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ISTVÁN HARGITTAI &
MAGDOLNA HARGITTAI

NEW YORK SCIENTIFIC

A CULTURE OF INQUIRY,
KNOWLEDGE, AND LEARNING

New York Scientific



"Genius of Discovery," an allegorical figure of a winged boy by Gaetano Russo, at the base of the Columbus Memorial on Columbus Circle.

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and Learning

Istvan Hargittai
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PREFACE

This book introduces the reader to the *visible* reminders of science and scientists in New York City. The English word “science” means what other languages express as “natural” sciences. We are using the term primarily in this sense, but consider technology, inventions, medicine, humanities, social sciences, and explorations as well.

Our coverage includes statues, plaques, and buildings of venues of science along with other artifacts related directly or indirectly to science, such as symbols of wisdom, truth, knowledge, and learning. Further, it extends to some institutions and scientists that currently or previously worked in the city. New York is home to world-renowned universities, a museum of natural history and other museums, a science academy, historical societies, botanical gardens and zoos, libraries, and a hall of science. The monuments in the city honor scientists that may have lived here or elsewhere.

Science is not the first thing that comes to mind in connection with New York; rather, it is commerce and finance; communication and architecture; popular and high culture; transportation hubs; baseball and other sports; and so on. Yet the city is a “superpower” in science, and if the number of Nobel laureates is a measure of achievements in science—in reality, it is one of many—New York is unsurpassed.

Considering its achievements, the recognition of science and scientists in terms of monuments and memorials in New York is rather modest. Differing from most great European cities, much of what commemorates science and scientists in New York and many of its related great institutions have been the results of private initiative and funding. This adds to the value of all such memorials.

One of the unique memorials related also to science and scientists, among many others, is the sculpture “The Immigrants” in Battery Park at the southern tip of Manhattan. It is inscribed, “Dedicated to the people of all nations | Who entered America through Castle Garden | In memory of Samuel Rudin (1896–1975) | Whose parents arrived in America in 1883.” Samuel Rudin commissioned the sculpture and his family offered it as a memorial to Rudin’s parents.¹ Castle Garden used to be the processing venue for new arrivals before the facilities of Ellis Island took over this task.



"The Immigrants" (by Luis Sanguino, 1983) in Battery Park.

This staggering monument depicts representatives of immigrant groups, including an eastern European Jew, a freed African slave, a priest, and a worker. Many American scientists or their parents were immigrants who struggled to establish themselves in their new homeland. Education and science was *the* road for many to improve their lot.

Many great American scientists arrived having already established themselves as top players in the world of science, including even Nobel laureates. They were escaping life-threatening persecution or were merely seeking better conditions for their work. However, it would be an unfair characterization of the success of American science to ascribe it primarily to imported talent. A great part of American pre-eminence in world science is due to the development of homegrown talent. It thrives on the substantial support of research and development and on the free spirit of scientific endeavor. Scientists gain independence in American academia at an earlier age than in most other nations, including even the most developed western European countries and Japan.

Memorials represent the past and we wanted to bring in more of the immediate past and the present by including features about current world-renowned scientists. Most of these features we based on personal encounters and experience.

It might seem strange that two scientists from Budapest would embark on producing a book on the scientific memorabilia of New York. However, to make such a book, the two basic ingredients are the love and knowledge of science and the city, and we both possess these two ingredients.

We have recently produced a book, *Budapest Scientific*, and we have been interested in the fate of those Jewish-Hungarian-American scientists who grew up in *fin de siècle* Budapest and immigrated to the United States, via Germany. Budapest and New York—through which almost all immigrants at that time arrived—were linked in a symbolic, antisymmetric relationship. One rejected and the other accepted these scientists. This was an additional motivation for us to embark on this project.

Although we tried to make our presentation free of politics, this was not always possible. We mention a few examples. We consider the sphere an object of science due to its perfect geometry. The sphere conveys the perception of the rules of construction and a wealth of symmetries. However, even the natural occurrences of spheres are far from being perfect. There was then “The Sphere” that used to stand in front of the World Trade Center, which was not perfect either, yet it was a sphere. Sadly, “The Sphere” was destroyed in the 9/11 attacks. The human lives that perished could not be recreated, but the salvaged “Sphere” in its even more imperfect appearance symbolizes the resilience of this great city (Chapter 8).

