NPS Form 10-900
(Rev. 8-86)

361

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

APR 04 1989

NATIONAL HISTORIC LANDMARK NOMINATION

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

NATIONAL REGISTER

1. Name of Property

historic name Wagner Free Institute of Science

other names/site number N/A

2. Location

street & number 17th Street and Montgomery Avenue N/A ☐ not for publication

city, town Philadelphia N/A ☐ vicinity

state Pennsylvania code PA county Philadelphia code 101 zip code 19121

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☒ private	☒ building(s)	1	____ buildings
☐ public-local	☐ district	____	____ sites
☐ public-State	☐ site	____	____ structures
☐ public-Federal	☐ structure	____	____ objects
	☐ object	1	0 Total

Name of related multiple property listing: N/A

Number of contributing resources previously listed in the National Register 1

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Brent Glass — 3/16/89

Signature of certifying official — Date

Dr. Brent Glass, Pennsylvania Historical & Museum Commission

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official — Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

☒ entered in the National Register. ☐ See continuation sheet.
☐ determined eligible for the National Register. ☐ See continuation sheet.
☐ determined not eligible for the National Register.
☐ removed from the National Register.
☐ other, (explain:) _____

Linda McClelland — 5/17/89

Signature of the Keeper — Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions)
Education: School	Education: School
Education: Research Facility	Culture: Museum
Culture: Museum	

7. Description

Architectural Classification (enter categories from instructions)

Renaissance Revival

Materials (enter categories from instructions)

foundation stucco
walls stucco
roof metal (tin)
other wood

Describe present and historic physical appearance.

The Wagner Free Institute is a two-story free-standing building containing a gallery for exhibits, offices, classrooms, a library and large lecture hall. The existing structure represents three separate building phases which document the development of the institution through the second half of the nineteenth century--including the original construction campaign of 1859 through 1865, an extensive remodeling in the late 1880s, and culminating with the addition of the large library wing to the west in 1901. Set upon an open site in North Philadelphia which was still largely undeveloped in the middle of the nineteenth century, the Institute's plans originally called for two observation towers on the site, devoted respectively to meteorology and astronomy. While these were not completed, a small laboratory wing and a library wing were later added to the building. Although reduced in scope from the original project, the complex is still impressive and the degree to which its historic character has been maintained is extraordinary.

The Wagner Institute building is characteristic of mid-nineteenth century institutional architecture. Its pedimented gables, round arches and paired pilasters reflect the severe version of classicism that succeeded the Greek Revival style during the 1850s. An important aspect of the building's character is its situation as a free-standing rectangular block, set back from the street so as to guarantee uninterrupted light for its exhibition hall. Its main facade is oriented towards Montgomery Avenue and originally faced the rural estate of its founder, William Wagner. Wagner played an important role in determining the form of his building, which was the result of a collaboration between himself and his architect, John McArthur, the architect of Philadelphia's City Hall. For the building program Wagner was strongly influenced by the contemporary scientific and educational institutions he had visited during his travels in the United States and Europe. Newspaper accounts of the building during the course of construction note that the lecture hall was modeled after that in James Renwick's Smithsonian Institute (begun 1847). In addition to determining the form and appearance of the building, Wagner also oversaw the actual construction and supervised the production of bricks, for which he established a brick yard on his own property. He remained arbiter of all aspects of the design throughout its development and prolonged period of construction.

[X] See continuation sheet

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:
[XX] nationally [ ] statewide [ ] locally

Applicable National Register Criteria [XX] A [XX] B [XX] C [ ] D NHL Criteria 1, 2 and 4

Criteria Considerations (Exceptions) [ ] A [ ] B [ ] C [ ] D [ ] E [ ] F [ ] G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Education, Science, Social History, Architecture	1860-1940	1865, 1885, 1890, 1895, 1901
NHL THEMES: XXVII-Education		
E-Adult Education		
1-Conceptual Development		
2-Institutional Patterns		
G-Adjunct Educational Institutions		
1-Museums, Archives, Botanical Gardens		
2-Libraries (see continuation sheet)		

