You Are Here NYC: Art, Information, and Mapping

Curated by Katharine Harmon, author of You Are Here—NYC: Mapping the Soul of the City, with Jessie Braden, Director, Spatial Analysis and Visualization Initiative, Pratt Institute

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“...a work of art always remains open for interpretation, drawing the spectator into the shape of the artist’s visualization without exerting control over the feelings it induces. There is always room for the beholder’s share.”

—Mario Valle

Our world has famously become a gigantic data-generating machine. Day and night, satellites, cameras, and sensors record our activities and proclivities; phones, cookies, and credit cards monitor our routes, clicks, and swipes. Not surprisingly, we find ourselves looking nervously over our shoulders for an information-devouring shadow, ever hungry for more bytes.

But is anxiety the only apt response? We can also embrace the insights to be had in the cumulus of geospatial information. Happily, there are explorers among us who are diving into the data, finding in it terra incognita ripe for discovery. New York City is a particular home for these navigators: artists, designers, and data analysts here in legions, ready and willing to make sense of the experience of living in a data-driven metropolis. There is so much we didn’t know we could learn.

In revealing the intricacies of New Yorkers’ ultra-urban existence, those parsing the data often turn to an ideal tool and metaphor: the map. The genius of cartography—an ancient innovation that has never ceased being relevant—is its unmatched ability to convey knowledge about our place in the world. Insights from data-based maps of New York (undoubtedly the most-mapped city in the world) offer nuances of place newly available to us. You Are Here—NYC: Art, Information, and Mapping presents 19 cartography-based projects that in various ways address a question surfacing in the art/design zeitgeist. That is: in what forms can information visualization be considered art, and in what ways can art make data visible? Recent articles in a variety of publications—from ARTnews to The Wall Street Journal—attempt to delineate the differences between the two. The distinction, increasingly, can be blurry.

Together the works in this exhibition, all maps of the city, show a melding of information, visualization, and artistic endeavor. Each piece can be placed on a continuum, with art on one end and data visualization on the other, and ranging between adjectives: ambiguous/certain, general/specific, personal/public, ironic/sincere, intuitive/objective, informational/emotional. No matter where the maps fall, their creators are discovering and communicating underlying
What happens when data artists are asked to create visualizations from the same data set? That’s a question Jessie Braden, director of Pratt’s Spatial Analysis and Visualization Initiative, and I asked of three artists. The Pratt Manhattan Gallery commissioned Christine Gedeon, Ekene Ijeoma, and Doug McCune to create works based on a specific set of data focused on immigrants in New York. The artists were free to choose any geospatial analytical tool and any artistic medium to explore Public Use Microdata Sample (PUMS) data from the U.S. Census. This data is unique in providing access to individual responses to questions asked by the American Community Survey (ACS), allowing for powerful insights into our immigrant population. (For example, questions can be as specific as “What is the average commute time for immigrants with a high school education who make less than $35,000?”) SAVI provided the artists with PUMS data, documentation, metadata, and other supporting materials.

Doug McCune chose to focus on the country of origin of all foreign-born ACS respondents, using 3-D modeling to create a sculptural interpretation of the data. Walled City shows a map of New York hemmed in by a concrete wall; the height of the wall’s sections are proportionate to the number of people who emigrated from corresponding points of the compass. McCune’s fortress of xenophobia prompts thoughts of what New York would be without its immigrants—a rather bland broth in the melting pot—and the metaphorical height of walls required to isolate ourselves.

Christine Gedeon asked questions about immigrants’ commutes to work. Is there a correlation between the year of immigration to New York and the time it takes for immigrants to travel to work? Can we see a relationship between upward mobility and mode of transportation? Working with Aditi Sharma, who interpreted the PUMS data into a visual form, Gedeon presents a large-scale, site-specific wall installation. While the work reflects specific data, it stands alone as an abstracted visual, navigating between interpretive poles.

With data analysis support from SAVI’s Case Wyse, Ekene Ijeoma uses topography as a means of envisioning what it takes to live within New York City’s limits. What percentage of immigrants—who make up half the city’s
workforce—spend more than half their income on rent?