When looking for memorabilia honoring Isidor I. Rabi, we thought it interesting to follow his path (Chapter 7). He made great discoveries in physics and equally remarkable was the atmosphere he created at Columbia University that brought together an extraordinary collection of physicists under his tutelage. Rabi was an infant when his parents took him from a most backward corner of the Austro-Hungarian Empire to the United States and settled in the Lower East Side of Manhattan. Rabi lifted himself from near-ghetto-like conditions to the Parnassus of Physics within a few decades. He became the first Jewish full professor of Columbia University. This was no small feat. Not long before, according to the late Nobel laureate Arthur Kornberg, when he was looking for a graduate school upon finishing City College in 1937, he experienced that “Medical schools were largely closed to Jews. Even Columbia University down the street hadn’t filled a scholarship available to a City College student for the previous nine years, and not for lack of good applicants.”²

Women used to have similarly hard times. There has been considerable progress in facilitating women having a greater share in science, and not only in the lower ranks but also among the top. Indications are that discrimination may still exist for women although in subtler ways than it used to be. We were happy whenever we discovered memorabilia related to women scientists.

We were happy to discover memorials honoring African-American contributors to science and related areas of human endeavor. For African-Americans the roadblocks hindered their advancement before and after becoming eligible to join academia. The memorabilia we collected should serve not only to commemorate and honor them, but should encourage future generations that follow in their footsteps.

Beyond the obvious memorabilia related to science, there are others that need to be noticed and learned about and they may turn out to be at the most diverse

venues. Knowing about them may lend a warm feeling to the visitor and those who live nearby alike. For example, Francis Crick, co-discoverer of the double-helix structure of DNA and a trend-setting scientist of the twentieth century, and his family lived for a year in a Brooklyn neighborhood in 1953–1954, right after his seminal discovery. There is no memorial plaque on the house where they lived, but walking by the building with this knowledge makes a difference and generates thoughts. Or remembering that the owl symbolizes wisdom and knowledge gives a feeling of familiarity when looking at their numerous images, especially on the façades of educational institutions. We hope that this book enhances the awareness of science and learning.

Chapter Overviews

1 Explorers and Naturalists

Christopher Columbus has ample memorials in New York City. Giovanni da Verazano, Henry Hudson, and other explorers also have their memorials. Explorers and naturalists have busts and statues in the Hall of Fame of Great Americans in the Bronx, on the façade of Surrogate's Court, at the entrance to the American Museum of Natural History, and elsewhere. This museum and the zoos and botanical gardens bring the wonders of nature and the Universe to close proximity for their visitors. The conservationist president Theodore Roosevelt was the first Nobel laureate of the United States, soon to be followed by hundreds of other Americans. The sculptures of continents at the former US Customs House offer a possibility of comparison with similar sculptures at the Vienna Museum of Natural History. The science-related institutions are venues for exploration and focal points where the public and science meet.

2 Scientists and Innovators

A number of memorials attest to the fact that solving practical problems has been at the forefront of science in the United States. The innovations of Alexander Graham Bell, Thomas Edison, Benjamin Franklin, Robert Fulton, John Ericsson, Samuel Morse, Nikola Tesla, the Wright brothers, and others had immediate benefits for society. The discoveries of Josiah Willard Gibbs, Clinton Davisson, and Albert Michelson represent fundamental science. The progress in developing railways and gems of architecture, such as New York's popular museums and bridges, are all memorials to scientists, technologists, and innovators.

3 Learning

Plaques and busts commemorate teachers and educators from the time of the Dutch colonies to the twentieth century. High schools in New York have served as workshops to develop creativity. Learning and knowledge have been great engines of upward mobility in society. A number of these high schools have graduated as many Nobel laureates as some European nations.

4 Aiming Higher in Education

The public school system includes legendary colleges of City University, such as City College, Hunter College, and Brooklyn College. They put on the fast track the children of impoverished immigrants. New York University, including its legendary Courant Institute, and its engineering arm, which used to be Brooklyn Poly, constitute one of the internationally renowned centers of research and higher education.

5 City of Medicine

There are whole districts in Manhattan, Brooklyn, and the Bronx that operate as medical cities at the highest level of biomedical research as well as clinical facilities for patients. Bellevue Hospital, New York Hospital, New York University School of Medicine, Sloan Kettering, Mount Sinai, Weill Cornell, the Bronx VA Medical Center, Albert Einstein College, SUNY Downstate Medical Center, New York Presbyterian/Columbia Medical Center, and The Rockefeller University, just to mention some of the best known among them, are all producers of new knowledge from basic biology to bedside medicine. Handling and eradicating illnesses of epidemiological scale are among their spectacular successes.