Cultural Affiliation

Significant Person
Leidy, Joseph

Architect/Builder
(1860) McArthur, Jr., John
(1885) Collins and Autenrieth

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The Wagner Free Institute of Science is an unparalleled survivor of a virtually extinct institution: the scientific society of the nineteenth century. During the last decades before 1900, as scientific education and research were gradually incorporated into the curriculum of the American university, the private academies and societies that had served as the incubators for scientific research and study during the first half of the century were gradually displaced -- either absorbed by university programs or else developing into specialized institutions. The Wagner Institute is a nationally significant monument documenting the development of science, education and museums in several ways. First, it is remarkable in preserving its original program, uniting the functions of a museum, research institution and a private school. It is even more noteworthy for the extraordinary preservation of the site -- the building, collections and the exhibits themselves are virtually unchanged from the turn of the century -- providing a unique example of an intact Victorian museum. Secondly, the Wagner Institute is distinguished by its association with Dr. Joseph Leidy, one of the most significant biologists of the nineteenth century, who served as president of its faculty for the last six years of his life. Finally, the Institute illustrates the role of philanthropy in the development of public education in the nineteenth century. At its origins the Institute was one of the earliest proponents of adult education in the country. Its later affiliation with both the University Extension movement and the public library movement in Philadelphia demonstrates its on-going commitment to the cause of public education. Together, the Institute provides a unique document of the history of science, science education and museology in America at the moment just before the professionalization of the field.

The Wagner Free Institute was the creation of Philadelphia merchant, philanthropist and amateur scientist William Wagner. Born in Philadelphia in 1796, Wagner developed a strong interest in science and natural history in his youth. Upon his graduation in 1808 from the Academy (later renamed the University of Pennsylvania), he applied to study medicine under Dr. Physick, the most prominent surgeon of the day. Wagner's father, a

[X] See continuation sheet

9. Major Bibliographical References

Alexander, Edward P., Museum Masters: Their Museums and Their Influence, American Association for State and Local History, Nashville, Tennessee, 1983.

Baatz, Simon., "Patronage, Science and Ideology in an American City: Patrician Philadelphia 1800-1860," unpublished thesis, University of Pennsylvania, 1986.

[X] See continuation sheet

Previous documentation on file (NPS):

- [ ] preliminary determination of individual listing (36 CFR 67) has been requested
- [X] previously listed in the National Register 5/17/89
- [ ] previously determined eligible by the National Register
- [ ] designated a National Historic Landmark
- [ ] recorded by Historic American Buildings Survey # _____
- [ ] recorded by Historic American Engineering Record # _____

Primary location of additional data:

- [ ] State historic preservation office
- [ ] Other State agency
- [ ] Federal agency
- [ ] Local government
- [ ] University
- [XX] Other

Specify repository: Wagner Free Institute of Science

10. Geographical Data

Acreage of property less than one acre

UTM References

	Zone	Easting	Northing
A	18	480700	4425400
B			
C			
D			

Philadelphia Quadrangle

[ ] See continuation sheet

Verbal Boundary Description

Southwest corner of Montgomery Avenue and 17th Street in the City of Philadelphia. Containing in front or depth on said Montgomery Avenue, 177 feet and 10 inches and extending of that width in length or depth southward 225 feet. Philadelphia Deed - 14N8 #17.

[ ] See continuation sheet

Boundary Justification The boundary conforms to the original parcel of land granted in the will of William Wagner to the Trustees of the Wagner Free Institute of Science as described in the original deed dated May 30, 1864. It contains the building, its additions, the site with which it is historically associated, and the iron fence which bounds it.

[ ] See continuation sheet

11. Form Prepared By

name/title Eugene Bolt/Susan Glassman
organization _____ date April 29, 1990
street & number 2136 Naudain Street telephone (215) 898-8388
city or town Philadelphia state Pennsylvania zip code 19146

John McArthur's design carried out the program in the form of an abstracted classical temple. The principal story, which houses the large exhibition hall, is set upon a tall base which contains the lecture room as well as various smaller offices, laboratories and the library. A low roof caps the building, marked by a pedimented gable at either end. The main facade faces north and is composed in three bays, each framed by paired pilasters and containing a large round-arched window on the upper level. On the first story, the entrance occupies the central bay, where it is sheltered by a wood vestibule set within an open portico. The windows flanking the porch are capped by cast iron lintels in the form of small pediments. The side elevations are treated similarly. Its nine bays are separated by single, rather than double, pilasters and each is marked by a tall round-arched window on the upper level and smaller windows capped with iron pedimented lintels on the ground story. The upper story windows are filled with Queen Anne sash, with large central panes bordered by smaller square panes. A second entrance with a modest wood vestibule is located near the south end of the east elevation, opening directly into the lecture hall. The composition is completed by the overhanging modillioned cornice at the roof line.

