

THE PANTHEON

MARDER | WILSON JONES

THE PANTHEON

FROM ANTIQUITY TO THE PRESENT

EDITED BY

TOD A. MARDER | MARK WILSON JONES

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LIST OF CONTRIBUTORS

Janet DeLaine, Lecturer in Roman Archaeology, Faculty of Classics, University of Oxford

Richard A. Etlin, Distinguished University Professor Emeritus, School of Architecture, Planning, and Preservation, University of Maryland

Lise M. Hetland, Fine Art consultant and independent scholar

Eugenio La Rocca, Professor of Archeology and History of Art, University of Rome, La Sapienza; former Superintendent of Antiquities and Fine Arts, city of Rome

Tod A. Marder, Distinguished Professor, Department of Art History, Rutgers, The State University of New Jersey

Giangiacomo Martines, Former Regional Director of the Ministry of Heritage, Cultural Activities and Tourism, Friuli, Venezia Giulia

Arnold Nesselrath, Deputy to the Director for Scholarly, Conservation, and Scientific Departments, Vatican Museums; and Professor of Medieval and Modern Art History, Department of Art and Visual History, Humboldt University, Berlin

Susanna Pasquali, Professor, Faculty of Architecture, University of Rome, La Sapienza

Erik Thunø, Associate Professor, Department of Art History, Rutgers, The State University of New Jersey

Gene Waddell, Archivist Emeritus, College of Charleston

Robin B. Williams, Professor and Chairman, Department of Architectural History, Savannah College of Art and Design

Mark Wilson Jones, Associate Professor, Department of Architecture and Civil Engineering, University of Bath

THIRTEEN

THE PANTHEON IN THE MODERN AGE

RICHARD A. ETLIN

Perhaps no other historical building has engendered such profound and varied echoes as the Pantheon in Rome. Because of this widespread and recurring influence, William L. MacDonald justifiably entitled his study of the Pantheon's "progeny" with the epithet "the most celebrated edifice" – translated from the Latin inscription that Pope Urban VIII had placed near the entrance in 1632. MacDonald's overview demonstrates how widely and how often the Pantheon served as a model for subsequent buildings.¹ To complement MacDonald's admirably encyclopedic survey, which focused on the plethora of edifices that took the Pantheon as its model, this chapter focuses on the ways in which the Pantheon repeatedly was favored to house new institutions of the modern

¹ William L. MacDonald, *The Pantheon: Design, Meaning, and Progeny*, Cambridge, Mass., 1976 (3d printing 1981), pp. 94–132, Chapter 5. MacDonald's survey includes a spate of cylindrical and domed temples and tombs of the late Roman and Hellenistic periods; various Renaissance churches, ranging from Bramante's project for rebuilding the basilica of St. Peter's to Palladio's chapel at Maser, as well as Palladio's Villa Rotunda; numerous Baroque churches of the seventeenth century, including Bernini's S. Andrea al Quirinale; a host of eighteenth-century and early nineteenth-century Neoclassical edifices of various building types, ranging from the anatomy theater of Jaques Gondoin's School of Surgery in Paris to Pietro Bianchi's Church of S. Francesco di Paola in Naples, as well as diminutive pavilions in eighteenth-century gardens; a nineteenth-century historical revival edifice, such as Thomas Jefferson's Rotunda at the University of Virginia, and a utilitarian structure that employed the new building material of iron, such as François-Joseph Bélanger's dome over the Paris Grain Hall (Halle au Blé); and finally, two twentieth-century churches in Rome by Marcello Piacentini built shortly after World War II.

world or to reflect the redefinition of traditional institutions in modern ways: the spread of religious tolerance, the birth of modern medicine and science, the embrace of a cosmopolitan spirit, the rise of democratic government, the creation of the public museum and public library, and the emergence of an aesthetic and psychological consciousness with peak experiences outside of the context of organized religion. This architecture emerged primarily during the Neoclassical period from the mid eighteenth through early nineteenth centuries and then again in the twentieth century with an appreciative rediscovery of this earlier era.

THE SPREAD OF RELIGIOUS TOLERANCE

Whereas the Enlightenment certainly did not invent the phenomenon of religious tolerance, it did embrace it and make it a central feature of a cultural objective that gained increasing acceptance over the succeeding two centuries, such that it has become a commonplace in our notion of what constitutes a modern, civilized world. This principle was embedded within the founding documents of the two major democratic revolutions of the late eighteenth century. Article 10 of the French Declaration of the Rights of Man and of the Citizen (*Déclaration des droits de l'homme et du citoyen*, August 26, 1789) stipulated, "No person shall be persecuted or constrained because of his opinions, even religious, provided that their display does not disturb public order as established by the law."² Similarly, the opening clause of the first of the initial 10 amendments to the American Constitution, dating from December 15, 1791, also addressed this issue: "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof." Centuries of experience with religious wars and religious persecution in Europe had made these provisions necessary. Yet even before these revolutions, the extension of religious tolerance had been reflected in the design of houses of worship in German lands, where the Pantheon became a favored prototype to be emulated.

It has been suggested that King Friedrich II of Prussia, also known as Frederick the Great, selected the Pantheon as the model for the Catholic Cathedral of Saint Hedwig in Berlin (Fig. 13.1) as a humanitarian gesture of religious tolerance accorded to Catholics after conquering the predominantly Catholic territories of Silesia.³ Thus, the ancient Roman temple of all the gods now became an example of universal Christian tolerance. Although the Berlin

² Nul ne doit être inquiété pour ces opinions, mêmes religieuses, pourvu que leur manifestation ne trouble pas l'ordre public établi par la loi.

³ David Watkin and Tilman Mellinghoff, *German Architecture and the Classical Ideal*, Cambridge, Mass., 1987, p. 24; Barry Bergdoll, *European Architecture, 1750–1890*, Oxford 2000, p. 70.



13.1. View of the Forum Fredricianum, Berlin, with St. Hedwig's Cathedral.

church, designed by the French expatriate architect Jean-Laurant Legeay in 1747, had a variegated history of construction, reconstruction, and redesign, it always presented on the exterior and interior a variant of the Pantheon.⁴ The Pantheon-inspired Saint Hedwig's became the model for other German Catholic churches. These include Friedrich Weinbrenner's Church of Saint Stephen in Karlsruhe (1808–1814), where the Catholics had been given religious freedom by Napoleon, and Georg Moller's Church of Saint Ludwig in Darmstadt (1820–1827), where the Catholic community had been emancipated in 1790.⁵

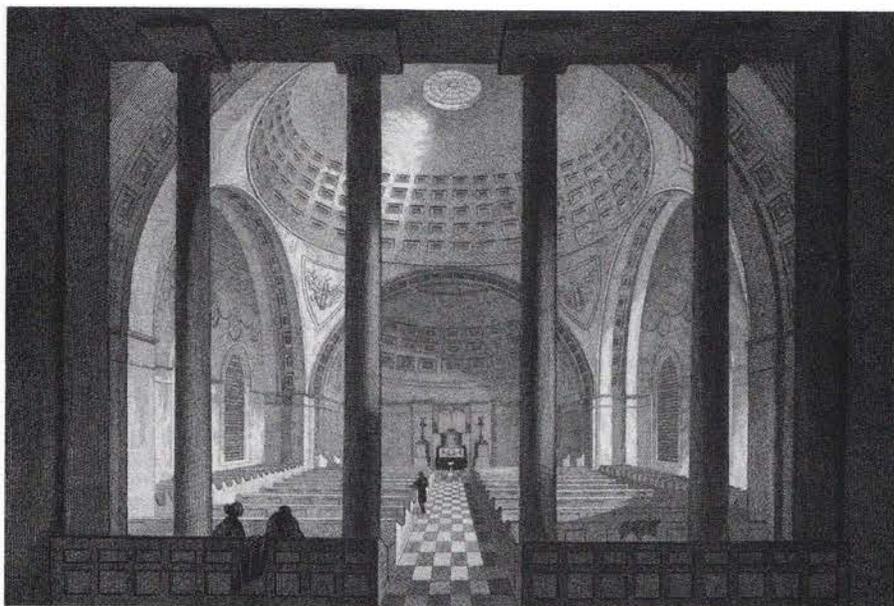
Legeay had won the Prix de Rome at the Académie Royale d'Architecture in 1732 and, hence, had spent the years 1737 to 1742 in the Eternal City where he had had ample opportunity to study the Pantheon itself.⁶ So taken was he with this Roman edifice that in 1766 he subsequently suggested that Paris, as the capital of France, had great need of a Pantheon-inspired church, which he designed as a church dedicated to the Trinity.⁷ Although ostensibly consecrated to the Catholic faith, Legeay's Paris church project presents a paving pattern of interlocking triangles that may very well have been symbols of Freemasonry, a popular movement in the Enlightenment whose goals included religious tolerance among a host of humanitarian ideals.