6 The Rockefeller University

Considering its small area, The Rockefeller University may have the highest concentration of world-renowned science. Oswald Avery and his associates at the Rockefeller made the discovery that DNA is the substance of heredity, one of the most significant discoveries of the century. Personalized medicine of the future has its roots in Avery's finding. Research on nucleic acids and proteins, microbiology, and cell and developmental biology has dominated the life sciences in the second half of the twentieth century and it continues to do so. The Rockefeller University has been at the front line.

7 Columbia University

Columbia University is a world leader in several areas of science. Considering its Morningside Heights Campus, its Physics Department has greatly influenced modern developments and applications in the field. Chemistry and a variety of engineering disciplines have also produced seminal discoveries and innovations. The graduates of Columbia University have developed other great schools around the United States and beyond.

8 Roaming the Streets

A number of artifacts in New York represent symbols of science or relate to concepts in science and traits of scientists. Science cannot claim exclusivity over them but shares them with other areas of human activities. The gods in Greek mythology, ancient philosophers, the wisdom of Moses and Confucius, and even

Preface

the notion of the owl as representing knowledge, all help embed the idea of science in our perception. Once we grasped the awesomeness of science in all its forms, we ourselves become discoverers of memorabilia related to science just by walking the streets, squares, and parks of the city. The representation of science and scientists may be façade decorations, figurative and non-figurative sculptures, geometrical shapes and the ball that drops on New Year's Eve in Times Square, a sundial or an armillary, a shop window of books, an ornate gate, a café, or a theater that hosts plays related to science.



Magdolna, Eszter, and Balazs Hargittai some time in the mid-1980s on top of one of the Twin Towers of the World Trade Center.

Ever since our first visit in New York in the summer of 1969, we have taken every opportunity to return to this city. We have collected snapshots and enhanced our interactions with fellow scientists. We express our relationship to this city with many of our own photographs in this book, and the book is a manifestation of our affection for science and for New York.

Istvan and Magdolna Hargittai
New York and Budapest, Fall, 2016



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Notes

- 1 Samuel Rudin was a real estate developer whose Belarusian Jewish parents immigrated to the United States and settled in the Lower East Side of Manhattan. They started with a dry goods store and the family eventually became one of the most successful builders of Manhattan skyscrapers. Samuel Rudin's will established the Samuel and May Rudin Foundation to support education, welfare agencies, hospitals, museums, and the performing arts in Manhattan.
- 2 Istvan Hargittai, *Candid Science II: Conversations with Famous Biomedical Scientists*, ed. Magdolna Hargittai (London: Imperial College Press, 2002), p. 55.

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Christopher Columbus Memorial on Columbus Circle, Eighth Avenue and 59th Street, by Gaetano Russo (1892, the 400th anniversary of Columbus reaching the American continent).

1

Explorers and Naturalists

Explorers in the Customs House

The Alexander Hamilton US Customs House is at One Bowling Green, between State Street and Whitehall Street in the southern tip of Manhattan. The building is no longer a customs house; it now houses, among others, the National Museum of the American Indian.



The rotunda of the Alexander Hamilton US Customs House.

The Customs House has an ornate rotunda decorated by frescos of eight explorers and of the narrative of a ship entering New York Harbor. The eight explorers are, starting from the left upon entering the rotunda, and progressing in a clockwise order: John Cabot (Giovanni Caboto), Giovanni da Verrazano, Christopher Columbus, Henry Hudson, Adriaen Block, Gaspar Corte-Real, Americus Vesputius (Amerigo Vespucci), and Estêvão (Estevan or Esteban) Gomez. Three of them will now be discussed separately.



Four of the eight explorers depicted in frescos (by Reginald Marsh, 1937) in the rotunda from left to right: Christopher Columbus, Henry Hudson, Giovanni da Verrazano, and Americus Vesputius.

Christopher Columbus

Christopher Columbus (1451–1506) was an Italian explorer who, aided by the Spanish throne, sailed westward from Europe aiming to reach India. Instead, he reached the New World of the American continent. Columbus made four voyages across the Atlantic Ocean.



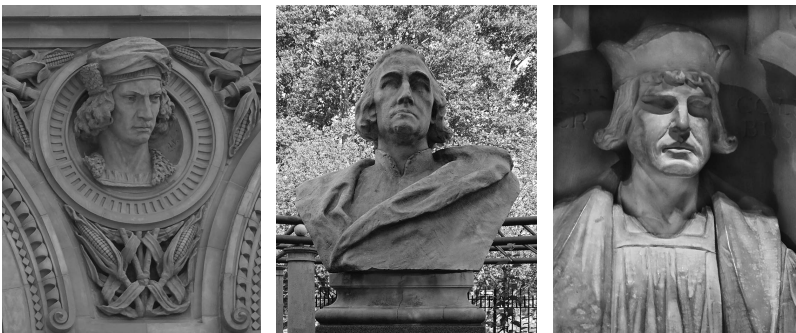
Two bronze reliefs at the base of the Columbus Memorial on Columbus Circle. They present scenes of Columbus's first encounter with the American continent. According to the relief on the northern side of the monument foundation, a longboat ferries Columbus to shore, his fleet anchored, and his sailors are looking on. On the southern side, the relief shows a triumphant Columbus stepping ashore.