The building's structural system is comprised of brick bearing walls and an iron frame, which is expressed both on the exterior and interior. In particular, the tripartite division of the main facade, established by the paired pilasters between the bays, continues on the interior in the two rows of iron columns that extend lengthwise through the building. These were left exposed in the exhibition and lecture halls but were later encased in wood in the offices. The exhibition hall itself, the largest and most significant space of the Wagner Institute, occupies the entire upper level of the building, rising to full ceiling height. This space is bordered by two levels of galleries carried on stacked tiers of iron columns which extend around the perimeter. The frank display of construction creates a utilitarian, virtually industrial character, that is reinforced by the roof system with its nine bowed trusses of iron and wood, carried on the columns. Likewise the location of the trusses is indicated on the exterior, corresponding to the single pilasters between the window bays of the side elevations. The hall is still well-lighted by the range of large windows on either side but it was originally brighter, the four skylights set into the curved roof having recently been boarded up.

The lecture hall occupies the southern end of the building on the first story. It is a well-preserved Victorian lecture hall, consisting of sloping rows of seats, converging from three directions down to the central speaker's platform. The wood and iron seats appear to date from the late nineteenth century and are notable for the wire racks underneath which provided storage for the hats of those in attendance. The beaded board wainscot around the perimeter also dates from the late nineteenth century. As was appropriate to a scientific lecture hall of the period, the room is furnished with study specimens and apparatus, many dating from the early period of the Institute. An unusual feature is the connection between the speaker's platform and the laboratory wing to the east, which faciliated demonstrations for the lectures.

A final space of note is in the basement. At the center of the north end, directly below the entrance, is the simple masonry enclosure of the Crypt. A heavy iron door guards its entrance to the south. In this Crypt, recalling that of his mentor Stephen Girard at Girard College, William Wagner was buried for one year before his reinterral. Until recently it contained many of the Institute's archives and records, including the founder's own sea chests that accompanied him on his voyages during the 1820s.

When the building was opened in 1865, it still had not been completed according to the architect's plans. A shortage of funds prevented the stuccoing and tooling of the brick walls to resemble "red sandstone." Instead the walls remained bare. Furthermore the arches of the upper story windows were glazed only in their lower sections, the rest being boarded up. The observation towers and the intended laboratory wing were abandoned, although a very modest laboratory room was added to the west in 1868.

A series of important changes were made to the interior within a few years of Wagner's death in 1885. His will then freed a large sum of money which was used in part to remodel the unfinished building. Aptly, the Trustees hired the architectural firm of Collins and Autenrieth to complete McArthur's building, Collins having been a protege of McArthur during the 1850s. A major refurbishing of the interior and exterior ensued. This included the stuccoing of the exterior brick, although in a more austere treatment than had originally been proposed. The upper level arches were opened and Queen Anne sash installed, while the projecting vestibule and entrance porch over the main entrance were also constructed. The interior finishes--virtually unaltered in the present building--are largely the product of the Collins and Autenrieth remodeling. Throughout the interior, the walls were refinished with new beaded board wainscotting and new trim and floors were installed. In addition, the classrooms along the east side of the ground story were consolidated to form a library for which the architects designed the tables and shelving. More far-reaching were the changes to the exhibition hall. Here Collins and Autenrieth designed an extensive series of exhibit cases, shelves and cabinets as well as the curator's office on the first gallery level. The collections were reorganized at that time in accordance with the refurbished space and remain in these cabinets, with their original display, to this day.

The last significant change to the building was the addition of the one story library wing to the west, directly flanking the main facade. This wing, designed by the firm of Hewitt and Hewitt in 1901, was executed in a classical style that complemented the design of the original building. The exterior elevations are composed in five bays and articulated similarly to those of the main building,

with single pilasters dividing the bays with their triple pivot windows. The central bay on Montgomery Avenue contains the entrance, set beneath a pedimented hood. The plan of the addition is essentially open, and is distinguished by a large central skylight which is supported by fluted columns at the corners. Of particular note are the radiators, which encircle the base of each of the columns and whose vertical arrangement of grilles decoratively repeats the column fluting. Some alterations have been made to permit the installation of exhibits, but most original features, including the original library shelves and bookends, survive.