⁴ On the history of this church, see Watkin and Mellinshoff 1987, p. 24.

⁵ Watkin and Mellinshoff 1987, pp. 175–176, 223.

⁶ Alan Braham, *The Architecture of the French Enlightenment*, Berkeley 1980, p. 52.

⁷ Braham 1980, pp. 54–55 (Fig. 63).



13.2. Maximilian Godefroy, First Unitarian Church, Baltimore, 1818. (Photo: Courtesy of The Maryland Historical Society)

Many Enlightenment Freemasons most likely were Deists, who believed that divinity could be found in Nature and, hence, who rejected traditional, religious sects. According to Alexis de Tocqueville, who in 1831 spent nine months traveling throughout the United States with his fellow Frenchman Gustave de Beaumont, the Unitarians whom they encountered in this country were, in effect, really Deists:

On the confines of Protestantism is a sect which is Christian only in name, the *Unitarians*. Among the Unitarians, that is to say among those who deny the Trinity and recognize only one God, there are some who see in Jesus Christ only an angel, others a prophet, others, lastly, a philosopher like Socrates. They are pure Deists. They speak of the Bible because they do not wish to shock public opinion, still entirely *Christian*, too deeply. They have a service Sundays; I was there. There they read verses of Dryden or other English poets on the existence of God and the immortality of the soul. A discourse is made on some point of morality, and it's done.⁸

Given this typically Enlightenment approach to religion, it should not surprise that the French émigré Maximilian Godefroy recently had designed the interior of the First Unitarian Church (Fig. 13.2) in the manner of the Pantheon,

⁸ George Wilson Pierson, "Tocqueville's Essay on American Government and Religion," excerpt from *Tocqueville and Beaumont in America*, 1831, available at <http://xroads.virginia.edu/~HYPER/DETOC/religion/piers152.html>.

which readily could become the symbol for the unity and divinity of Nature and of God as well.

A distant echo of Godefroy's church can be found in Frank Lloyd Wright's Unity Temple (Oak Park, 1906), which joins a cubical house of worship with a rectangular social hall. Although one can only speculate as to whether the Roman Pantheon or even Godefroy's Pantheon-like house of worship had exerted an influence on Wright, the architect's decision to design the place of worship in the temple as a centralized space, turned inward on itself and lit from the top by a combination of clerestory windows and coffered ceiling skylights, certainly adapts the principle of the Pantheon to a modern aesthetic. Whereas Wright selected reinforced concrete for Unity Temple ostensibly because of the financial constraints imposed by the budget and probably also because of the challenge to transform a lowly, utilitarian material from the world of engineering into the highest building program in society, that is, a house of worship, one also wonders whether this choice of material might not also have been a silent homage to the greatest concrete edifice of the ancient world.

Toward the end of Wright's career when he designed the Guggenheim Museum in New York City, he commented that this museum was "my Pantheon."⁹ How long had he had his eye on this Roman monument? Wright had a long-standing interest in classical architecture, from the classicizing frieze around the living room of his Oak Park House (1889–1911) to the Beaux-Arts Plan of the Imperial Hotel (1915–1922) to his unexecuted personal funerary chapel, which he named the Unity Temple and Cenotaph (1958).¹⁰

THE BIRTH OF MODERN SCIENCE AND MEDICINE

The Enlightenment was, in many respects, the epoch of the birth of modern science and medicine. William Harvey, "considered by many to have laid the foundation of modern medicine ... was the first to demonstrate the function of the heart and the complete circulation of the blood," with findings and theories published in *On the Movement of the Heart and Blood in Animals* (1628).¹¹ Similarly, Sir Issac Newton's *Philosophiae naturalis principia mathematica* (Mathematical Principles of Natural Philosophy, 1687) famously postulated the

⁹ William H. Jordy, *American Buildings and Their Architects*, Garden City, N.Y., 1972, vol. 4, p. 311, repeated in Neil Levine, *The Architecture of Frank Lloyd Wright*, Princeton 1996, p. 487 n. 171.

¹⁰ On Wright and classicism, see Patrick Pinnell, "Academic Tradition and the Individual Talent: Similarity and Difference in Wright's Formation," in *On and By Frank Lloyd Wright: A Primer of Architectural Principles*, ed. Robert McCarter, London 2005; on the Unity Temple and Cenotaph project, see Richard A. Etlin, *Symbolic Space: French Enlightenment Architecture and Its Legacy*, Chicago 1994, pp. 176–179.

¹¹ S.v. "Harvey, William Henry," in Judith S. Levey and Agnes Greenhall, eds., *The Concise Columbia Encyclopedia*, New York 1983, p. 366.

principle of universal gravitation to explain the motions of heavenly bodies, as well as of falling bodies on earth, but which also explained the phenomena of tides and more generally established principles for the fields of dynamics and fluid mechanics.¹² Then, in the third quarter of the eighteenth century, Joseph Priestley and Antoine-Laurent Lavoisier engaged in a race to explain the nature of oxygen and the mechanism of human respiration. Around the same time, Dr. Jan Ingen-Housz elucidated the complementary cycle in the plant world with the intake of carbon dioxide and the release of oxygen.¹³ These theories and discoveries were reflected in the world of architecture through a variety of buildings and projects that honored the Enlightenment's advances in science and medicine by reference to the Pantheon.

This engagement between science and architecture includes the anatomy amphitheater, the principal room in Jacques Gondoin's new building constructed in Paris to house the *École de Chirurgie* (Fig. 13.3). The new School of Surgery owes much to its patron, Germain Pichault de la Martinière, since 1747 *premier chirurgien* (head surgeon) to the French king and a man who secured great prestige for the profession, which, already in 1731, had been separated from the fields of medicine and pharmacy through the creation of its own, independent academy. In the popular mind, "surgeons had for a long time been confused with barbers," according to Sébastien Mercier's oft-trenchant commentary on commonplace subjects: "It was a harmful confusion, it had to end." When the new academy was ratified in 1750, the act called for the creation of a new anatomy amphitheater to replace what one scholar has termed the already "impressive anatomy theater" dating from the early seventeenth century in the neighborhood where Gondoin's edifice would soon be constructed.¹⁴