The stand of the Columbus memorial bears this inscription:

TO
CHRISTOPHER COLUMBUS
THE ITALIAN RESIDENT IN AMERICA
SCOFFED AT BEFORE,
DURING THE VOYAGE, MENACED,
AFTER IT, CHAINED,
AS GENEROUS AS OPPRESSED,
TO THE WORLD HE GAVE A WORLD.

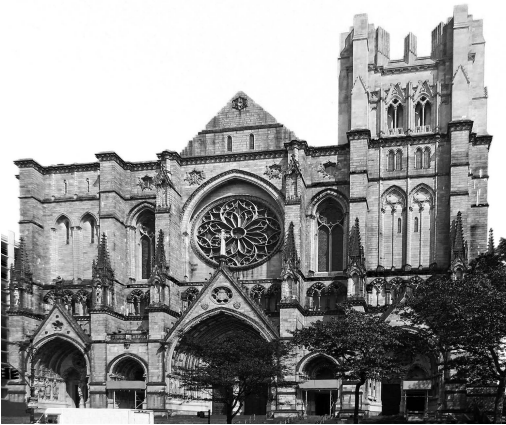


Statues of Christopher Columbus, *from left to right*: on Columbus Circle (see photo of Columbus Memorial at start of this chapter); in Central Park (Jeronimo Suñol, 1894); in Columbus Park in front of the New York State Supreme Court in Brooklyn (Emma Stebbins, 1867); and on Columbus Triangle in Queens where Astoria Boulevard becomes the Grand Central Parkway (Angelo Racioppi, 1941).



Left: Columbus head (Olin Levi Warner) on the façade of the Brooklyn Historical Society (see below). *Middle*: Columbus bust (Attilio Piccirilli, 1992) in the D'Auria-Murphy Triangle Park in the Bronx; Crescent Avenue, Adams Place, East 183rd Street, and Arthur Avenue border the park, which is dedicated to the memory of veterans from the Belmont Community of the Bronx. *Right*: Upper part of the Columbus statue in the Cathedral of St. John the Divine in Morningside Heights.

There are at least seven Columbus memorials in New York. Distances to and from New York City are measured from the location of the Columbus Memorial on Columbus Circle. The Columbus statue in the Cathedral of St. John the Divine in Morningside Heights is part of the parapet displaying one person for each century who contributed the most to the progress of humankind. Columbus represents the fifteenth century.



Cathedral of St. John the Divine at 1047 Amsterdam Avenue between West 110th and West 113th Streets.



Four of the 24-part set of tablets entitled "The Fate of the Earth."

The construction of this Episcopal Cathedral of St. John the Divine began toward the end of the nineteenth century. It was part of the rapid development of New York City to become an international center of cultural and international life.

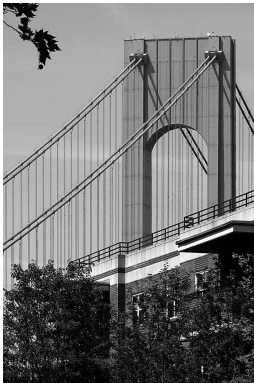
There are various contemporary motifs represented in the cathedral. The artist Peter Gourfain's set of 24 tablets, "The Fate of the Earth," calls attention to the dangers of how modern life destroys the woods and fauna. We show here 4 of those tablets.

Giovanni da Verrazano

Giovanni da Verrazano (1485–1528) was an Italian explorer who, aided by Francis I, the King of France, charted the east coast of North America. This coast area included New York Harbor where the Verrazano-Narrows Bridge, opened in 1964 and called popularly the Verrazano Bridge, connects Staten Island and Brooklyn.



Upper left: Old image from 1914 of the Verrazano Memorial (Ettore Ximenes, 1909) in Battery Park, Manhattan (courtesy of Felix Köther). <http://nucius.org>, (image received from Felix Köther). *Right:* View of the Verrazano Bridge connecting Brooklyn and Staten Island (built by Othmar H. Ammann from 1959 to 1964), as viewed from the Staten Island Ferry in the summer of 2015. *Bottom:* Part of the renovated Verrazano monument in Battery Park (May 2016) expected to be inaugurated soon.