Surrounding these three commissioned installations, dozens of map artworks demonstrate what data art can be. The first of two works specific to the gallery’s neighborhood is located at the entrance to the building. Nicholas Fraser and Heidi Neilson have inscribed the sidewalk with a large chalk label, OAK-TULIP TREE FOREST—the pre-contact habitat that existed in this spot four hundred years ago. Upstairs, a display documents the entirety of Forest and Stream, the artists’ 2009 project installed along the length of 14th Street. At 38 sidewalk sites, from the Hudson to the East River, chalk labels identified forest and wetland ecosystems present in 1609—for example, “marine eelgrass meadows” and “marshy headwater stream.” The information stemmed from the Wildlife Conservation Society’s Mannahatta Project, now the ongoing Welikia Project, an initiative uncovering the original ecology of all of New York’s boroughs and surrounding waters. Project scientists are layering and analyzing spatial data from many sources: historical maps and records, soil surveys, tree rings, and personal accounts. All was georeferenced to a base map that Fraser and Neilson used, along with an accompanying GIS (geographic information systems), to enrich our experience of a Mannahatta (“land of many hills”) transect.

Bettina Johae gives us a more recent historical look at 14th Street. Eight years ago, Johae photographed and interviewed the shop owners, vendors, and workers who spend nearly every day on 14th Street. She produced a map and window signs to display the stories of locals who are the street’s public face, those who contribute to the memory and recent history of the neighborhood. Their individual stories of change and continuity complement existing historical, architectural, and political histories. For this exhibition, Johae revisited 14th and found that of the 38 businesses she featured on the 2009 map, only 17 still exist. Here she features a selection of businesses: some that have remained, and some new, along with their updated stories.

New York streets are living organisms of a kind particularly compelling to map artists, none more so than Broadway. (For example, Elise Engler spent a year painting every block of Broadway in Manhattan; William Pope.L crawled the full 22-mile length in a Superman suit; and Becky Cooper collected poignant memory maps
for her book, *Mapping Manhattan.*) A dream team of power visualizers—Daniel Goddemeyer, Moritz Stefaner, Dominikus Baur, and Lev Manovich—created another way to experience the avenue. *On Broadway* is an interactive touch-screen installation, a layer cake of images and data collected from Manhattan’s diagonal thoroughfare. “The result is a new type of city view,” say its designers, “created from the activities of hundreds of thousands of people—a visually rich, image-centric interface, where numbers play only a secondary role.” Here for your immersion are numerous data sets: millions of Instagram images, Google Street View images, Twitter posts, Foursquare check-ins, taxi pick-ups, and census-based economic indicators. Correlate that!

Jill Hubley analyzed geospatial data about another New York species, also living and breathing: trees. Street trees comprise a quarter of the city’s urban forest. Using data from the Parks and Recreation Department’s 2005 Tree Census, Hubley created an interactive visualization of street trees that can be filtered by any of 52 species; you can see all of the silver lindens, for example, or all of the honey locusts. Hubley was inspired to create the vibrant map while getting to know the trees near her home, whom she considers neighbors. She plans to update the map after the next tree census results are released, offering a visual time-lapse comparison, tree by tree.

Leaving no species unmapped, Christopher Mason and his team of microbial investigators from Weill Cornell Medical College are building PathoMap, “a molecular portrait of NYC—one swab at a time.” Their admirable aim is to map the microbiome (all the organisms in a given location) and the metagenome (all the genetic material of those organisms) collected from a variety of city surfaces. The team began by collecting samples in the subway system (all open stations of 24 lines in all five boroughs), logging the metadata using a mobile app; in the lab they extracted and sequenced resulting DNA. They identified 637 bacterial, fungal, viral, and animal species, most benign and normally present on humans, and they also discovered hundreds of species they could not identify—creatures that subway riders regularly encounter, but do not match any known organism. Their site presents geospatial analysis in the form of interactive heat maps which can be filtered for specific organisms, from acidobacteria to thermotogae, simultaneously creating hauntingly beautiful cartographic imagery.
Poverty made visible offers a tool for justice. The New York office of Perkins+Will, an international architecture/design/planning firm, created The Asthma Quilt for an annual fundraiser hosted by New York’s International Interior Design Association, an event highlighting sustainable practices (all quilts must be made from discarded industry samples). Members of the Perkins+Will quilting team had worked together on a design project for Wyckoff Heights Medical Center, a community hospital located in Bushwick. To define a “Health Improvement District” for the community Wyckoff serves, the team created a series of maps illustrating patterns of health conditions in the area. This data was overlaid with demographic information and features of the built environment, presenting a visualization that indicates a striking correlation between areas with the highest incidence of poor health and the lowest income levels. The Asthma Quilt shows asthma incidence by census tract, embroidered with locations of public housing projects and area hospitals. It will be permanently displayed at Wyckoff, increasing awareness of the health disparities in the city and, perhaps, inspiring ongoing actions by hospitals and others to reduce them.