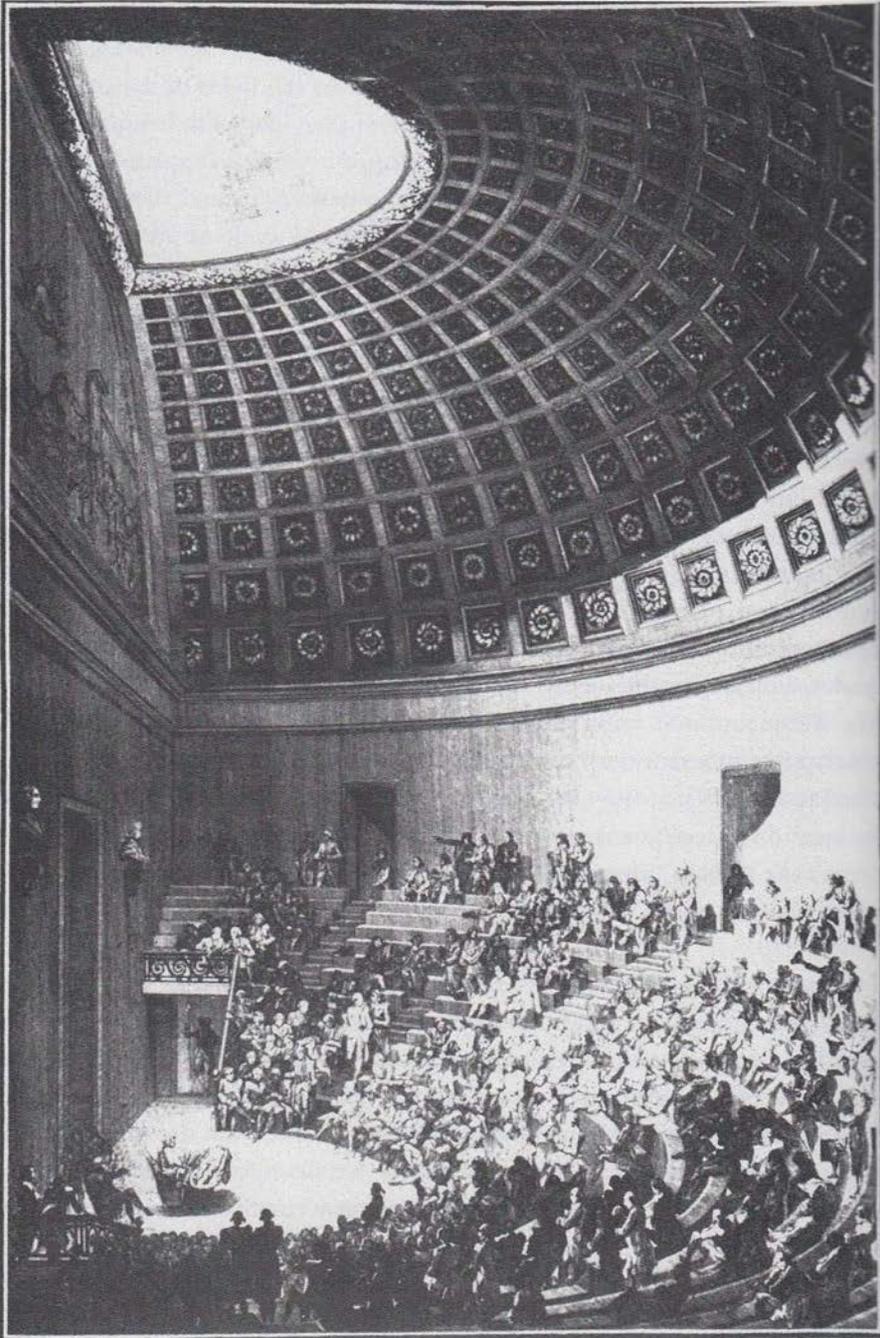
Gondoin's School of Surgery featured a central triumphal arch entrance in the middle of a columnar peristyle that supported the school's library and that served as a ceremonial propylaeum to the central courtyard where, to the far side and on the central axis, a grand portico graced by the Corinthian order provided the facade to the anatomy amphitheater, which was the climax of this elaborate but direct architectural promenade. Semicircular in form and reminiscent of an ancient Roman theater, the anatomy amphitheater was crowned with a coffered half dome inspired by the Pantheon, including its central oculus, which in this case was "greater in diameter" than the Roman model¹⁵ so as to provide adequate natural light directly over the anatomy table itself. The Pantheon-like half dome abuts a flat wall, whole lunette conceptually

¹² S.v. "Newton, Sir Isaac," in Levey and Greenhall 1983, p. 596.

¹³ Richard A. Etlin, *The Architecture of Death: The Transformation of the Cemetery in Eighteenth-Century Paris*, Cambridge, Mass., 1984, pp. 30-31, 33, and 93.

¹⁴ Braham 1980, pp. 138-139 (for the entire paragraph).

¹⁵ Braham 1980, p. 141.



13.3. Jacques Gondoin, anatomy amphitheater, École de Chirurgie (School of Surgery), Paris, 1769–1774.

completing the circle, while rendering its universal meaning specific: the half dome represents the cosmos, and the lunette portrays the great anatomists, including de la Martinière, who had penetrated its secrets.

To appreciate more fully the cosmic symbolism of the Pantheon within the context of Enlightenment medicine, we should briefly consider the work of the famous *philosophe* Julien Offroy de La Mettrie, author of *L'Homme-Machine* (Man, the Machine, 1748). Trained as a surgeon, La Mettrie published his philosophical text to explain the wonder of life, especially in the thinking and feeling human being with his moral and creative capacities, rooted in the materiality of the body, whose “marvels” have been discerned by “doctors who were philosophers and not by philosophers who were not doctors.”¹⁶ La Mettrie praised, in particular, the insights about “the material unity of man” garnered by the seventeenth-century anatomist Giovanni Alfonso Borelli.¹⁷ The “complex machine” of the human body discussed in La Mettrie’s treatise anticipated, in many respects, the latest medical research of the twenty-first century, where scientists still display awe in the face of little-understood operations of neurons in their interface with thought and feeling. La Mettrie’s account of the actions of the body’s “machine” in its relationship to the mind or spirit reads much like today’s descriptions of “the secrets of mirror neurons,” which one journalist recently has termed “cells that read minds.”¹⁸ This wonder and these insights afforded by mid eighteenth-century surgery and anatomical studies found a fitting setting under the Pantheon-inspired half dome of Gondoin’s anatomy amphitheater.

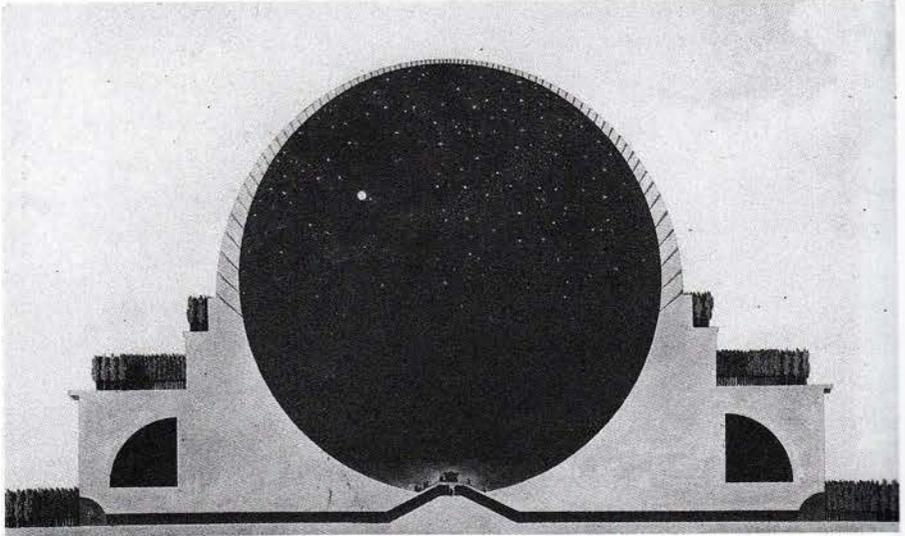
The enthusiasm for Newton’s scientific theories in the eighteenth century was widespread and was aptly reflected by Alexander’s Pope’s assessment: “Nature and Nature’s laws lay hid in night:/ God said, Let Newton be: and all was light.” In France, Madame du Châtelet (Gabrielle-Émilie de Breteuil), wife of the Marquis du Châtelet-Laumont, lieutenant general of the king’s armies, published a French translation in 1756, with a helpful commentary, of Newton’s *Philosophiae naturalis principia mathematica*, with subsequent editions in 1768 and 1775. There also were popularizing accounts intended for a broader public, such as Voltaire’s *Éléments de la Philosophie de Newton* (Elements of Newton’s Philosophy) and a French translation of Francesco Algarotti’s *Il newtonismo per le dame* (Newton for Ladies). In 1784, Étienne-Louis Boullée, one of the luminaries of the Académie Royale d’Architecture, designed a cenotaph to honor Newton (Fig. 13.4), whose actual grave was in Westminster Abbey, where many of Great Britain’s great citizens had been buried.¹⁹ It appears that the Academy’s enthusiasm for Boullée’s design prompted it to sponsor a

¹⁶ Julien Offroy de La Mettrie, *L'Homme-Machine*, ed. J. Assézat, Paris 1865, p. 28.