Postage stamp with the Verrazano Bridge issued in 1954, a decade before the bridge opened and the bridge in 2015 as seen from Bay Ridge, the southwestern area of Brooklyn.

Henry Hudson

Henry Hudson (1565?–1611?) was an English explorer who made sailing voyages to chart water routes in North America. The Dutch East India Company aided his explorations. He came upon numerous rivers and bays and many carry his name today, among them the Hudson River and the Hudson Bay.



The Henry Hudson Memorial (Karl Bitter and the Karl Gruppe, 1909) in the Henry Hudson Park at the intersection of Kappock Street and Independence Avenue in the South Bronx.



Two scenes from Henry Hudson's explorations as depicted on brass reliefs on the base of the Henry Hudson Memorial.

The Purchase of Manhattan

In 1926, the Dutch people presented the City of New York a flagpole with a relief on its stand commemorating the purchase of the Island of Manhattan in 1625. The text on the opposite side from the relief reads, "On the 22nd of April 1625 the Amsterdam Chamber of The West India Company decreed the establishment of Fort Amsterdam and the creation of ten adjoining farms. The purchase of the Island of Manhattan was accomplished in 1626. Thus was laid the foundation of the City of New-York." The scene of the mythical transaction is reminiscent of the scene in one of the reliefs of the Hudson Memorial. It is "mythical," because we cannot know what exactly happened.



Stand of a flagpole
in Battery Park,
commemorating the
Manhattan Purchase.

Hall of Fame of Great Americans

The Colonnade of the Hall of Fame of Great Americans came to existence in 1900 in the Bronx. At that time, the venue was part of the new University Heights campus of New York University (NYU). Architect Stanford White designed it and the campus opened in 1901. White also designed three great halls on the campus, the Philosophy Hall, the Gould Memorial Library, and the Language Hall. The entrance to the colonnade of the Hall of Fame adjoins the Hall of Philosophy.

The Hall of Fame has been part of Bronx Community College of the City University of New York (CUNY) since 1973 when it acquired the University Heights campus of NYU. The Hall of Fame is in the northwest corner of the college campus bordered by the Hall of Fame Terrace and Sedgwick Avenue and can be approached through the entrance of the campus on the Hall of Fame Terrace.



Left: Hall of Philosophy and on the right, the entrance to the colonnade of the Hall of Fame. Right: View of the Colonnade from Sedgwick Avenue—from behind the Hall of Philosophy.



Two views of the Colonnade of the Hall of Fame.

The colonnade displays busts of authors, educators, architects, inventors, military leaders, judges, theologians, philanthropists, humanitarians, scientists, statesmen, artists, musicians, actors, and explorers. The nominations corresponded to rigorous criteria that no longer matter because no more than a couple of empty slots remain. Had there been an attempt to fill these spots, the problem of having an enormous number of worthy candidates would have been overwhelming.

The records show scores of worthy men and women who had been nominated but were not elected.¹ Among them, there are conspicuous names in science and innovation, such as Karl Landsteiner (Chapter 6) and Nikola Tesla (Chapter 2). Off the rows of busts in the colonnade, there is another bust at the back façade of the Gould Memorial Library. In 1932, New York University honored the Marquis de Lafayette with a bust. He was a French aristocrat and military leader who fought for the United States in the Revolutionary War and has often been referred to as “The Hero of Two Worlds.”



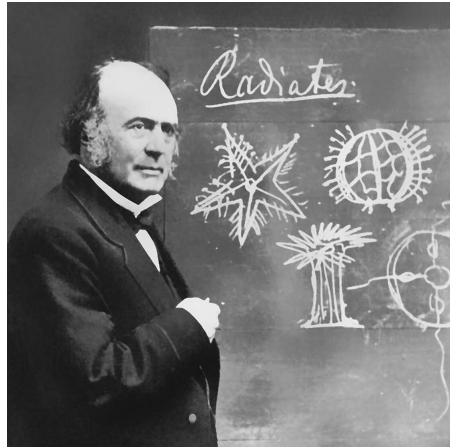
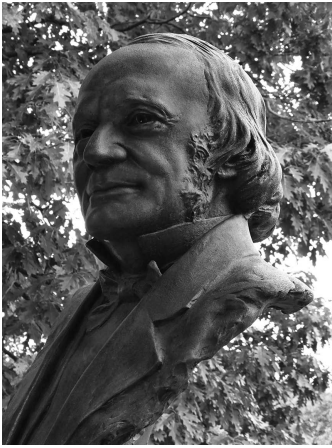
Bust of the Marquis de Lafayette (1757–1834).