Aside from minor alterations in recent years to update mechanical and heating systems, the Wagner Free Institute survives with a remarkable degree of integrity. The major interior spaces as well as the display cases and collections remain with virtually no alterations since the 1890s. The building also houses the complete archives, book collection, correspondence and records of William Wagner and of the Institution, from its origin to the present. As such it comprises a major resource for the study of the history of science, museums and educational institutions of the middle and late nineteenth century.

successful cloth merchant, preferred a mercantile career for his son and arranged for an apprenticeship in the counting house of financier Stephen Girard. Soon earning the trust of his employer, Wagner was assigned the position of supercargo and sent overseas to look after Girard's shipping interests. During voyages to Europe, Africa and Asia, he expanded his collection of mineral, shell, fossil and plant specimens which later formed the nucleus of his private museum. Wagner remained in the employ of Girard for the course of a seven year apprenticeship but Girard's influence on Wagner continued throughout the latter's life. When Girard died in 1831, he left the bulk of his estate to establish a school for orphaned boys -- Girard College -- in one of the single most monumental acts of private philanthropy in American history. The effect on Wagner was profound, who went on to dedicate much of his own life to a philanthropic campaign for scientific education.

Following his apprenticeship, Wagner formed a mercantile partnership with another Philadelphian, Captain Snowden. He also maintained his interest in natural history and mineralogy through continued collecting and as a member of numerous scientific societies, including the Academy of Natural Sciences and the Franklin Institute. By 1840, Wagner retired from his commercial pursuits and spent most of 1841 and 1842 in Europe, travelling with his wife and continuing to collect specimens. He visited the principal scientific institutes of the Continent, filling himself with the impressions that would later guide the design and program of his own institute. He also earned honorary membership in a number of scientific societies, with whom he remained in contact throughout his life. Upon their return to Philadelphia the Wagners took up residence at Elm Grove[1], a large suburban estate north of the city, which now housed Wagner's private museum. So large was his collection by this time that he added a wing, designated the "Cabinet". This he modeled after the Musee des Jardins des Plants in Paris where he had visited and recorded in the diary he kept during his travels. Using his specimens as an instructional collection he began giving free lectures from his home in 1847. Despite the distance from town, these lectures became so popular that by 1855 Wagner, needing more space, secured the Municipal Hall at Thirteenth and Spring Garden Streets which he used for a program of free scientific lectures. On May 21, 1855, the Wagner Free Institute of Science was formally established, its program codified in a charter drafted by Wagner himself.

For the remaining three decades of his life, Wagner devoted himself to his institution. In 1859, after the city recalled Spring Garden Hall[2] for its own use, Wagner began planning a new building on a site just south of his home. This building would unite the function of the lecture hall with that of Wagner's private museum, which was by now overflowing with

specimens. Work began in the same year and the cornerstone was laid in 1860 but the onset of the Civil War delayed the opening of the Institute to 1865.

The architect selected by Wagner to design his new building was one of the most prominent in the city: John McArthur, Jr. (1828-1890). McArthur was primarily an institutional architect, specializing in large public buildings such as the three great hotels he built in Philadelphia during the 1850s, including the famous Continental. This expertise in public architecture later brought numerous government commissions to McArthur, who designed a large series of Union Hospitals during the Civil War even as he was completing Wagner's building. The summit of his career was reached in 1873, when he was selected to design Philadelphia's new City Hall, capping a quarter century of experience in designing schools, courthouses and prisons. The Wagner Institute building exhibits the sturdy and well-ordered composition characteristic of McArthur's work. A sober classical design, described in the periodicals as a "Greco-Roman" style, it repeats the block-like massing, articulated by pilasters and round-headed windows, and pedimented end gables of other McArthur buildings such as his Frankford Avenue Presbyterian Church, which directly preceded the Institute in McArthur's office. The relatively austere style of the Institute, with little extraneous ornament, was executed in stuccoed brick. Its straightforward utilitarian character was in keeping with Wagner's conception of his institution, which was embodied in the form of a public lecture hall, underscoring its mission to unveil the secrets of science to as large a public as possible. This utilitarian character culminates in the exhibition hall where the stacked iron columns and arched roof trusses are exposed to view, as in a Victorian train shed or London's great Crystal Palace of 1851. Wagner also contributed his knowledge of other contemporary scientific buildings, and explicitly instructed McArthur to base his 1500 seat lecture hall after the one in the newly-built Smithsonian Institute.

