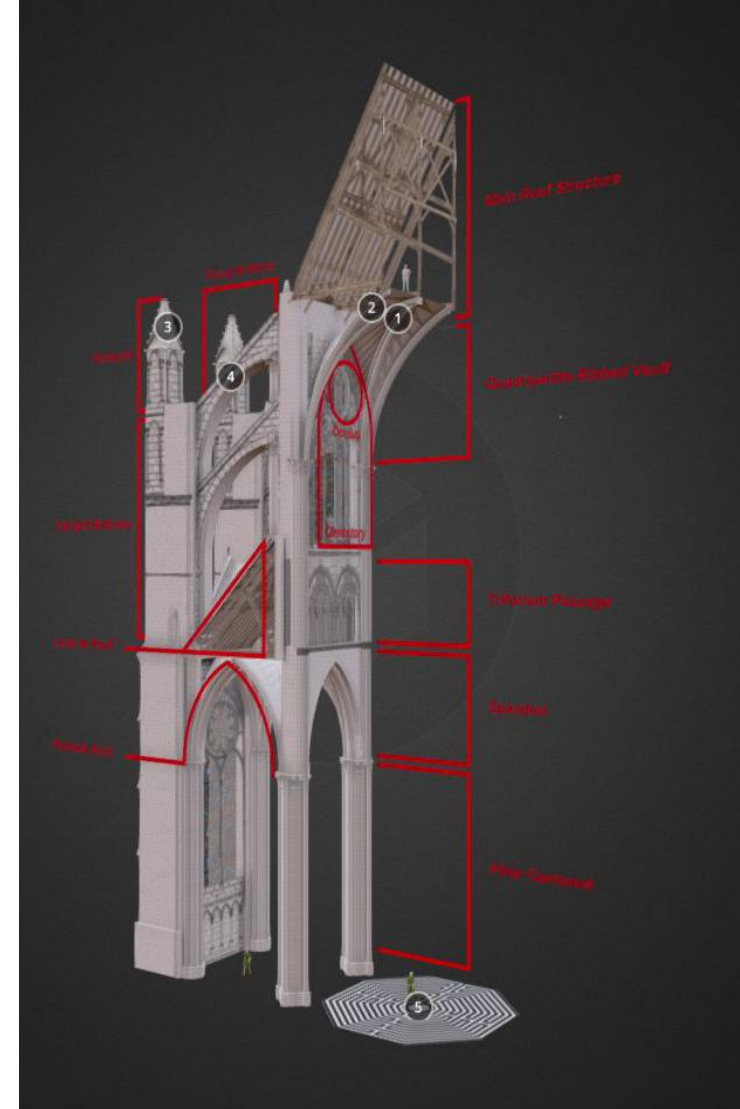
^ Internal view of nave



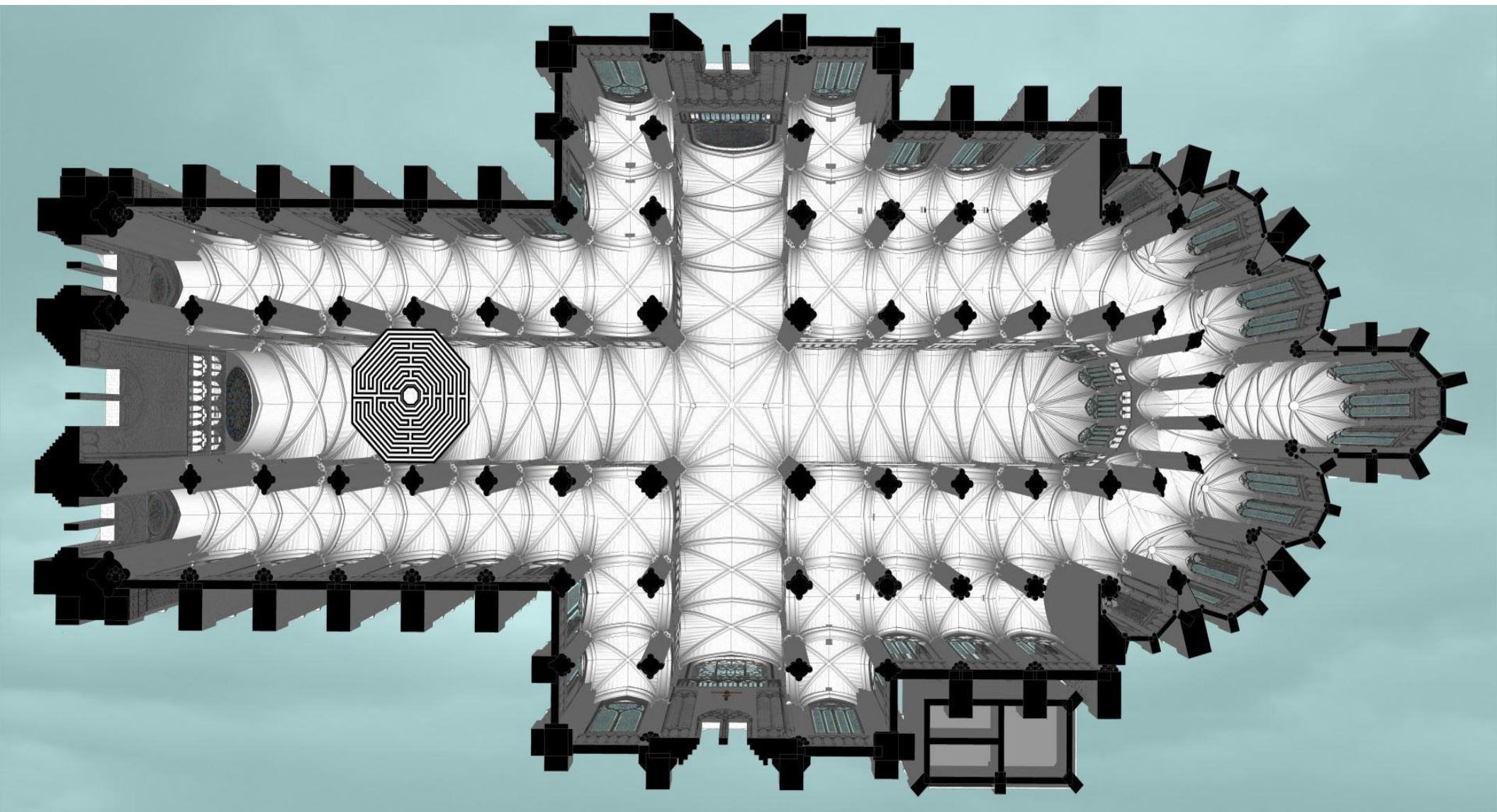
^ Internal chevet and vaulting



^ Cross-section from nave through apse



^a Interactive glossary of nave. [Click here to view in VR](#)

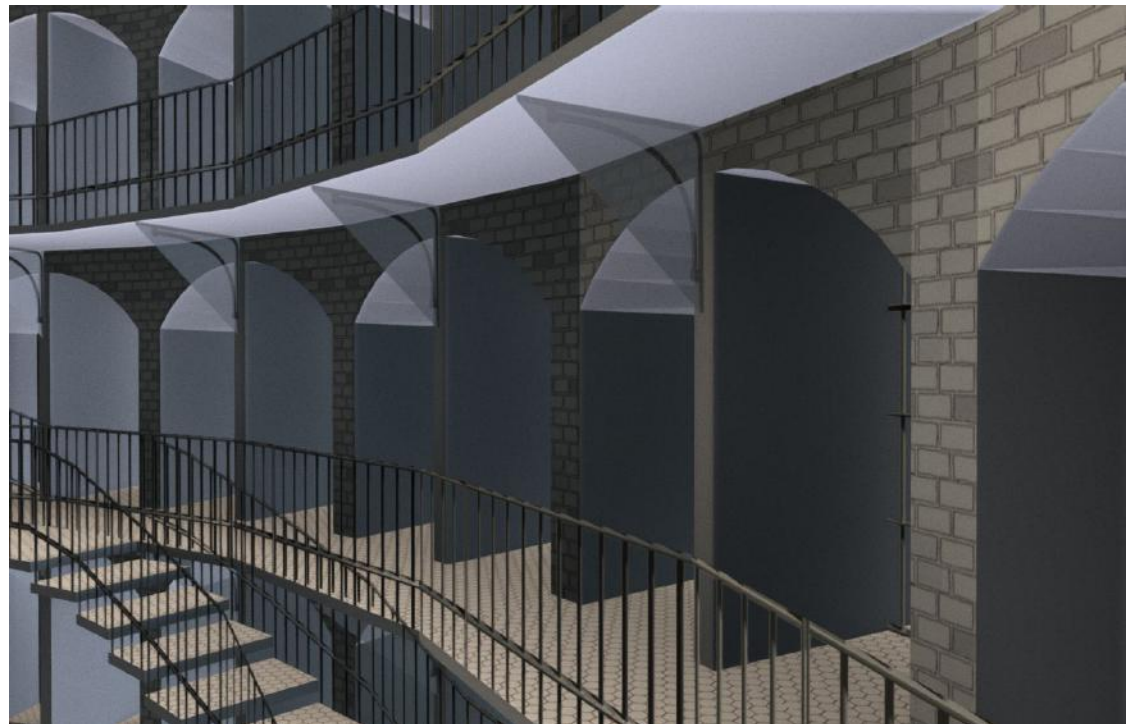


^ Floor plan in three dimensions. This view helps visualize the relationship between the vaults and the foundations.

Jeremy Bentham's Panopticon

Since the 1790s, Jeremy Bentham's panopticon remains an influential building and representation of power relations. Yet no structure was ever built to the exact dimensions Bentham indicates in his [panopticon letters](#). Seeking to translate Bentham into the digital age, I followed his directions and descriptions to construct an exact model in virtual reality. What would this building have looked like if it were built? Would it have been as all-seeing and all-powerful as Bentham claims?