The colonnade with its 99 busts could be a great educational tool and a prime tourist attraction. Currently, it does not appear to be either, judging from our several visits during the fall of 2014 when each time we had the entire colonnade to ourselves.

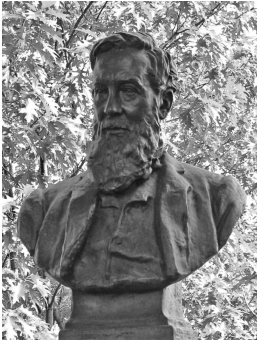
Of the 99 busts, we considered 42 belonging to the topics covered in our book. The busts of explorers, conservationists, and botanists appear in this chapter; those of other scientists and innovators in Chapter 2; educators in Chapters 3 and 7; and the busts of people of medicine in Chapter 5.

Louis Agassiz (1807–1873) was a Swiss-born naturalist who immigrated to the United States in 1847. He engaged in research of natural history. In ichthyology, he made important contributions to the classification of fish species. Agassiz investigated the glacial age in the geological history of the earth. He found that the movement of ice during Ice Ages had extended worldwide. He based his views on careful investigation of geological deposits. Sadly, his contemporaries criticized and even ridiculed him. Others, among them Charles Darwin, admired his science and his integrity. In contrast, when Darwin's teaching about evolution had reached America, Agassiz positioned himself in the camp of anti-Darwinists.

Agassiz became a popular and respected scientist and lecturer in the United States. Later in his career, when he received prestigious invitations to return to Europe, he declared, "The confidence shown in me by those who have at heart the intellectual development of this country [the United States] make my return to Europe impossible."² Nonetheless, for many years he remained a Swiss citizen and naturalized only in 1861 as an expression of solidarity with Lincoln's cause at the outbreak of the Civil War.

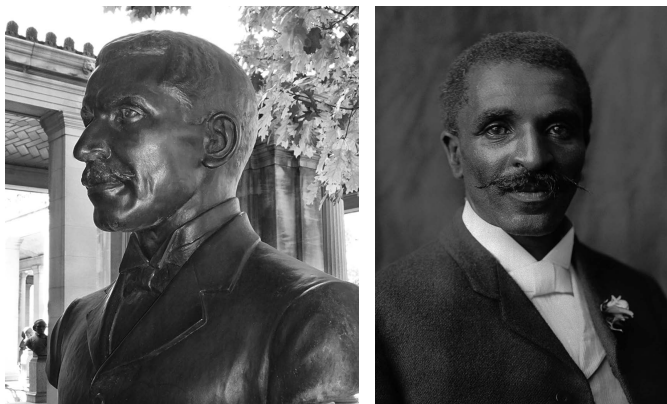


Louis Agassiz's bust (Anna Hyatt Huntington, 1928) and Agassiz's photo from about 1870 (this photo by an unknown photographer appeared in *Schweizerischer Beobachter*, 14/2011, p. 36, downloaded from https://en.wikipedia.org/wiki/Louis_Agassiz#mediaviewer/File:Jean_Louis_Agassiz_1870.jpg; accessed February 28, 2015).



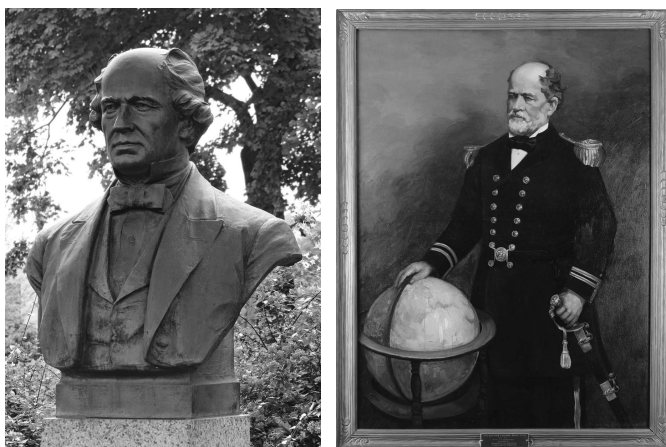
Asa Gray's bust (Chester A. Beach, 1925) and a postage stamp honoring him.

Asa Gray (1810–1888) was a biologist and the foremost American botanist of his time. He contributed to the unification of the taxonomy of the plants of North America. He was a strong supporter of Charles Darwin even before Darwin had published his *On the Origin of Species*. He had to keep his correspondence with Darwin secret for years at Darwin's request, because Darwin was afraid of belligerent reaction to his theory before he could fully elucidate it. When Darwin published *On the Origin of Species by Means of Natural Selection* in 1859 in Britain, Gray arranged for an American edition in 1860, and it became a bestseller overnight.