¹⁷ de La Mettrie, p. 124.

¹⁸ Sandra Blakeslee, “Cells That Read Minds,” *New York Times*, January 10, 2006, F1 and F4.

¹⁹ For a more extensive account of the popularization of Newton’s ideas, see Adolf Max Vogt, *Boullées Newton-Denkmal: Sakralbau und Kugelidee*, Basel 1969, Chapter 10, pp. 291–314.



13.4. Étienne-Louis Boullée, Cenotaph to Sir Isaac Newton (project), 1784. (Photo: Bibliothèque nationale de France)

Prix d'émulation with the same theme in January 1785, where it characterized Newton as "the greatest genius."²⁰

Unlike Gondoin, who had made clear reference to the Pantheon in his anatomy theater, Boullée took advantage of the full spherical form that could be inscribed within the Pantheon to transform the ancient Roman prototype into a Deist celebration of Nature. The exterior honors Newton for having determined that the Earth had been a perfect sphere before it was flattened by rotation:

Sublime mind! Vast and profound genius! Divine being! Newton, please deign to accept the homage of my limited talent.... O, Newton! Since you, through the breadth of your intelligence and the sublimity of your genius, were able to determine the shape of the Earth, I have conceived the project to envelope you within your discovery. This is like enveloping you within yourself.... For this reason, I have used the figure of the Earth for your sepulcher.

²⁰ This characterization is found in the program published in Pierre-Louis Van-Cléemputte and Amant-Parfait Prieur, *Collection des prix que la ci-devant Académie d'Architecture proposoit et couronnoit tous les ans*, Paris 1787–1796, cahier 12, Plate 3, which accompanies the engraving of Pierre-Jules Delespine's Cenotaph to Newton. Delespine, in a publication dating from 1827, claimed that his project was the winner of a Prix d'émulation in 1785. In "Les Prix de Rome": *Concours de l'Académie royale d'Architecture au XVIIIe siècle*, Paris 1984, p. 233, Jean-Marie Pérouse de Montclos explains that this may indeed have been the monthly competition of January 1785, not recorded in the *Procès-verbaux* edited and published by Henry Lemonnier.

The interior honors Newton for having elucidated the physical principles of the universe, notably the movements of the heavenly bodies:

My imagination surveyed the grand images of nature. I shuddered at the thought of not being able to recreate them. It is within the realm of immortality, it is in the sky that I wanted to place Newton.

Designing the interior of the cenotaph as a spherical cavity punctuated in the upper half by holes that would enable the sunlight to shine through like twinkling stars of the nighttime sky, Boullée used these "stars" as his sepulchral lamp:

The interior of this sepulcher is conceived in the same spirit. By using, O Newton, your divine system to form the sepulchral lamp that illuminates the tomb, I have made myself, so it seems to me, sublime.²¹

Had this project been constructed, it would have been an early example of a planetarium. Boullée's Cenotaph to Sir Isaac Newton was the second of his major buildings to encapsulate the immensity of Nature that he discussed in his essay on architecture; the other was his Metropolitan Church project (ca. 1781–1782), where he expressed his boundless admiration for the Pantheon in the form of homage to Michelangelo:

Michelangelo, painter, sculptor, and talented architect, addressing the task of designing Saint Peter's basilica and wanting to surpass all of the beautiful monuments of Rome, especially the Rotunda, about which he always spoke with the highest praise, astonished the entire world. He proposed to construct a dome as vast as that of the Pantheon such that it would be the crown of the building, whose vaults would support this immense mass: an idea so grand, so daring, so astonishing that, if it had not been executed and if today somebody had made such a proposal, one would have certainly contested its feasibility!²²

Inspired by Michelangelo's daring design for Saint Peter's dome and wanting his church "to give the impression of the universe" in all of its immensity,²³ Boullée proposed the elevation of a comparable dome in such a manner that it would seem to float miraculously on high. Then, several years later, when designing the Cenotaph to Newton, the architect left behind the domed Greek-cross model of Michelangelo's Saint Peter's, which he had used as the basis for his church project, to adapt the spherical cavity implied by the entire interior of the Pantheon into a Deist celebration of Newton's discoveries.

²¹ Etienne-Louis Boullée, *Architecture, essai sur l'art*, ed. Jean-Marie Pérouse de Montclos, Paris 1968, pp. 137–138 (fols. 126v–127). My translation here and throughout.

²² Boullée 1968, pp. 87–88 (fol. 92v).

²³ Boullée 1968, p. 82 (fol. 89).

During the French Revolution, the Institut de France, founded in 1795 as the successor body to the royal academies,²⁴ selected a cenotaph to Newton as the theme for a Prix d'émulation in 1800. The winning prize by C. Gay imagined a spherical cavity fully lit with stars and set within a stepped pyramid, each level symbolic of an earlier astronomical chronology. On top of the pyramid, a colossal bronze statue of Newton sits majestically on a throne, as the great scientist pensively determines the "system of the universe." Newton is crowned with an aureole of seven rays, one for each of the "primitive colors" that he had "discovered" by diffracting light through a prism.

The interior of Gay's design presents a cosmological symbolism worthy of the original Pantheon on which it manifestly was modeled. Within the vast, spherical room painted azure blue and decorated with stars in their true positions, there was to be a central promenade with 24 winged figures representing the hours. Each statue holds a flower, which blooms at its designated hour to constitute a "botanical clock." Newton's complete works were to be engraved there on marble plaques. Hence, the building was to be a cenotaph to Newton, a museum of astronomy, an archive of Newton's thought, and a Deist temple to Nature.²⁵

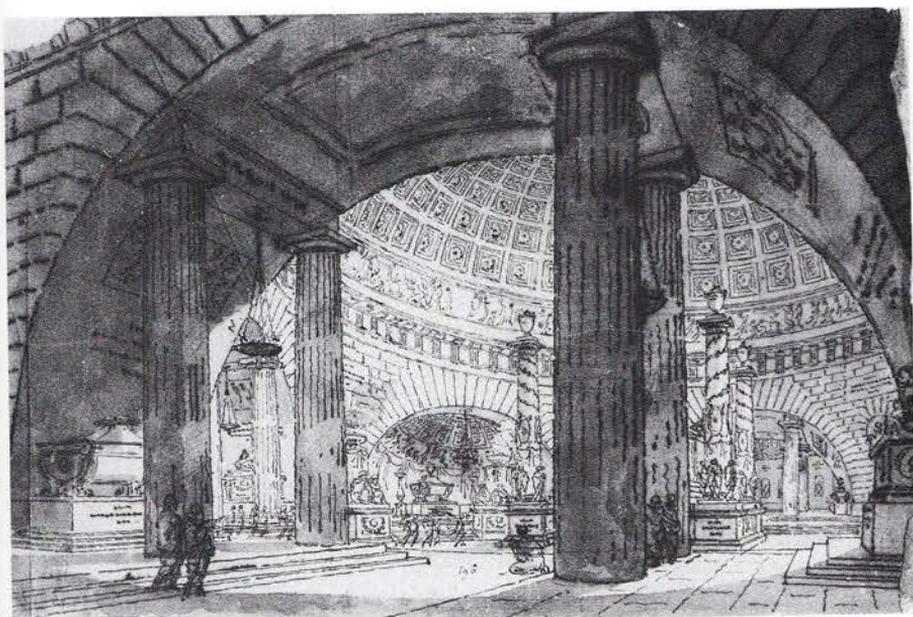
DEISM IN FUNERARY ARCHITECTURE

The place of worship par excellence for the new Deist religion was not the church but rather the cemetery. From the 1740s onward, France in particular, and to a certain extent other European lands, underwent a reform movement in burial practices that considered the thousand-year-old custom of burying within parish churches and in adjacent or neighboring cemeteries both unhealthy for the living and disrespectful to both the living and the dead. As reformers proposed new cemeteries for locations outside of the city walls, architects began to offer an image of the new cemetery as a site of Deist worship, where humankind returns to the elements of the cosmos and where the dead return to the bosom of Nature.