At its opening in 1865 the Wagner Free Institute resumed the course of lectures it had offered previously in Spring Garden Hall. Lectures covered topics such as geology, physiology, botany, chemistry, engineering, paleontology, and astronomy as well as the course taught routinely by Wagner himself: mineralogy. All were taught by scientists and scholars gathered from prominent schools and institutions, including the University of Pennsylvania and Princeton. In addition to the lecture hall, the building contained a natural history museum with over 23,000 specimens augmenting the material covered in the lectures. Classrooms and a laboratory were also available for further study and research. To ensure the continuation of his Institute, Wagner drew up a revised program and deed of trust in 1864, leaving his estate to the charge of a Board of Trustees who would

continue to run the institution according to his original goals. This was modeled in part on Girard's bequest for Girard College, the stipulations of which Wagner was well aware, his own brothers having been among the executors of Girard's trust during the monumental legal battles that raged around it in the 1830s and 40s. Perhaps the most striking acknowledgment of the debt to Girard is Wagner's own silent testimony: his directive that he should be buried in the crypt beneath his building just as Girard was interred in his institute's Founder's Hall.

Wagner's charter also drew upon the charter, trust, deed and by-laws for the Cooper Union for the Advancement of Science and Art in New York. The charter of the Cooper Union which was drawn up in 1857 and amended in 1859, was, like that of the Wagner Institute a statement of commitment to public education. While the Institute's incorporation (1855) pre-dates that of the Cooper Union, its founding influenced Wagner to clarify and codify his program. Wagner's own copy of the Cooper charter survives, with his notations and revisions which served as the basis for the Wagner Institute's revised charter of 1864. Both of these institutions were qualified to grant degrees, unusual for societies like the Wagner Institute. However, where both institutions include a degree granting program and popular evening lectures, their relative emphasis differs. For Wagner, the provision of free evening classes to the public was the core of his institution. The program itself was modeled on Wagner's experience at the scientific societies of the time and offered current research and theory by prominent scholars. These societies however were restricted to an elite group with access limited to members elected based on their contributions to the field. Typically, membership was also restricted to men and the upper social class. It was Wagner's innovation to open the closed doors of the scientific academy to a wider public. From its inception the Cooper Union had a stronger emphasis on its degree program which encompassed the arts as well as the sciences. Cooper, unlike Wagner, modeled his institution on mechanics institutes which provided vocational training to the working classes. This may explain in part the relative fates of the two -- Cooper Union has since evolved into a prominent college granting degrees in art, architecture and engineering; the Wagner has continued in its original capacity combining the functions of an educational institute, museum and science society.[3]

Following Wagner's death in 1885, the direction of the Wagner Institute passed on to the designated Board of Trustees, which included some of Wagner's descendants. With the funds released by the will, the Trustees hired the architectural firm of Collins and Autenrieth to undertake a renovation program that included the completion of the exterior stucco, new windows, and new interior finishes. Edward Collins had worked in John

McArthur's office during the early 1850s and the selection of his firm to complete McArthur's original design is representative of the continuity of purpose and conservatism that characterizes the Institute, and its founder as well. In 1885, the Board also appointed Joseph Leidy, one of the leading figures in the natural sciences during the late nineteenth century, as director of the academic programs of the Institute. At the time Leidy was at the height of his career, teaching anatomy at the University of Pennsylvania and serving as president of the Academy of Natural Sciences. His acceptance of the position at the Wagner Free Institute indicates the respect that the Institute commanded within the scientific world at the time.

During his tenure, which lasted until his death in 1891, Leidy expanded the programs at the Institute to include a more significant and extensive course of scholarly research. To this end, he retained some of the most noted scientists and explorers of the age, including Angelo Heilprin, Joseph Willcox and Henry Leffmann, for his faculty. Besides revamping the teaching program, Leidy arranged for the Institute to sponsor several expeditions. The most notable of these was one to the west coast of Florida during which a large number of type fossils were collected, including the first known fossil of a saber-tooth tiger. These discoveries were published in the form of an on-going series of proceedings: The Transactions of the Wagner Free Institute of Science. These proceedings appeared sporadically through the first decades of the twentieth century. As a result of the expeditions and of purchases made by Leidy, Wagner's own private collection was vastly enlarged. The exhibition hall, renovated by Collins and Autenrieth, houses this expanded collection. It was Leidy himself who mandated and oversaw the reorganization of the collections, transforming the Victorian "Cabinet" arrangement to a "Systematics" collection portraying Darwin's controversial theory of evolution. The closed cabinets and "clutter, dust, and disorder" [4] of Wagner's museum gave way to glass-topped wood cases with labeled specimens. Cases were grouped and organized so that a walk around the exhibition hall took the visitor through the course of the earth's development, from the inorganic to the organic and from simplest organism to the most complex. At its culmination was Man. With this transformation of the Wagner collections, Leidy moved the Institute to the forefront of scientific scholarship and of museum practises. When the renovated Museum of the Institute opened in 1890, its arrangements paralleled those of the newly completed Zoological Museum of the Jardins des Plants in Paris, then the leading institution for natural history in the world.[5] The Victorian cases and hand-labeled specimens remain in situ at the present, just as they were arranged by Leidy in the 1880s. They represent the only example of Leidy's scholarship as embodied in the organization of a natural history collection.[6]