George Washington Carver's bust (Richmond Barthé, 1977) and his photo (http://www.encyclopedia.com/topic/George_Washington_Carver.aspx, accessed February 10, 2015).

George Washington Carver (1861 or 1864–1943) was born a slave who overcame all adversities to become an agricultural researcher, a chemist, and a botanist as well as an artist. He is best known for promoting alternative crops to cotton. He advocated growing peanuts, soybeans, and sweet potatoes for their nutritious value and issued bulletins in which he communicated useful recipes. His activities were so universal that in 1941, *Time Magazine* called him the “Black Leonardo.”³ In 1896, the president of Tuskegee Institute, Booker T. Washington (Chapter 4), invited Carver to head the institute's Agriculture Department. Carver stayed with the institute for the rest of his life.



Matthew F. Maury's bust (F. William Sievers, 1931) and his portrait by Ella Sophonisba Hergesheimer (courtesy of the US Naval Academy Museum).

Matthew F. Maury (1806–1873) was a hydrographer and oceanographer and researched the physical geography of the sea. As a Navy officer, he noted the scarcity of data in nautical books that impaired the efficiency of his voyages. Upon his retirement from the Navy, he began building up a scientific literature for navigation and later published the textbook *A New Theoretical and Practical Treatise on Navigation*. Upon reading the book, Edgar Allan Poe was “pleased to see that science was gaining votaries from the Navy’s ranks.”⁴

Statues of Surrogate’s Court

The name Surrogate’s Court refers to the origin of the court when the Dutch initiated it “in 1656 for the administration of the property of ‘orphans and minor children.’”⁵ Surrogate’s courts handle cases when, for example, people leave behind estates, but no will. The Surrogate’s Court of the State of New York is at 31 Chambers Street, between Elk Street and Centre Street, in Manhattan, on the northwest corner of Chambers Street and Centre Street.

This building is also the Hall of Records. John R. Thomas was the architect and the building opened in 1907. Fifty-four sculptures decorate the building, all the works of two sculptors, Philip Martiny and Henry Kirke Bush-Brown. We included the Surrogate’s Court in this chapter because four of the eight statues of the front (southern) façade depict individuals belonging to our discussion here. A fifth one, Peter Stuyvesant, of the front façade appears in Chapter 3 in connection with the Stuyvesant High School. A few of the sculptures of the eastern and northern sides of the building will figure in Chapters 2 and 8.

David P. de Vries (1593?–1662?) was a Dutch navigator and world traveler. He was versed in geography, celestial and coastal navigation, and piloting. He established settlements on Staten Island and elsewhere. After he returned to Holland, he described his explorations and experience in his book *Short Historical and Journal Notes of Various Voyages in the Four Quarters of the Globe*.

Abram S. Hewitt (1822–1903) was a teacher of mathematics, a lawyer, and an iron manufacturer. He voyaged to Europe and on his return trip to America, he was shipwrecked, which greatly influenced his outlook on life. He was mayor of New York and was influential in creating the New York subway system. Hewitt was interested in education and Columbia University conferred a degree on him when he was 65 years old. He was Peter Cooper’s (Chapter 4) son-in-law.

Cadwallader Colden (1688–1776) was an Irish immigrant physician and botanist as well as a politician. He pointed out the correlation between filthy living conditions and the high rate of disease in New York. Colden encouraged Benjamin Franklin to establish the American Philosophical Society. Franklin supported Colden’s work in botany and Colden compiled the taxonomy of the region of Orange County, NY, where he lived.

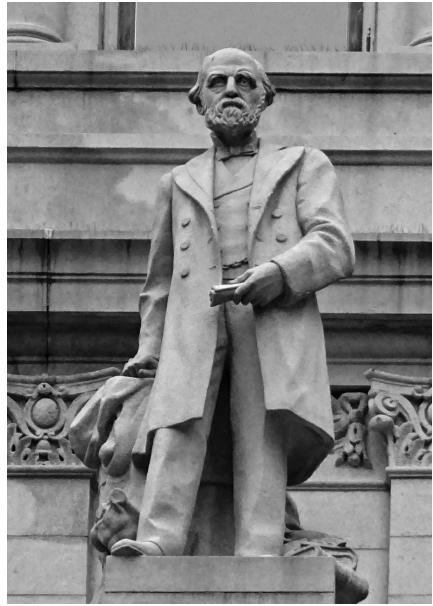
Colden wrote on a variety of other issues as well, such as light and colors, motion in matter, and gravity. He dared to question dogmas and in this connection,