Most of these designs were inspired in some manner by the Pantheon, either literally, as had been Gondoin's anatomy amphitheater, or more abstractly, in the manner of Boullée's Cenotaph to Newton. Among the most literal designs,

²⁴ Donald Drew Egbert, *The Beaux-Arts Tradition in French Architecture, Illustrated by the "Grand Prix de Rome,"* ed. David Van Zanten, Princeton 1980, p. 5.

²⁵ The description of Gay's project can be found in a series of annotated tracings of the Grand Prix designs at the Cabinet des Dessins, Musée des Arts Décoratifs, Paris. According to Werner Szambien, these early nineteenth-century tracings were probably by Antoine-Marie Peyre (Werner Szambien "Notes sur le Recueil d'Architecture privée de Boullée (1792-1796)," *Gazette des Beaux-Arts* 94, no. 1346, 1981, pp. 111-124; p. 115). For illustrations and a more complete account, see Etlin 1984, pp. 139-146.

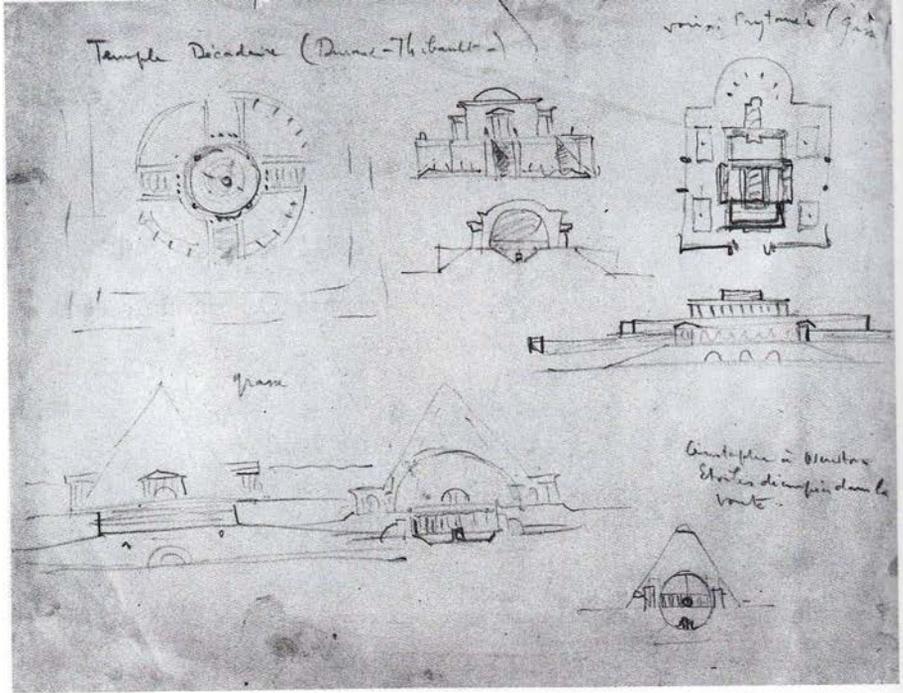


13.5. Pierre-Adrien Pâris, tomb of Agamemnon in a crypt, set design, ca. 1783. (Photo: © Bibliothèque municipale de Besançon)

which used a coffered, domed interior reminiscent of the Pantheon, were Pierre-Adrien Pâris's stage set for the Tomb of Agamemnon (Fig. 13.5); Jean-Louis Moreau's Grand Prix of 1785, with the cemetery's central chapel giving the appearance of a hemisphere surrounded by a ceremonial ring of columns on the exterior and featuring a coffered Pantheon-like dome with a double ceremonial ring of columns to the interior; and Giuseppe Borsato's *Aula sepolcrale* (funerary chapel, 1799). Perhaps the preeminent abstract project was Claude-Nicolas Ledoux's cemetery proposal for the industrial town of Chaux, the royal saltworks that he had designed in the Franche-Comté region of France. Similar to Boullée's *Cenotaph to Newton*, Ledoux's cemetery project presented a spherical interior cavity that represented the cosmos, in this case with the sphere half buried in the ground. The engraving entitled "Elevation of the Cemetery of the Town of Chaux" does not show a building but, rather, a view of the planets. Similar in spirit to Ledoux's cemetery project was an anonymous entry to the Grand Prix of 1799 for a public cemetery whereby the student imagined a domed central chapel replete with fully spherical interior space.²⁶

One popular variant on this funerary theme was the cemetery with a central chapel in the form of a pyramid, which was a traditional shape for a mausoleum, yet hollow in the center with a Pantheon-like domed space to the

²⁶ For illustrations of the funerary projects discussed in this section, see Etlin 1984.



13.6. Paul Philippe Cret, sketch from course on architectural form, University of Pennsylvania, ca. 1910. (Photo: Paul P. Cret collection, The Architectural Archives, University of Pennsylvania)

interior. Boullée himself designed several such chapels, as did Pierre Fontaine in his second prize design for the Grand Prix of 1785. This format was repeated in several of the entries for the Grand Prix of 1799, as in Jean-Nicolas Jomard's central pyramid with its star-studded dome, Louis-Sylvestre Gasse's First Prize design, and Guignet's Second Prize, the latter also with an interior dome covered with stars.

The prize-winning designs from the revolutionary period were published and hence widely transmitted to posterity, with extensive results in a variety of building types not limited to the cemetery. Four of these schemes reappear in a sketch from a course on architectural form, circa 1910, by the French Beaux-Arts architect Paul Philippe Cret, who was teaching in the United States at the University of Pennsylvania (Fig. 13.6). Three of the four revolutionary projects depicted here are symbolic building programs with no actual function, and all three have Pantheon-like domes. (The fourth project was for a school.) One was a Temple Décadaire (1802) by J.-N.-L. Durand and Jean-Thomas Thibault, a temple project with a star-filled dome typical of the French Revolution, which attempted to substitute domed temples dedicated either to Nature or to the Supreme Being to replace the Catholic church. The other two projects were the public cemetery Grand Prix of 1799 by Gasse and Gay's Cenotaph to Newton of 1800. Although Cret himself did not design buildings that used

the Pantheon as a model, he did invest his extensive civic architecture with metaphorical and symbolic central atrium spaces that appropriately characterized the building type, a lesson that he taught his student Louis Kahn, who also worked for Cret's architectural office after graduation.

