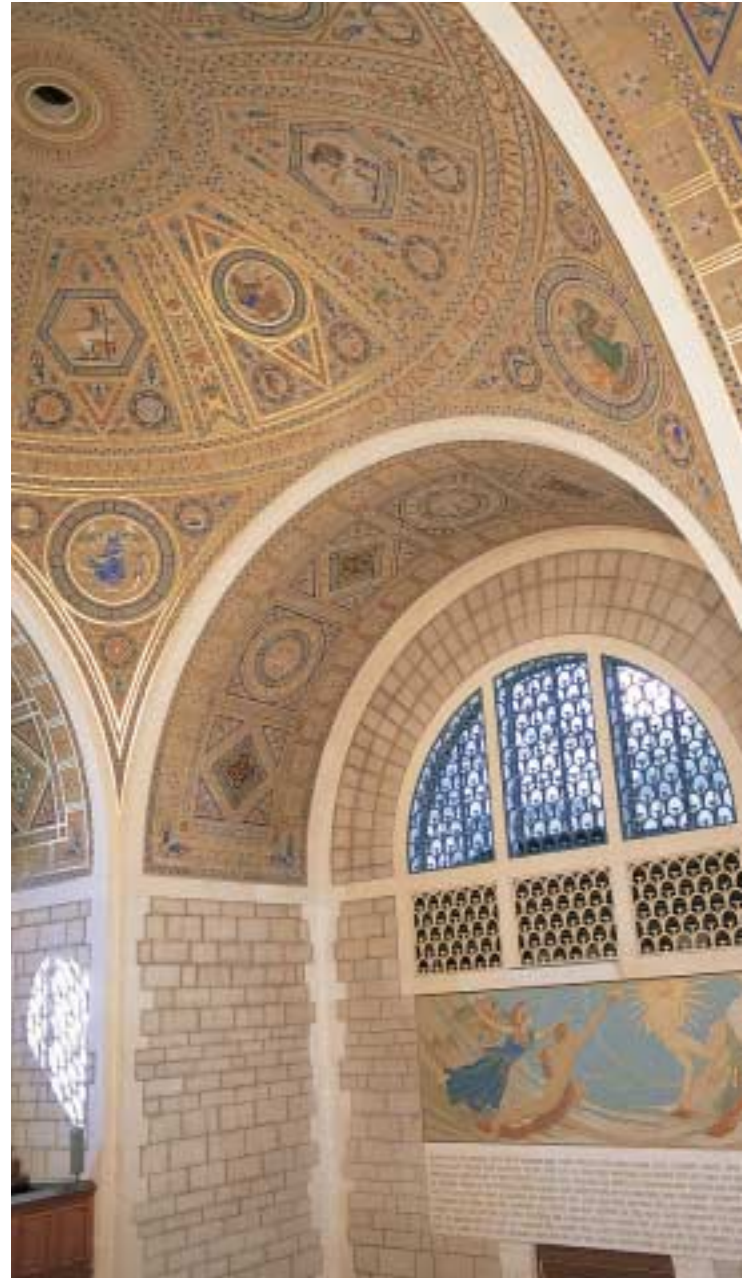


# THE GREAT HALL AT THE NATIONAL ACADEMY OF SCIENCES

Chartered by Congress in 1863, the National Academy of Sciences (NAS) did not have its own home until April 1924, when the National Academy of Sciences-National Research Council building was dedicated on Constitution Avenue in Washington, D.C. The individual behind the drive to build a headquarters for the Academy was astrophysicist George Ellery Hale, an Academy member and officer.

Hale engaged the distinguished American architect Bertram Grosvenor Goodhue (1869-1924), who in turn worked closely with sculptor Lee Lawrie (1877-1963) and artists Hildreth Meiere (1893-1961) and Albert Herter (1871-1950). Goodhue thought the design of a “modern and scientific building” was accomplished by artistic embellishment as well as by appropriate building materials and elements. In the NAS building he wanted all decoration to celebrate the history and significance of science. The decoration of the dome, arches, and pendentives of the Great Hall epitomize scientific themes seen throughout the building.



