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

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

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RECEIVED
DATE ENTERED

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

__NOT FOR PUBLICATION

CITY, TOWN: Baltimore __ VICINITY OF

CONGRESSIONAL DISTRICT: 7th

STATE: Maryland CODE: 02

COUNTY: Baltimore CODE: 510

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
__DISTRICT	__PUBLIC	X OCCUPIED	__AGRICULTURE	__MUSEUM
X BUILDING(S)	X PRIVATE	__UNOCCUPIED	__COMMERCIAL	__PARK
__STRUCTURE	__BOTH	__WORK IN PROGRESS	__EDUCATIONAL	X PRIVATE RESIDENCE
__SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	__ENTERTAINMENT	__RELIGIOUS
__OBJECT	__IN PROCESS	__YES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	__BEING CONSIDERED	__YES: UNRESTRICTED	__INDUSTRIAL	__TRANSPORTATION
		X NO	__MILITARY	__OTHER:

4 OWNER OF PROPERTY

NAME: ~~Samuel Longstreet~~ Peter Lewis (1977)

STREET & NUMBER: 915 Cathedral Street

CITY, TOWN: Baltimore __ VICINITY OF

STATE: Maryland 21201

5 LOCATION OF LEGAL DESCRIPTION

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

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

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
X EXCELLENT	__DETERIORATED	X UNALTERED	X ORIGINAL SITE
__GOOD	__RUINS	__ALTERED	__MOVED DATE_____
__FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

915 Cathedral Street is located in a once fashionable section of Baltimore, Maryland. The building is a three story, red brick, row house. It was probably constructed in the 1880's and is typical of the Baltimore row houses of the period. It is of no architectural importance.

Henry August Rowland purchased 915 Cathedral Street in 1889 or 1890. He lived there until his death in 1901. His wife and daughter continued to occupy the house for many years after his death.

The integrity of the house is whole. According to the present owner, who purchased the property from Rowland's daughter, with the exception of the installation of modern wiring and heat no significant changes have been made to either the exterior or the interior. (The kitchen contains the original stove and the dumb waiter to the first floor dining room still functions.)

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
__PREHISTORIC	__ARCHEOLOGY-PREHISTORIC	__COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION	
__1400-1499	__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	X SCIENCE	
__1500-1599	__AGRICULTURE	__ECONOMICS	__LITERATURE	__SCULPTURE	
__1600-1699	__ARCHITECTURE	__EDUCATION	__MILITARY	__SOCIAL/HUMANITARIAN	
__1700-1799	__ART	__ENGINEERING	__MUSIC	__THEATER	
__1800-1899	__COMMERCE	__EXPLORATION/SETTLEMENT	__PHILOSOPHY	__TRANSPORTATION	
X 1900-	__COMMUNICATIONS	__INDUSTRY	__POLITICS/GOVERNMENT	__OTHER (SPECIFY)	
		__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 sceince, 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 physicists grasp of theoretical principles and an engineers 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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9 MAJOR BIBLIOGRAPHICAL REFERENCES

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).

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY less than one acre

UTM REFERENCES

	ZONE	EASTING	NORTHING
A	18	360510	4314120
B			
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

11 FORM PREPARED BY

NAME / TITLE
James Sheire, Historian — March 1975

ORGANIZATION — DATE
Historic Sites Survey, National Park Service

STREET & NUMBER — TELEPHONE
1100 L Street NW.

CITY OR TOWN — STATE
Washington — D.C.

12 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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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 expecially 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

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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.