More directly than Cret, Kahn applied the legacy of the Pantheon – “that wonderful building which satisfies the institutions of man”²⁷ – to much of his architecture, where the inwardly turned, centralized spaces evince both the lessons of Cret's teachings and of Kahn's own study of the Pantheon, first made possible when he won a fellowship in 1950 from the American Academy in Rome. These buildings include the Bath House (Trenton, 1955–1956), Erdman Hall Dormitories (Bryn Mawr College, 1960–1965), Philips Exeter Academy Library (1967–1972), National Assembly of Bangladesh (Dacca, 1962–1974), and Center for British Art and Studies (Yale University, New Haven, 1969–1974). Perhaps the National Assembly and the Exeter Library (Fig. 13.7) show the influence of the Pantheon most directly. The Philips Exeter Academy Library is built around a central space serving as the book delivery room. Each of the four defining walls of this square room is elevated off the floor and punctuated by a giant circle, which reveals rows of bookshelves beyond. One has the impression of a Pantheon of books. For the Assembly Chamber at Dacca, Kahn considered the Pantheon as a model to be followed abstractly, now rendered as a segmented melon vault placed over the octagonal chamber.²⁸

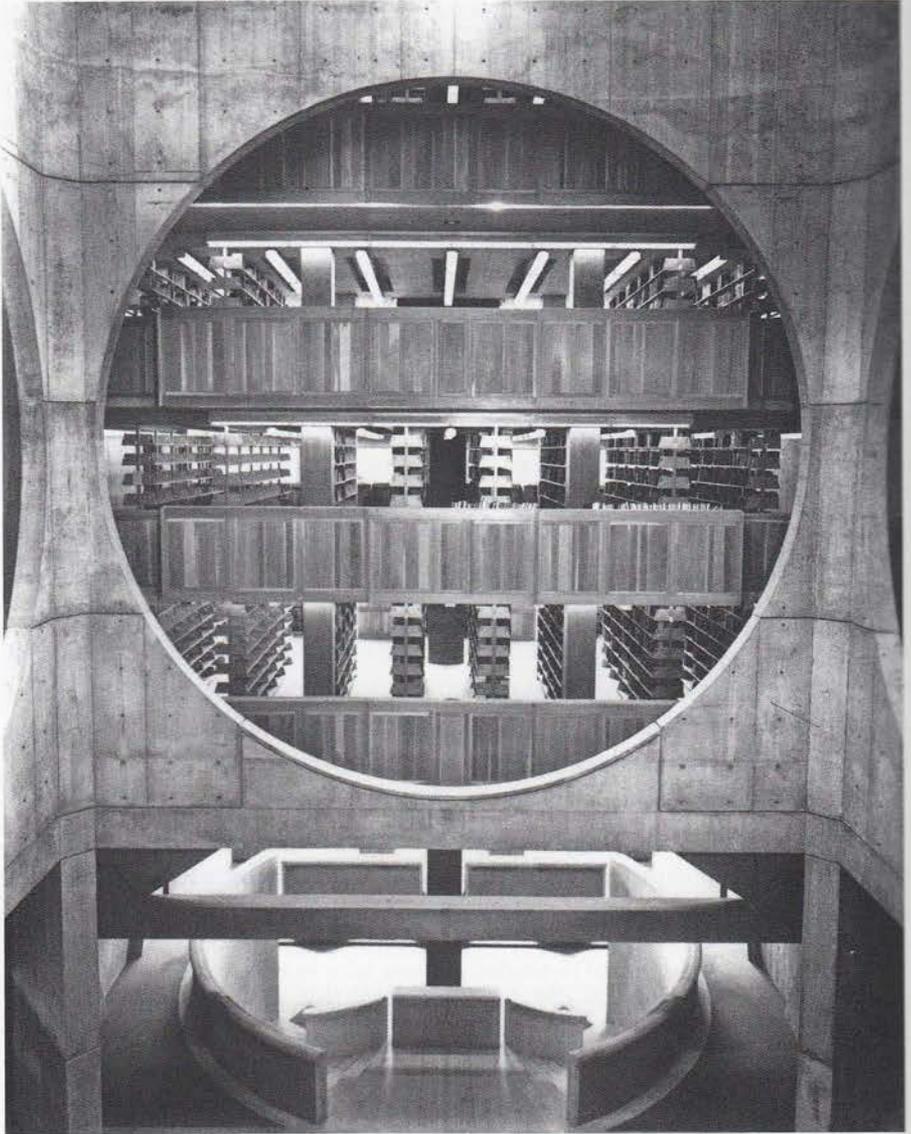
Yet all of these buildings reflected Kahn's conviction that the Pantheon taught an architect the importance of creating a symbolic space that captured the essential nature of an institution, a theme to which Kahn repeatedly returned in his lectures and writings:

Every city is made up of institutions. If you were to consider the making of a city you would have to consider the organization of the institutions. But you have got to review those institutions and really know what those institutions are. The institution of learning must have in its mind – must have in its sense – the realm of spaces which are good for learning, and not a program which says that you must have so many of this, or so many of that, but a realm of spaces which you feel is sympathetic to learning. So, therefore, you may go into a space which may be a Pantheon-like space. You would name it absolutely nothing – it would just be a good place to arrive in which you would say “school” – from which may come other spaces.²⁹

²⁷ Louis I. Kahn, “Talks with Students,” Rice University, 1964, in Alessandra Latour, ed., *Louis I. Kahn: Writings, Lectures, Interviews*, New York 1991, p. 168.

²⁸ Kazi Khaleed Ashraf, “Louis I. Kahn: National Capital of Bangladesh, Dhaka, Bangladesh,” *Global Architecture* 72, 1994, pp. 1–47; p. 47.

²⁹ Louis I. Kahn, “New Frontiers in Architecture,” CIAM (International Congresses of Modern Architecture) in Otterlo, Netherlands, 1959, in Latour 1991, p. 84.



13.7. Louis I. Kahn, Philips Exeter Academy Library, 1967–1972. (Photo: Louis I. Kahn Collection, University of Pennsylvania and the Pennsylvania Historical and Museum Commission)

Thus for Kahn, as for Cret, institutional buildings required a symbolic central space of appropriate character that set the tone for that particular institution and to which all of the building's other rooms and places were thematically related.³⁰

³⁰ See also, Kahn, "Space and Inspirations," lecture for the symposium "The Conservatory Redefined" at the New England Conservatory, November 14, 1976, in Latour 1991, p. 227: "All buildings, therefore, do not belong to Architecture. The Pantheon is an example of what is made in the domain Architecture and not in the domain Market Place. It expresses uninfluenced directions toward the making of its space as an institution of man, as it would

For Kahn, the "Pantheon is really a world within a world" and in that sense the archetype of all architecture and the deep experience it can offer:

The [Pantheon's] dome, the first real dome made, was conceived with a window to the sky.... And there is a demand [for] form saying nothing specific, no direction; that's what form says to you, feeling and philosophy.... The round building is something which is irrefutable as an expression of a world within a world.³¹

In the end, the connection between Kahn, Cret, Boullée, and the Pantheon becomes even more intertwined, because for the exhibition "Visionary Architects: Boullée, Ledoux, Lequeu," held in five American museums in 1967–1968, Kahn wrote a poem expressing his admiration for Boullée's projects, which includes the lines: "Boullée is/ ... / Thus Architecture is."³² This line was an echo of Boullée's often repeated claim that in using the light and shadow of nature in his buildings, such as the Metropolitan Church project, the Cenotaph to Newton, and his funerary architecture, he was, in effect, emulating Divinity in the act of creating the world: "your art will make you the master of these means, such that you too will be entitled to say *fiat lux*," let there be light.³³

THE RISE OF DEMOCRATIC GOVERNMENT

One cannot overestimate the historical significance of the democratic revolutions that took place in the United States and then in France toward the end

direct the making of a place of learning, a place of government, a place of the home, places of well-being, giving them each the space environment aspiring to their dedications." For a further consideration of this theme, in its relationship to the architecture of Boullée, Cret, and Kahn, see Richard A. Etlin, *Symbolic Space: French Enlightenment Architecture and Its Legacy*, Chicago 1994, pp. 13–24 ("The Space of Clarity") and 48–87 (Chapter 3, "Character and Design Method").