The iconography of the dome, arches, and pendentives celebrates science and its history as it was known in 1924 and also links the young American Academy to its older and distinguished sister Academies. Meiere's ornate design is not mosaic as it appears, but rather paint applied to a plaster of Paris (gesso) base.

Figures in the pendentives supporting the dome represent the four elements: Earth, Air, Water, and Fire. Adjacent to each figure, three small circles contain objects reflecting practical ways these elements have been harnessed for humanity's use. Earth is accompanied by a level with pendulum bob, compass, and plowshare; Air is accompanied by a bellows, sailboat, windmill; Water is accompanied by a well, water wheel, and a representation of water's three stages (vapor, liquid, and ice); and finally, Fire is accompanied by a candle, teapot, and kiln.

Venerable institutions of learning and science that preceded the NAS are recognized in the arches at the base of the dome. A center emblem represents the institution, and two medallions present significant examples of that nation's scientific achievement. These are: the crowned lynx of



the Accademia dei Lincei, Rome, with Volta's electric pile and Galileo's telescope; an Egyptian pylon flanked by palm trees representing the Museum of Alexandria, with pyramids and the great lighthouse of Alexandria; the lions of the Royal Society of London with Newton's prism and Watt's steam engine; and the emblem of the Académie des Sciences, Paris, with Daguerre's camera, and the flask in which Pascal weighed air.

The inscription surrounding the base of the dome reads: "To science, pilot of industry, conqueror of disease, multiplier of the harvest, explorer of the universe, revealer of nature's laws, eternal guide to the truth." The dome is divided into eight sections, with figures representing the sciences as recognized in 1924. The fields are identified by inscriptions behind the figures, and two smaller medallions illustrate subjects, tools, and theories associated with each. Beginning with *Geology* (directly above the personification of Earth) and following to the right around the dome, we find: *Geology*, with axe, pick, and trilobite fossil; *Chemistry*, with retort on tripod, test tube, and burner; *Astronomy*, with sextant, planet, and stars; *Physics*, with magnet and air pump; *Mathematics*, with abacus and diagram of the Pythagorean theorem; *Botany*, with peas and sunflower; *Zoology*, with zebra and starfish; *Anthropology*, with early man and Roman Caesar.



At the center of the dome is the sun, surrounded by symbols of the eight planets known in 1924. The inscription reads: "Ages and cycles of nature in ceaseless sequence moving."

Directly beneath the dome is a Foucault pendulum, whose base is decorated with sun gods of many cultures. The pendulum and the spectroscope (no longer in operation) were among several scientific exhibits maintained by the Academy prior to World War II. The physicist Léon Foucault first demonstrated the rotation of the Earth using his pendulum in Paris in 1851. The pendulum moves in a continuous plane, but because the floor beneath it revolves as the earth turns, its path appears to shift slowly. The shifting of the path varies according to the location of the pendulum. If this pendulum were suspended at the North Pole, it would continue to swing along one plane as the Earth rotated beneath it from right to left; to observers not conscious of the Earth's rotation, the pendulum would seem to rotate in a path from left to right, and would accomplish a complete 360 degree turn in 24 hours. If the pendulum were suspended at the Equator,



it would continue to swing in the same direction and its path would not change at all. At latitudes between the North Pole and the Equator, the path of the pendulum would appear to rotate from left to right at an intermediate rate: at this location in Washington, D.C., it moves 226 degrees every 24 hours.

On the Great Hall's north wall a painting by Albert Herter represents Prometheus, aided by Athena, stealing the divine fire from the chariot of the sun god Helios, to bring mankind the flame of knowledge. Beneath the painting, a quotation from Aeschylus' *Prometheus Bound* recites the benefits conferred on the world by science. Beneath the painting, framing the doorway that leads to the new auditorium, are pilasters topped by

Lee Lawrie's sculpted figures symbolizing Darkness and Light.