In the decades following Wagner's death, the Institute further developed its commitment to public education by partaking of some of the period's social reform movements. Leidy, together with Sydney Skidmore -- a member of the Board and husband of Wagner's adopted daughter -- were instrumental in introducing the University extension movement to the Institute. Together with representatives of the Philadelphia public school system, the University of Pennsylvania and Temple University, they founded on November 5, 1890, the Society for the Extension of University Teaching. Shortly afterwards the Institute expanded its curriculum to include instruction in the humanities as well as the sciences. A certification program was established for participating students.

The Institute also played a significant role in the establishment of the Free Library system of Philadelphia. In 1891, Samuel Wagner, a member of the Board of Trustees and the nephew of William Wagner, joined with four other Philadelphians to apply for a charter to form the Free Library of Philadelphia. Opposition from already established libraries postponed the start of the system. Meanwhile, the Board of Education announced that it would sponsor an alternative public library system, and designated the Wagner Institute Branch Number One of the Philadelphia Public Library. This library opened in October, 1892, the actuary of the Institute, Thomas L. Montgomery, also serving as the librarian. Meanwhile, the original Free Library system was finally realized in 1894; Philadelphia now had two separate public library systems. On November 11, 1895 these were consolidated through an ordinance passed by City Council. The Wagner Institute Branch now became Branch Number One of the Free Library. Its expansion and the resultant heavy usage resulted in the construction in 1901 of a separate Free Library wing to the west. This was paid for and constructed by the Institute, to be used by the library; as such it documents the continued commitment of the Institute to the cause of free public education. The library addition was designed by the distinguished architectural firm of Hewitt and Hewitt and was originally planned to consist of a pair of symmetrical wings flanking the main facade. Only the west wing was completed. The Free Library occupied the wing until 1962 when the Columbia Avenue branch was opened.

The Wagner Free Institute of Science documents the transformation of American science and scientific education during the nineteenth century. At the time of its founding in the 1850s, the field was still dominated by the amateur scientist and the gentlemen's private association. The Wagner Institute was one of many of these institutions that flourished during this period. But in several key respects it is absolutely unique. First, the Wagner was characterized by the way it combined its functions. It was a private museum for

scientific study as well as an educational establishment that presented a regular program of courses leading to a certificate of attainment. During the 1880s, under the directorship of Joseph Leidy, its program was expanded to incorporate independent research and the museum transformed. Through its association with some of the most prominent scientists of the period, the Institute became a center of paleontological research. Since then this blend of research and educational missions has remained intact, during those decades after the Civil War in which other scientific institutions similar to the Wagner Institute either evolved into museums (as did the Franklin Institute), were transformed into colleges (as the Cooper Union) or else disappeared altogether.

Secondly, the Institute's Victorian building provides an extraordinary vision of the final era of philanthropically-supported scientific education. Building, collections and archives have scarsely been changed since the turn of the century, presenting a striking and rare case of a nineteenth century science museum with an intact set of contents. The specimens themselves are maintained in the Victorian display cases and in their original "Systematics" arrangement, as laid out by Joseph Leidy. In accord with this system, the cases contain glass-topped study drawers, making nearly the entire collection available to the visitor. This system and arrangement of cases, once the standard for natural science collections, has virtually disappeared from contemporary museum exhibits.[7] The Institute, with its intact collections and displays -- to the original hand-written labels, is a remarkable living document of its period.[8] In it the Victorian understanding of the natural order is embodied as the continuous march of progress. As has been said of the Wagner Institute, it is "a museum of a museum", preserving as a piece the late-nineteenth century view of man and nature.