Herwig Scherabon’s Income Inequality NYC is a 3-D digital interpretation of U.S. Census Bureau income data, with the heights of blocks (a high-resolution matrix of cubes) corresponding to income in respective output areas. The artist’s intention was to create an image both striking and informative, retaining the visual footprint of the city’s street grid. Scherabon points out that a diminishing middle class in the US can compress extremes of poverty and wealth into small geographical areas. “More than ever,” he writes, “it is utterly important to try to unveil the inequalities and the segregating mechanisms we live with.”

The creators of Journeys: Disconnected – Reconnected—Pratt students Xingying Du, Michelle Htar, and Jessica Silverman—tell a data-based story of Hart Island, a mile-long stretch of city land at the western end of Long Island Sound under the jurisdiction of the Department of Corrections. The island has a fascinating history: since 1865 it has been home to a Civil War prison camp, a psychiatric institution, a tuberculosis sanatorium, a boys’ reformatory, and a massive potter’s field, the largest tax-funded cemetery in the world. Hundreds of thousands of adults and babies have been interred here, their bodies either unclaimed or given up voluntarily for city burial. “Much like
New York City,” the designers say, “Hart Island is a melting pot, and while it is an endpoint, the trajectories of human journeys span across the entire world.” Du, Htar, and Silverman chose to track the paths of 66 buried residents, relying on stories of the deceased, immigration records, and DOC records to map their journeys in a mixed-media installation that highlights links between immigration, poverty, and anonymity.

All visualizations involve converting information into new forms, some more inventive than others. Erica Sellers translated audio clips into sculpture. The Grind shows her personal aural experience of city life—audio samples collected over the span of a month, such as the sounds of her commute to work, coffee shop dates with friends, drunken night outings, intimate meals at home, walking in the snow—as chronological sound waves. She used 3-D modeling software to create visual oscillations, and CNC (computer numerical control) machining technology to mill the undulations into reclaimed local wood. The wood grain is emblematic of the passing of time, she says, enabling us to see sound waves vibrating in a time capsule of silver maple.

The familiar subway map becomes a mesmerizing audiovisual display in Conductor, Alexander Chen’s animated musical composition. The work is based on Massimo Vignelli’s 1972 diagram, which Chen reimagined as a digital stringed instrument. The visualization begins with a real-time departure of a single train. Another train departs, and another, and when the trains cross, they pluck the strings of each other’s paths. We see the complexity of the transportation system in motion, while enjoying an experience somewhat more calming and meditative than catching a train.

In a similarly hypnotic style, Chris Whong’s NYC Taxis: A Day in the Life allows you to ride along as a randomly chosen taxi picks up and drops off fares throughout the city over the course of 24 hours. To create the project, Whong, an open-data miner and self-designated civic hacker, requested 2013 data from the Taxi and Limousine Commission. Out of 170 million trips, he queried 30 cab/days for raw data on start and end locations, and ran the location points through Google’s Directions API (application programming interface) to create approximate routes, which he animated at the rate of five cab minutes per real-time second. Off to the side, a running total tallies fares and passengers. Monitoring this, along with the distances between fares, makes palpable the
uncertainty and serendipity a driver experiences over the course of a given day. Several artists in the show have used “small multiples” to illuminate visual data—a concept popularized by information design writer Edward Tufte. A grid format can show “hidden” relationships of scale, shape, color, dimension, and other variables within data categories. With *Street Grids*, Neil Freeman compares New York streets by length, alphabet, and azimuth (compass angle). Freeman, a transportation analyst who generates uniquely insightful urban imagery as a sideline, often uses scale comparisons in work that is both informative and aesthetically intriguing.

Over a period of six weeks in June and July of 2012, visual artist Jerome Marshak conducted a study of pedestrian activity at MoMA. Using an iPhone, he captured a total of 5,000 single images of the museum’s main stairway. Here he presents three visualizations based on one day’s worth of data—157 images taken on July 21, 2012, a busy free-Friday afternoon in mid-summer. *Staircase 111012* (produced in conjunction with Flora Gallina-Jones and Michael Reeve) is a digital mining of all the colors moving up and down the stairs; *Staircase 111012 Imagined* is the artist’s abstract interpretation of staircase activity. Museum traffic data has never been so delightfully, anonymously enhanced.