Explore the panopticon in this animation or in virtual reality.



In Search of the Just City

Rethinking the old Essex County Jail

Since 1971, the old Essex County Jail has sat abandoned and decaying in Newark's University Heights neighborhood. Expanded in stages since 1837, this jail is among the oldest government structures in Newark and is on the National Register of Historic Places. The building desperately needs investment and a vision for transforming decay into a symbol of urban regeneration. Few structures in this city reflect the history of racial segregation, immigration, and demographic change as well as this jail does.

In spring 2018, a graduate studio at Columbia University's master's in historic preservation program documented this structure. Eleven students and two architects (Bryony Roberts and Belmont Freeman) recorded the jail's condition, context, and history. **Each student developed a reuse proposal** for a museum, public park, housing, or prisoner re-entry and education center. By proposing eleven alternatives, the project transformed a narrative of confinement into a story of regeneration.

Inspired by this academic project and seeking to share it with a larger audience, I proposed to transform the results of this studio into a larger dialogue about the purpose of incarceration. With \$15,000 funding from the Newark Preservation and Landmarks Committee, I translated Columbia's work into an exhibition. I enriched this exhibit with primary sources and an oral history project, recording the experiences of former guards and people who witnessed the trauma and urban unrest linked to this site.

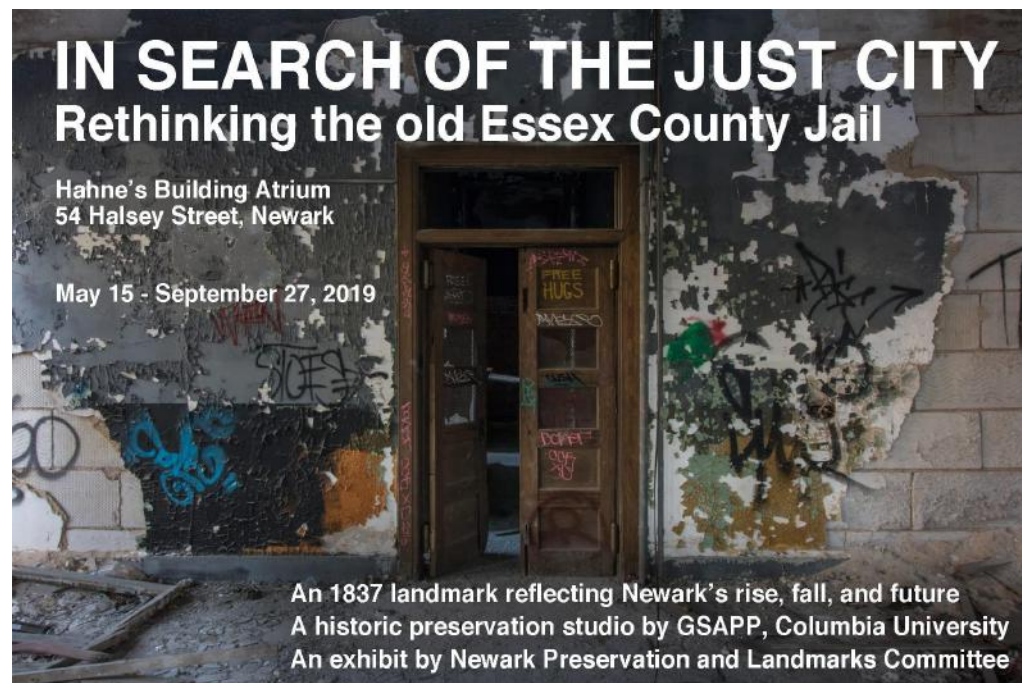
The results of this exhibit are preserved online. If the actual structure disappears, it will survive at least virtually.



^ Jail Cell Block v Warden's House in 1967 v same view in 2019



My curator work required translating a strictly academic project into an exhibit with language, graphics, and content accessible to the public. Columbia examined the jail's architecture and produced numerous measured drawings of this site. While some of these drawings and all eleven reuse proposals are included in the exhibit, the focus shifted away from examining the jail as a work of architecture. Instead, I looked at the jail's social history – to use the jail as a tool through which to examine Newark's history of incarceration. As a result, much of my work required supplementing Columbia's content with additional primary sources – newspaper clippings, prison records, and an oral history project – that tell the human story behind these bars.



The finished exhibit was on display from May 15 through September 27, 2019. The exhibit makes the case for preserving the buildings and integrating them into the redevelopment of the surrounding area. The hope is that, by presenting this jail's history in a public space where several thousand people viewed it per week, historians can build support for the jail's reuse. Over the next year, an architecture studio at the New Jersey Institute of Technology's College of Architecture and Design is conducting further site studies.

My interest in prisons drew me to this project. This jail's architect was John Haviland, who was a disciple of prison reformers John Howard and Jeremy Bentham. In my **MPhil research**, I enriched my exhibit by looking at the social and historical context that John Haviland and early prisons developed from. Eastern State began as a semi-utopian project in the 1830s but devolved by the 1960s into a tool of control social and a symbol of urban unrest.