Finally the Institute is a splendid illustration of American philanthropy in the nineteenth century. Wagner was a protege of Stephen Girard, one of the nation's hallmark philanthropists, and the institute he founded bears the stamp of his illustrious mentor. Not only did Wagner devote his fortune, as did Girard, to the establishment of an institution and to giving it a monumental architectural expression, but he also imitated Girard in placing his crypt in his building, making the institution itself his monument. The later role of the Institute as the first home of Philadelphia's Free Library underscores its on-going importance as a philanthropic institution and documents the origins of the modern public library in the private educational institute of the nineteenth century.

The Wagner Free Institute of Science maintains its original programs as specified in the charter prepared by William Wagner. Fortunately, the same factors that have contributed

to the Institute's low profile during the early twentieth century -- its limited endowment and its relative isolation in North Philadelphia -- have guaranteed the survival of this valuable national resource.

1. Located at Turner's and Stump Lane, near what is now Seventeenth Street above Montgomery Avenue, Elm Grove was a colonial farmhouse and estate dating to the 1760s. With the dramatic expansion of the city in the 1870s and 1880s, the street grid of central Philadelphia was expanded north and the land developed with speculative rowhousing for the rapidly growing population. In the 1880s, Wagner's house was one of the last of the early farmhouses in the area and was frequently written up in the papers of the time as an item of curiosity from "ancient days". It was demolished in 1886 after William Wagner's death. See Scharf and Westcott, History of Philadelphia, 1609 - 1884; Scrapbooks, Wagner Free Institute of Science.

2. Spring Garden Hall was built as the City Hall for the Spring Garden township. In 1852, when Philadelphia incorporated the outlying townships, the hall became available for other purposes. William Wagner was granted use of the auditorium during the city's reorganization. The Hall reverted to municipal use in 1859 and has since been demolished.

3. Sidney Ditzion, Arsenals of a Democratic Culture, American Library Association, Chicago, 1947, pp. 48, 114, 118. Lawrence A. Cremin, American Education: The National Experience, 1783 - 1876, Harper & Row, New York, 1980.

4. Edward S. Morse, "If Public libraries, Why Not Public Museums?", The Atlantic Monthly, July 1893.

5. The shift to "Systematics" as the standard arrangement for natural history collections was a significant one but did not occur with any uniformity in existing collections. Earlier practises ranged from groupings by type, or locality to "Cabinets of Curiosity" which encompassed artifacts of all types in addition to collections of natural specimens. "Systematics" arrangements reflected the broad impact of Darwin's theory on the culture of the time, not only was it incorporated in the organization of natural science collections but the practise extended to specimens of archaeology and artifacts which were arranged as series sub-divided into orders and genera. Although the idea was coming into wider acceptance in the 1880s, it was still hotly debated and its incorporation in museum practise varied considerably. In an 1893 article for the Atlantic Monthly, Edward S. Morse decried the state of most museum exhibits in the country as shameful and disordered clutters. Many organizations never made the shift -- either out of philosophical differences or for

lack of sufficient funds. The opposite school of the period held that a contextual presentation was more instructive. In natural history collections this took the form of habitat arrangements of which the American Museum of Natural History in New York was an early pioneer. The two presentations competed through the last years of the nineteenth century; by the early decades of the twentieth century the latter arrangement had largely replaced the systematics style of display. See Alma S. Wittlin, Museums: In Search of a Usable Future, MIT Press, Cambridge, Mass., 1970.

6. During Dr. Leidy's tenure at the Wagner Institute he was also president of The Academy of Natural Sciences of Philadelphia. Despite his long affiliation with the Academy (he was elected to membership in 1845), and profound influence over its administration, the Academy does not preserve a physical record of any of his work on its collections or displays. Since its founding in 1812, the Academy has occupied four locations and a larger number of buildings. It moved to its current site at 19th and Race Streets in 1876 on completion of its new building, designed by Philadelphia city architect James Windrim for the nation's Centennial. Significant additions were made in 1894 and in 1908, including a brick colonial revivial wing which largely obliterated the Victorian gothic structure of 1876. With each of the building campaigns the collections were moved and reorganized. In keeping with changing theories of museum education, methods of display were continually revised. By 1916, the Wagner was a recipient of glass-topped display cases as the Academy shifted to the diorama exhibits then current in natural history museums. More recently, the Academy has undergone major renovations for climate control and extensively up-dated its interior and displays. It is only the Wagner, with its intact exhibition hall organized and arranged by Leidy, that preserves a record of his hand and of the Victorian view of science and nature. Founder's Week Memorial Volume, Frederick Henry, M.D., editor, Philadelphia, Pennsylvania, 1909. pp 153-186.