Jenny Odell compiled *Satellite Collections* from landscape features cut from Google Satellite View—parking lots, silos, landfills, waste ponds. Her orderly collections of recurring manmade features, seen by a satellite’s cold eye, “become like hieroglyphs that say: people were here,” she writes. Eerily, the baseball fields and basketball courts are mostly empty. Studying these locations for human recreation devoid of humans having fun evokes both curiosity and loneliness. Kim Baranowski’s *Mappa Mundi* project prompts similar emotions, along with loss and anxiety. The series maps various threats, such as the spread of avian flu, reported incidences of alien abduction, and potential nuclear target sites, onto discarded pull-down school maps. *Boroughs of NYC—Political* purports to map 1,000 stars unseen over New York due to light pollution. The entire series of maps was temporarily reinstalled into city public school classrooms in 2006 and documented, heightening a sense of the innocence that can be lost as a result of data made visual.
Emotional data points appear like star scapes shining over New York in John Nelson’s pair of Constellations prints. Nelson mined a Twitter API and pulled out a random sample of geo-tagged tweets, from several weeks in 2012, containing the words “love” or “hate” and “happy” or “sad.” Though the data may reflect a tendency to tweet in positive more than negative frames of mind, it is nonetheless reassuring to see that, in New York, love outshines hate by 75 percent, and happy out-tweets sad at a ratio of five to one.

As a coda to the exhibition, we invite you to check out Laurie Frick’s FRICKbits, a smartphone app that reveals the hidden pattern of your daily travels, and enables you to map your personal experience as a data self-portrait in a color palette of your choosing. Frick is an artist who has tracked her daily activity for years, and turns her data into paintings, constructions, and large-scale installations. In providing her free app, she urges you to “Take back your data... and turn it into art!”

Information visualizers and artists are helping us see the city in a kaleidoscope of novel ways. No matter which emotions research-based art evokes, turning data into maps brings us all closer to home.

Katharine Harmon is the author of several books on artistic mapping: You Are Here: Personal Geography and Other Maps of the Imagination (2003), The Map as Art: Contemporary Artists Explore Cartography (2010), and You Are Here–NYC: Mapping the Soul of the City (2016). She has curated map-related gallery shows in New York, London, and Seattle, and an exhibition at the Kemper Museum of Art in Kansas City.

Jessie Braden is the co-founder and director of Pratt Institute’s Spatial Analysis and Visualization Initiative (SAVI). She developed and coordinates the GIS and Design certificate program at Pratt through the School of Continuing and Professional Studies, and is a Senior Fellow for Planning at Pratt Center for Community Development.
Kim Baranowski, *Boroughs of NYC—Political* (1,000 stars unseen over NYC due to light pollution), 2006, altered pull-down wall map, 58 x 48 inches

Alexander Chen, *Conductor*, 2011, video still
Nicholas Fraser and Heidi Neilson, Coastal Oak-Pine Forest, from Forest and Stream, 2009, site-specific sidewalk chalk drawings, 14th Street New York, each approx. 60 x 84 inches

Xingying Du, Michelle Htar, and Jessica Silverman, Journeys: Disconnected—Reconnected, 2017, mixed media, installation

Christine Gedeon, *Fluidity Mobility (NYC)*, 2017, masking tape and string on wall, 16 x 8 feet. Image credit: Aditi Sharma for the PUMS Data Image

Jill Hubley, *NYC Street Trees by Species*, 2015, giclée print of digital image, 40 x 30 inches
Ekene Ijeoma, *Wage Island Immigrant Studies*, 2017, rendering for a 3-D topographic model. Image credit: Case Wyse for PUMS Data Image

Bettina Johae, *The Immediate History of 14th Street, 230 East 14th Street—Walid Menswear*, 2009, photo and interview documentation
Jerome Marshak, People on Staircase in Motion (detail), 2012, chromogenic print, 24 x 31 inches

Christopher Mason/ MetaSUB team, Enterobacteriaceae Subway Map, 2015, computer-generated illustration Image credit: Christopher Mason/MetaSUB team
Doug McCune, *Walled NYC*, 2017, artist rendering for sculpture with concrete, acrylic, wood, 22 x 22 x 22 inches

Herwig Scherabon, *Income Inequality NYC*, 2017, digital print, paper mounted on board (Somerset Velvet), 59 x 29.5 inches
Erica Sellers, *The Grind*, 2013, silver maple, high-grade polyurethane, 47.5 x 27 x 3 inches

Chris Whong, *NYC Taxis: A Day in the Life*, 2013, digitally generated animation, video still
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Nick Battis
Director of Exhibitions
Kim Baranowski
Alexander Chen
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Nicholas Fraser and Heidi Neilson
Neil Freeman
Christine Gedeon
Daniel Goddemeyer, Moritz Stefaner,
Dominikus Baur, and Lev Manovich
Jill Hubley
Ekene Ijeoma
Bettina Johae
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Chris Whong