³¹ Louis I. Kahn, "A Statement by Louis I. Kahn," *Arts + Architecture* 81, no. 5, 1964, pp. 18–19 and 33; p. 33. This passage, which accurately transcribes the typescript (Box 59, The Louis I. Kahn Collection, University of Pennsylvania), is nonetheless awkward in its wording and also appears to be missing a word, which I have inserted in brackets. Unfortunately, the transcription in Latour 1991, p. 151, taken from the published article, confuses matters further by introducing a typographical error: "There is a demand from saying nothing specific, no direction ..." (Louis I. Kahn, "A Statement" (a paper delivered at the International Design Conference, Aspen, Colorado, 1962), in Latour 1991, pp. 145–152; p. 151). In his anthology of Kahn's writings, Robert Twombly gives a "lightly corrected and amended" (p. 151) text: "And there is a demand that form say nothing specific, no direction ..." (Louis I. Kahn, "Lecture at International Design Conference, Aspen, Colorado, [1962]," in Louis I. Kahn, *Louis Kahn: Essential Texts*, ed. Robert Twombly, New York 2003, pp. 151–161; p. 160). I am grateful to Raffaella Fabiani Giannetto for verifying the archival transcript.

³² Louis Kahn, "Twelve Lines," in *Visionary Architects: Boullée, Ledoux, Lequeu*, University of St. Thomas, Houston, October 19, 1967–January 3, 1968, exh. cat., Houston 1968, p. 9.

³³ Boullée 1968, p. 91 (fols. 94–94v).

of the eighteenth century. Although there had been precedents of restrictive, representative government in the ancient Greek city-states, the ancient Roman Republic, the medieval Venetian Republic, and the British parliamentary system, the American and French Revolutions were literally epoch-making events in a world that since millennia had been dominated by monarchical rule, grounded in the principle of Divine Right, a notion challenged by Enlightenment authors such as Jean-Jacques Rousseau, who argued, for example, in *Le Contrat social* (The Social Contract, 1762) that the basis for society and hence for government was a compact among its citizens. This principle was clearly articulated in the Declaration of Independence of the Thirteen Colonies in Congress, July 4, 1776, whereby they became the 13 United States of America:

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. – That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed.

Of course, the United States, like France with its new constitution established during its revolution, would have to pass through two succeeding centuries as each country learned to apply more thoroughly these principles to all of its citizens and to all of its inhabitants. Yet the very articulation of these notions as the basis both for society and its government was unprecedented.

The leaders and supporters of these revolutions were themselves engaged in a human effort that, they believed, accorded with the very nature of the cosmic order. Hence, architects in both countries made recourse to the cosmic symbolism of the Pantheon for their government buildings. In Washington, DC, the American Capitol, though subject to the changing designs of successive architects, has always offered a version of a central rotunda on its skyline, originally modeled upon the Pantheon and then in the mid nineteenth century upon the successor domes to the Pantheon as found in St. Peter's in Rome and St. Paul's in London.³⁴ This was a symbolic space, which the architect Benjamin Latrobe in 1806 had dubbed the "Hall of the People."³⁵

In Paris, before a new government headquarters could be designed *ex novo*, there was an outpouring of projects, often for the site of the rapidly demolished Bastille prison, a symbol of prerevolutionary tyranny. These proposals to house

³⁴ For illustrations of the domes designed successively by Benjamin Latrobe, Charles Bulfinch, and Thomas U. Walter, see Mary Louchheim Lieberthal, *Designing a Nation's Capitol: Controversy and Compromise*, New Orleans Museum of Art, September 18–October 24, exh. cat., New Orleans 1976.

³⁵ Pamela Scott, "Charles Bulfinch: Well-Connected, Refined Gentleman Architect," in Donald R. Kennon, ed., *The United States Capitol: Designing and Decorating a National Icon*, Athens, Ohio, 2000, p. 60.

the legislative branch of the government placed the chamber for deliberations and votes either under a coffered dome modeled after the Pantheon, as in projects by Boullée and Jean-Baptiste Lahure, or under a cosmic dome showing the globe or filled with stars, in one case showing the constellations as they had appeared on the night of July 14, 1789, the day of the storming of the Bastille as signaling the onset of the revolution.³⁶ Under the Directory (1795–1799), the legislative hall for the Council of Five Hundred was retrofitted into previously existing royal palaces in Paris, first the Palais Bourbon and then the Luxembourg Palace, the latter serving successive revolutionary governments under the Consulate and the Empire. Each of these two assembly halls appropriated Gondoin's half-Pantheon anatomy theater as model.³⁷ Similarly, Benjamin Latrobe, between 1803 and 1812, arranged the meeting rooms in the U.S. Capitol for the House of Representatives and the Senate with variations of this half-Pantheon theme.³⁸

The new democratic societies had not only new forms of government but also new social institutions for which appropriately symbolic edifices were needed. Not surprisingly, since the American and French Revolutions arose from prerevolutionary Enlightenment ideals, many of these new social forms had already been proposed in previous years. Enlightenment meant goodwill to all human beings across the globe in opposition to tribal exclusiveness. Thus, in 1785, the architect Antoine-Laurent-Thomas Vaudoyer had designed a House for a Cosmopolitan whose exterior presented a star-studded cosmic sphere elevated off the ground and surrounded by a Doric colonnade carrying an entablature covered with the signs of the zodiac.³⁹

During the French Revolution, the notion of cosmopolitanism was readily conflated with that of equality. As J. P. L. Houël explained when proposing a monument to equality in the form of a globe floating above the clouds: "A globe ... is the most perfect emblem of equality."⁴⁰ This dramatic piece of public statuary followed upon comparable architectural designs, such as Jean-Jacques Lequeu's revolutionary-era projects for a Temple to Equality and for a Temple of the Earth.⁴¹ The exterior of both projects – with an elevated

³⁶ James Leith, *Space and Revolution: Projects for Monuments, Squares, and Public Buildings in France, 1789–1799*, Montreal 1991, pp. 78–117 (Chapter 4, "Temples for the Nation and Its Heroes").

³⁷ Braham 1980, p. 141; Ian Robertson, ed., *Paris and Environs*, The Blue Guides, London 1977, pp. 70 and 77.

³⁸ Talbot Hamlin, *Benjamin Henry Latrobe*, New York 1955, p. 288 and Plate 29.

³⁹ Boullée 1968, p. 138 (editor's n. 116); Helen Rosenau, *Social Purpose in Architecture: Paris and London Compared, 1760–1800*, London 1970, pp. 126–127 with illustrations; MacDonald 2002, p. 124.

⁴⁰ Rosenau 1970, pp. 116–117 with illustration: "Un globe, en tous les tems, n'est égal qu'à lui-même; / C'est de l'égalité le plus parfait emblème."

⁴¹ In Boullée 1968, p. 138 n. 116, Pérouse de Montclos dates the Temple to the Earth to 1790 and the Temple to Equality to 1794. In *Space and Revolution*, p. 179, Leith maintains that the

sphere surrounded by a colonnade – was based on Vaudoier’s House for a Cosmopolitan. Each of Lequeu’s edifices was to have an entrance covered by a carpenter’s level, the common revolutionary symbol for equality. The Temple to the Earth actually presented a globe of the Earth as the outside surface. Unlike Vaudoier’s house, which had been furnished with rooms in the interior, Lequeu’s two designs maintained a spherical cavity within. One featured a globe in the center, supported on symbolic carpenter’s levels; another also had a globe, this time set upon a stubby columnar base, yet with the dome above punctured with holes to admit the twinkling light of “stars,” after the manner of Boullée’s previous design for the Cenotaph to Newton. In an accompanying note to the Temple of the Earth, Lequeu referred to “eternal equality,” leaving no doubt that he understood this principle to belong to the cosmic realm of natural law. The pediment over the entrance carries the inscription “To Supreme Wisdom,” a revolutionary term for Divinity.⁴² Either one or both of Lequeu’s spherical temple projects were associated with the competition of the Year II (1794) for a Temple to Equality in which various contestants used some variation of the Pantheon, the most literal by Crozier with its coffered dome and central oculus.⁴³

The democratic French government wished to honor its great citizens who had contributed the most to society. To this end, in 1791 it voted to convert the Neoclassical-style Church of Sainte-Geneviève, located on an eminence in Paris, near the Luxembourg Palace and gardens, into a Panthéon, named after the Roman Pantheon not only to designate its cosmic significance but also because the Roman edifice had been transformed to serve a similar function. As Susanna Pasquali explains in this volume, since the death of Raphael in 1520, artists had chosen to be buried in the Pantheon. Then, around 1780, busts of painters, sculptors, architects, and literati who had been inspired by Rome were placed in the Pantheon, thereby transforming it into a hallowed memorial for great men.⁴⁴ The French adapted this model and added other professions as well, dedicating the French Panthéon to the French benefactors of humanity.