7. There are no published studies on the fate of nineteenth century science museums or their exhibits. However, a survey of many of the early organizations and museums has located none which preserves both the architecture and an intact display from the late nineteenth century. The Charleston Museum in South Carolina, founded in 1773, was the first public museum in the country. Although still in existence it has been moved and its collections extensively changed over its history. The Academy of Natural Sciences in Philadelphia, one of the earliest and most important organizations of its type has been relocated and its exhibits reorganized and "modernized" numerous times as outlined earlier. The Boston Society of Natural History, founded 1830, also relocated several times. Its 1863 building survives but the Society itself disbanded in the late 1940s and its collections

were dispersed to the new Boston Museum of Science and Harvard's Museum of Comparative Zoology. That institution, established by the world renown Louis Agassiz in 1852, was incorporated early in its history by Harvard University. Like the Academy in Philadelphia, the collection has been continually expanded and modernized. Also, as part of a major university its program no longer reflects the character of a nineteenth century institution. The Museum of Natural History at the University of Iowa, established in 1858, is a contemporary institution but its collections have occupied three locations -- first Iowa's old capital building to 1884, followed by Science Hall which was built to house it in 1885 and finally MacBride Hall, completed in 1907. In the 1970s the Hall was modernized and the exhibits extensively redesigned. In California, the California Academy of Sciences, established in 1853, is also a contemporary of the Wagner. All of its early collections were destroyed by fire in 1906. The San Diego Society of Natural History, incorporated in 1874, was moved several times in its early years and now occupies a building completed in 1933. It is currently undergoing massive renovations to its exhibits and facilities. These findings are typical of the survey now underway by the authors. They are bolstered by reports by scholars whom we have contacted in the course of this work. Steve Williams (now at Texas Tech) and Cathy Hawks (an associate at the Smithsonian) conducted an extensive survey of mammal exhibits at science and natural history museums nationally. Though their report is unpublished to date, their preliminary findings are that museums with a significant number of specimens pre-dating the 1850s are rare and they had encountered no museums with entirely intact displays pre-dating 1900. Dr. Sally Kohlstedt, who has studied and published most extensively on early science associations, knew of none surviving comparable to the Wagner Institute. Some data for the survey was gathered from the Handbook of American Museums, American Association of Museums, Washington, 1932. Other data has kindly been supplied through brochures and articles sent by administrators and directors of other institutions such as Volume 52, Number 4 of the Iowa Ornithologists' Union which gave a brief history of the Iowa Museum of Natural History. Also see Sally Gregory Kohlstedt, "International Exchange and National Style: A View of Natural History Museums in the United States: 1860 - 1900", in Nathan Reingold and Marc Rothenberg, eds., Scientific Colonialism: A Cross-Cultural Comparison, Smithsonian Institution Press, Washington, D.C., 1987.

8. One institution that bears noting is the Delaware County Institute of Science located in Media, Pennsylvania. Founded in 1833, by a group of five friends, it occupies the building constructed for it in 1867. Like the Wagner it maintains an early collection of specimens located in its gallery space and has free lectures on science open to the public, although only on a monthly basis. This Institute, while also a survivor of another era, differs from

the Wagner in a few significant ways. First, it originated as a private scientific society by a group of gentlemen doctors and amateur scholars as was typical of the period. As such it does not incorporate the aspects of public education promoted by the Wagner Institute such as its curriculum of courses. Programs were open to members and it still operates as a membership organization today. It also does not possess the Wagner's legacy of independent research which includes over one hundred type specimens, an unusually large number for an institution of its size. The Delaware County Institute maintains a small private collection of primarily regional specimens. Last, and most importantly, through its association with Joseph Leidy and other of the most notable scientists of the period, the Wagner joined the mainstream of scientific research and education in the late part of the century, the period which is reflected in its building and collections. While the Delaware Institute of Science is of import locally, it does not appear to possess the national significance which so distinguishes the Wagner Institute. Information from the archives of the Delaware County Institute of Science, Veteran's Square, Media, Pennsylvania.

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NHL THEMES: XXXI-Social and Humanitarian Movements
L-General Philanthropy

XVI-Architecture
G-Renaissance Revival

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