

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

(NHL) B-1880

FOR NPS USE ONLY
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DATE ENTERED

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC Henry August Rowland Home

AND/OR COMMON

915 Cathedral Street

2 LOCATION

STREET & NUMBER 915 Cathedral Street

CITY, TOWN

Baltimore

--- VICINITY OF

--- NOT FOR PUBLICATION
CONGRESSIONAL DISTRICT

3rd

STATE

Maryland

CODE

02

COUNTY

Baltimore

CODE

510

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
<input type="checkbox"/> DISTRICT	<input type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> MUSEUM
<input checked="" type="checkbox"/> BUILDING(S)	<input checked="" type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL	<input type="checkbox"/> PARK
<input type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL	<input checked="" type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> SITE	<input type="checkbox"/> PUBLIC ACQUISITION	<input type="checkbox"/> ACCESSIBLE	<input type="checkbox"/> ENTERTAINMENT	<input type="checkbox"/> RELIGIOUS
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT	<input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL	<input type="checkbox"/> TRANSPORTATION
		<input checked="" type="checkbox"/> NO	<input type="checkbox"/> MILITARY	<input type="checkbox"/> OTHER:

4 OWNER OF PROPERTY

NAME

Mr. Peter Lewis

STREET & NUMBER

915 Cathedral Street

CITY, TOWN

Baltimore

--- VICINITY OF

STATE

Maryland

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, Baltimore City Registry of Deeds
REGISTRY OF DEEDS, ETC.

STREET & NUMBER

City Hall

CITY, TOWN

Baltimore

STATE

Maryland

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

None

DATE

--- FEDERAL --- STATE --- COUNTY --- LOCAL

DEPOSITORY FOR
SURVEY RECORDS

CITY, TOWN

STATE

(32)

SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input checked="" type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES

BUILDER/ARCHITECT

STATEMENT OF SIGNIFICANCE

Henry August Rowland, one of America's leading nineteenth century physicists, was born November 27, 1846, in Hornsdale, Pennsylvania. Both his father, who graduated from Yale, and his grandfather were clergymen and the family hoped that the young Rowland would also enter the ministry. At sixteen Rowland was sent to the Phillips Academy in preparation for entering Yale. At Phillips he studied Latin, Greek, and the classics, but his true interest was in science. When Rowland wrote his family, "Oh take me home!" they agreed that he should be allowed to pursue a career in science.

Rowland attended Rensselaer Polytechnic Institute in Troy, New York, and graduated from the school in 1870 with a degree in civil engineering. From 1870 to 1872 he taught at Wooster College in Ohio and then returned to Rensselaer until 1875. While at Rensselaer Rowland published a paper on electromagnetism that attracted the attention of European physicists. When in 1875 Daniel C. Gilman was organizing a faculty for the new Johns Hopkins physics department, he was advised to offer a position to the young Rowland. Rowland agreed to accept on the condition that he be allowed to spend a year in Europe studying the latest advances in physics. Gilman agreed. Rowland returned to the United States in 1876 and began an association with Johns Hopkins that lasted until his death in 1901. Under his direction the physics department at Johns Hopkins, which like the school's other departments embodied the German dedication to pure science, became one of the finest in the United States. On April 16, 1901, Rowland died of cancer at the relatively young of 54.

According to his Dictionary of American Biography biographer, Henry August Rowland possessed an unusual combination of abilities. He had a physicist's grasp of theoretical principles and an engineer's understanding practical mechanics. To these were added a high mathematical aptitude and manual dexterity. The latter was an important skill in an age when scientists built their own delicate apparatus.