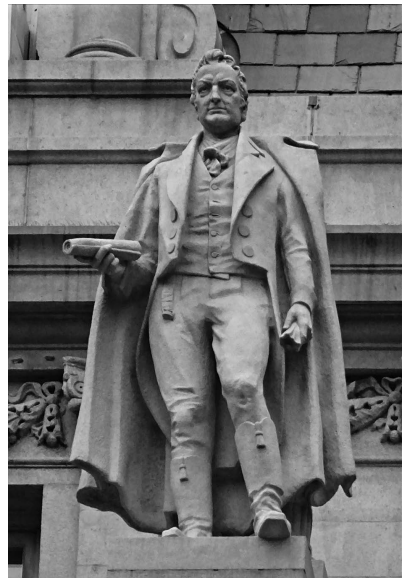
Surrogate's Court with the statues of outstanding personalities on top of the colonnade.

Franklin noted, "It is well we are not as poor Galileo was, subject to the Inquisition for philosophical heresy."⁶ Colden's daughter, Jane Colden (1724–1766), was the first woman botanist in America.

DeWitt Clinton (1769–1828) was a naturalist and a politician who served New York State in different capacities, including mayor of New York City, US senator, and governor. He was instrumental in the decision to build the Erie Canal, connecting the eastern shore of Lake Erie with the upper Hudson River.



Statues of David P. de Vries (*left*) and Abram S. Hewitt (*right*) on the façade of Surrogate's Court.



Statues of Cadwallader Colden (*left*) and DeWitt Clinton (*right*) on the façade of Surrogate's Court.



DeWitt Clinton's statue in a sculpture niche at the Museum of the City of New York, 1220 Fifth Avenue, between 103rd and 104th Streets. The main thrust of the museum is the city's history.

Goethe and Humboldt

Two great German natural philosophers have busts on pedestals in Manhattan.

The German author and court politician Johann Wolfgang von Goethe (1749–1832) was a significant scientist. He studied the metamorphosis of plants and insects and his findings were among the forerunners of Charles Darwin's teachings about evolution. Goethe published a treatise on botany. He considered his



Left: Johann Wolfgang von Goethe's bust (Karl Fischer, 1832) has stood in Bryant Park since 1932. Right: Alexander von Humboldt's bust (Gustaf Blaesser, 1869) at Naturalists Gate on Central Park West, across from the American Museum of Natural History.



Left: Goethe on a German postage stamp issued in the French Zone of occupation of Germany in 1949. Right: Humboldt on a 1964 East German banknote.

investigation of light and his monograph *Theory of Colors* to be his most important contributions to science. There is a Goethe relief along with Shakespeare, Milton, Dante, and Benjamin Franklin on the façade of Tilden House at 14–15 Gramercy Park (Chapter 2).

Alexander von Humboldt (1769–1859) was a Prussian-German scientist—explorer, naturalist, chemist, and a founder of modern geography. A number of statues and busts, postage stamps and banknotes depict him, internationally.

Historical Societies

Brooklyn Historical Society

The Brooklyn Historical Society is at 128 Pierrepont Street, at the corner of Clinton Street in Brooklyn Heights. Architect George B. Post, a Richard M. Hunt



Left: The Brooklyn Historical Society at Brooklyn Heights. Right: The entrance with two busts representing a Viking warrior and a Native American.

disciple, designed the building. The Brooklyn Historical Society started out in 1863 as the Long Island Historical Society and acquired its present name in 1985. Lately it is concerned with the history of all the diverse communities of Brooklyn and it operates as a library, archives, and museum. It is independent of the New-York Historical Society in Manhattan.



On the façades of the Brooklyn Historical Society: Top row: Johannes Gutenberg, Ludwig van Beethoven, and Michelangelo, all three on the Clinton Street side of the building. Bottom row: William Shakespeare (Clinton Street side) and Benjamin Franklin (Pierrepont Street side).

Christopher Columbus (shown earlier among the other Columbus memorials) is on the Pierrepont Street façade of the building.

New-York Historical Society

The New-York Historical Society was founded in 1804. It is at 170 Central Park West at 77th Street, in the neighboring block to the south of the American Museum of Natural History. The New-York Historical Society is both a museum—the oldest in New York—and a library. It is concerned with the history of New York City, New York State, and the United States. There are two life-size bronze statues, one each at the two entrances of the building, honoring Abraham Lincoln and Frederick Douglass.