Rowland's most important contribution to physics was in the area of electromagnetism. In the early 1870's he prepared a paper, "On Magnetic Permeability, and the Maximum Magnetism of Iron, Steel, and Nickel." After failing to find a publisher for the paper in this country, Rowland sent it to Clark Maxwell in England. Maxwell immediately recognized its value and it was published in the Philosophical Magazine, August, 1873. According to the physicist Thomas C. Mendenhall, Rowland, "...anticipated all others in the discovery and announcement of the beautifully simple law of the magnetic circuit...Rowland laid the foundation for the accurate measurement and study of magnetic permeability." Another expert wrote that in this piece of pure

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Statement of Significance:

915 Cathedral Street

science physics research Rowland, "...laid the basis for the subsequent study of both permanent and induced magnetization and the starting point for all calculations for the design of dynamos and transformers."

Rowland's best known achievement, or at least the one most popularly known, was in the area of spectrum analysis. He devised a method for preparing gratings on concave glass and metal that made the gratings far more accurate than any previously known. By means of this method Rowland was able to produce per inch 15,000 lines which were uniformly spaced. The uniformity of spacing was the crucial moment for upon it depended the perfection or the purity of the spectrum produced. Rowland then built a large diffraction spectrometer which he used in his researchs on the spectrum of the sun.

Rowland also devised an important formula for determining the mechanical equivalent of heat, i.e. the number of units of work necessary to raise one pound of water one degree in temperature. In a sense, Mendenhall points out, Rowland completed the work started by Benjamin Thompson. In addition, Rowland experimented with a telegraph system that employed alternating current and such a system was put in service in Germany.

Issac Asimov sums up Rowland's significance in the history of science in America in saying, "Henry August Rowland was one of the few important 19th century American physicists." Rowland was the leading American physicist of the last quarter of the nineteenth century. During this period American science, with a few exceptions, had not yet attained the qualitative excellence of European, and especially German, science. Rowland was the equal of his European counterparts.

A second element in Rowland's significance is the influence of the physics department at Johns Hopkins. Rowland was a reserved individual and was not noted as a great teacher. But the department he shaped and led had a major impact on the teaching of physics in American universities. As was the case in other fields of science, Johns Hopkins physics department, with its emphasis on research, became a model which spread to other universities across the country. In this sense Rowland was an institution builder who helped prepare the way for the outburst of American scientific achievement in the 20th century.

Finally, Rowland illustrates the nature of physics during the last quarter of the 19th century. Like its sister physical sciences, physics by the turn of the century had become a highly specialized pursuit of knowledge. Individuals such as Rowland could still make significant contributions, but only well trained professionals working in well organized institutions equipped with the best

(Continued)

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Form No. 10-300a
(Rev. 10-74)

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research facilities and apparatus were capable of mastering the discipline. The days of the gentleman amateur were long dead. The time of team research on mission oriented projects was yet to come.

25

MAJOR BIBLIOGRAPHICAL REFERENCES

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- Issac Asimov, The Intelligent Man's Guide to Science, (New York, 1960).
 Issac Asimov, Biographical Encyclopedia of Science and Technology (New York, 1972).
 "Henry August Rowland," Dictionary of American Biography, Vol. 16, (New York, 1935).
 Thomas C. Mendenhall, "Henry August Rowland," National Academy of Science Biographical Memoirs, Vol. 5, (Washington, 1905).

GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY less than one acre

UTM REFERENCES

A	18	360510	4341270	B			
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
C				D			

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

FORM PREPARED BY

NAME / TITLE

James Sheire, Historian

March 1975

ORGANIZATION

Historic Sites Survey, National Park Service

DATE

STREET & NUMBER

1100 L Street NW.

TELEPHONE

CITY OR TOWN

Washington

STATE

D.C.

STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL

STATE

LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE

DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

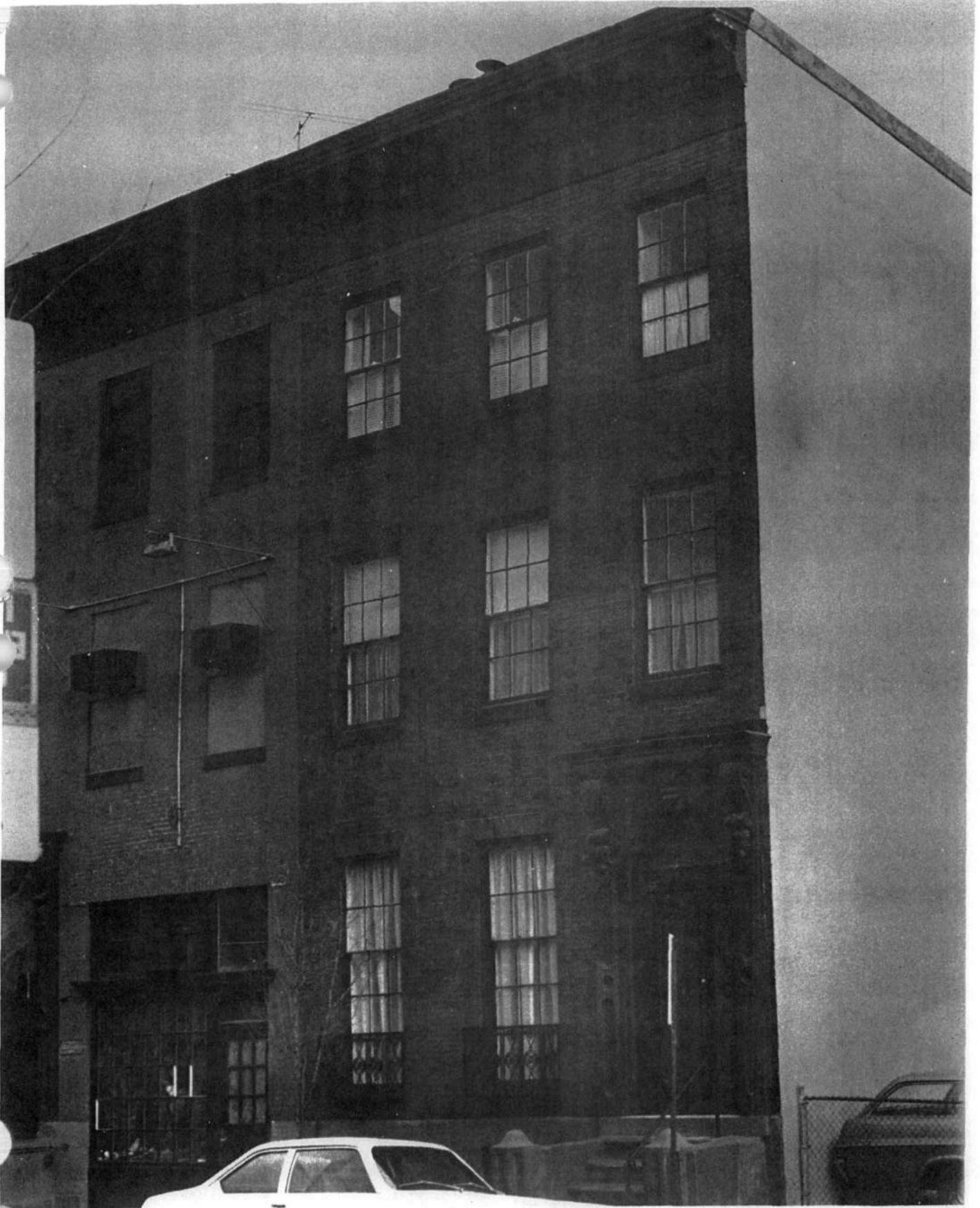
ATTEST:

DATE

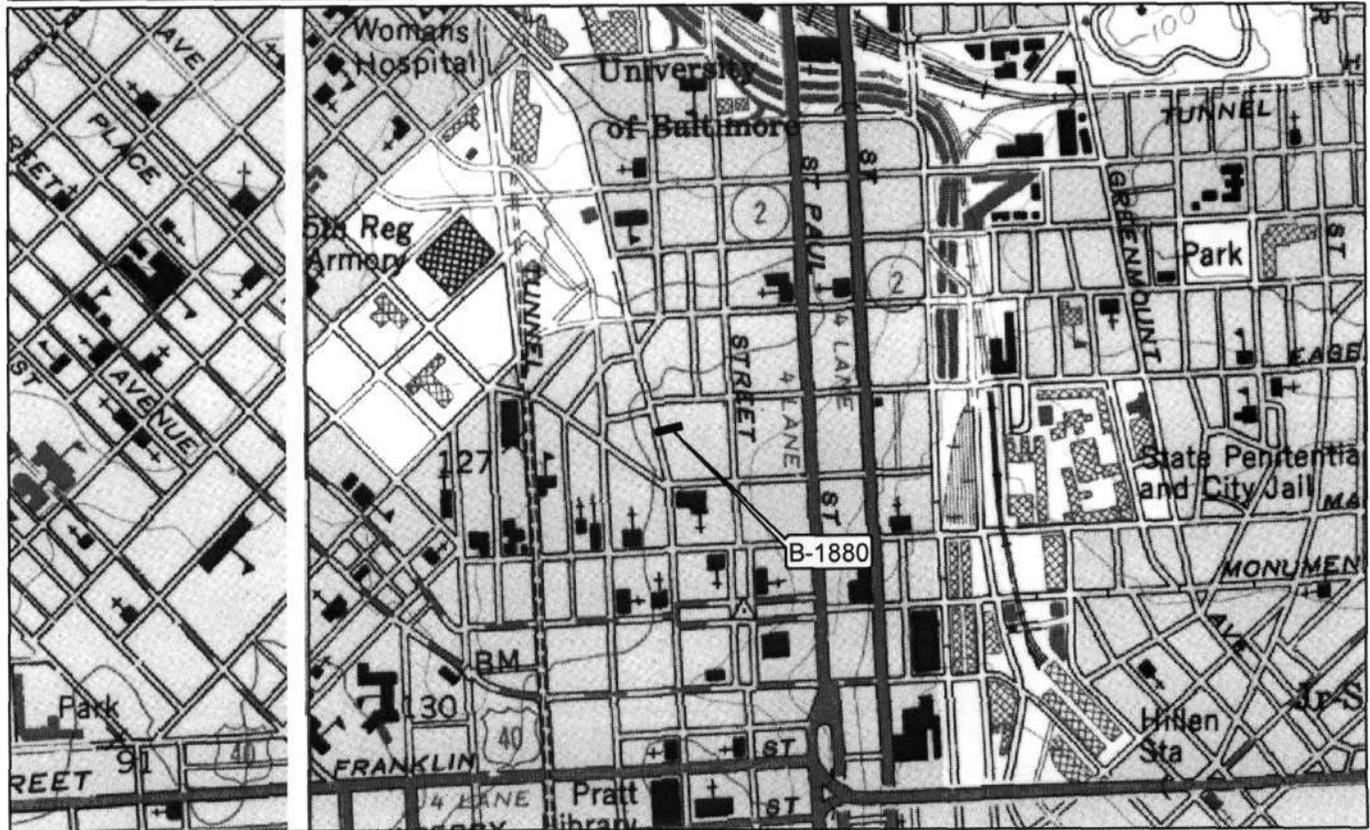
KEEPER OF THE NATIONAL REGISTER

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B-1880



B-1880
Henry August Rowland Home
915 Cathedral Street
Block 0511, Lot 031
Baltimore City
Baltimore East Quad.





915 Cathedral St

B-1880

Shooter

59%

8

The Baltimore residence of the noted 19th century physicist Henry A. Rowland.

BIK 511
N.18 R2 AUG 1



915 Cathedral

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Block 511
Neg 18
C.B. Thompson
Aug, 1950