This notion of *bienfaisance* had been a major value of the prerevolutionary Enlightenment era and had been subject to a variety of architectural projects, which had taken their inspiration from the monuments to British worthies

architect’s note on the rear side of the drawing of the Temple to the Earth affirms that he had exhibited it in 1794.

⁴² Leith 1991, pp. 178–180 and Figs. 198–202.

⁴³ Leith 1991, pp. 166–181, especially Fig. 191 (Crozier, Project for a Temple to Equality).

⁴⁴ Susanna Pasquali, Chapter Eleven in this volume. See also her earlier essay, “From the Pantheon of Artists to the Pantheon of Illustrious Men: Raphael’s Tomb and Its Legacy,” in Richard Wrigley and Matthew Craske, eds., *Pantheon: Transformation of a Monumental Idea*, Aldershot 2004, pp. 35–56.

in Westminster Abbey. As Voltaire had written, "I am convinced that the mere view of these glorious monuments has inspired more than one soul and has formed more than one great man."⁴⁵ Of particular significance to the history of the Pantheon in the modern era was the prerevolutionary notion of bestowing funerary honors in the cemetery according to merit rather than to wealth and social status. In 1765, just two months after the Parlement of Paris had ordered, albeit ineffectually, all cemeteries of the city closed by the end of the year, the Académie Royale d'Architecture sponsored a Prix d'émulation for a cenotaph to Henry IV, symbol of the exemplary ruler, where the "empty tomb of this prince would be surrounded by vast peripheral galleries for the tombs of the famous men who had made France illustrious." Then, in 1766, Louis-Jean Desprez won a Prix d'émulation for a major Parisian parish cemetery conceived in the same spirit. The young architect dedicated his burial ground to Voltaire not only as a great writer but also as the champion of funerary honors accorded to merit, an ideal fully applied to the design itself.

It is likely that the Pantheon-like interior chapels in cemetery designs from the Grand Prix of 1785, as well as those by Boullée discussed previously, had also been conceived according to this humanitarian and democratic ideal. The same is true of the cemetery projects from the Grand Prix of 1799; the program had called for an amphitheater where the merits of the deceased would be proclaimed as part of the ceremony honoring the worthy dead, whose monuments would encircle the central chapel. Recall that the various contestants had availed themselves of the Pantheon's form, either as an exterior dome or sphere or as an interior room, often covered with stars.⁴⁶

THE PUBLIC MUSEUM

Both the public museum and the public library are institutions of the eighteenth-century Enlightenment, and once again the Pantheon served as a model for the central space of many of the most important of these new institutions. In place of the private collections and private libraries, which were signs of the wealth and learning of their owners, usually royal or noble, we find the idea of a public museum of art and of a public library, each the pride of a city or country, and each important for the education of its citizenry. Even the cosmopolitanism of the Enlightenment figured centrally in the thought of the reformers who called for such public institutions. In this vein, the eminent

⁴⁵ Etlin 1994a, pp. 24–29 ("The Space of Emulation"). For a more extensive treatment of this theme, see Judith Colton, *The Parnasse François: Titon du Tillet and the Origins of the Monument to Genius*, New Haven 1979.

⁴⁶ Etlin 1984, pp. 101–109, 282–290 (illustrations).

art historian Aloys Hirt petitioned Prussian King Friedrich Wilhelm III in a memorandum of 1798:

May I be permitted to say that it is below the dignity of [ancient art] to be displayed as an ornament. [These works] are a heritage for the whole of mankind.... Only by making them public and uniting them in display can they become the object of true study, and every result obtained from this is a new gain for the common good of mankind.⁴⁷

The very concept of a museum of art was new. Traditionally, private collections were gatherings of works of art along with objects from natural history, often valued for their rare or curious forms, a collection named after the room in which it was often kept, *Kunstkammer* in German or *cabinet de curiosités* in French. Dating from the sixteenth century onward, these collections received a dual impetus from the newfound interest in classical antiquities, known as the Renaissance, and from the exploration of the far reaches of the globe by the new colonial powers, where exotic examples of vegetable, animal, and mineral specimens were gathered and sent back to Europe.

Yet even when paintings, for example, were kept together in the same room, they filled the wall, in the words of one scholar, "like pieces of a puzzle." The idea of displaying art according to a temporal history of regional and national traditions only emerged in the second half of the eighteenth century, apparently inspired by "the advent of new taxonomies in the study of natural history (especially the binomial genus/species classifications of Linnaeus and Buffon)."⁴⁸ Indeed, the British Museum, which originated in 1753 by Act of Parliament, had its origins in the bequest of the private natural history collection and library of Sir Hans Sloane, to which were joined two collections of manuscripts, one already in the country's possession since 1700. Opened to the public in 1759, the British Museum only began to purchase works of art, in the form of antiquities, in 1772. Housed originally in a seventeenth-century mansion, the museum received its own new building, designed to represent a public museum rather than a private residence, according to a design of 1832 by Sir Robert Smirke. Between 1854 and 1857, Smirke's younger brother Sydney, who had succeeded him as the museum's architect, constructed in the building's courtyard a domed circular Reading Room for the British Museum Library, which has been considered a progeny of the Roman Pantheon.⁴⁹

In France, toward the middle of the eighteenth century, the idea spread that the royal collection of art was actually a national treasure, which had to be

⁴⁷ As quoted in Nikolaus Pevsner, *A History of Building Types*, The A. W. Mellon Lectures in the Fine Arts 1970, Bollingen Series 35.19, Princeton 1976, p. 126.

⁴⁸ Andrew McClellan, *Inventing the Louvre: Art, Politics, and the Origins of the Modern Museum in Eighteenth-Century Paris*, New York 1994, pp. 2–4.

⁴⁹ MacDonald 2002, p. 125; Pevsner 1976, pp. 107–108.

shared with the people. Between 1750 and 1779, part of the king's collection was placed on public display in Paris in the east wing of the Luxembourg Palace. During this time, it was widely believed that the Luxembourg Gallery was only a temporary measure before a grander museum would be opened in the Louvre Palace.⁵⁰ In the same year that the Luxembourg Gallery was closed, a portrait of the king's director general of royal buildings, Count d'Angiviller, was displayed at the Salon, which showed the count at a table with the floor plan of the Grand Gallery of the Louvre, thereby indicating to the public that there was a project to create an even more extensive public museum in the king's palace. "I know that His Majesty," reported the count to the Académie Royale d'Architecture in 1785, "personally wants nothing short of perfection in the design of [this] national monument."⁵¹

Always attentive to the latest social and cultural developments, the Académie Royale d'Architecture sponsored design competitions not only for cemeteries but also for museums at critical moments in the history of such institutions. Thus, in 1753, shortly after the opening of the Luxembourg Gallery, it assigned to its students for the Grand Prix the problem of a gallery for the display of art, a type of room that conceivably would belong to a royal palace. The Grand Prix was awarded to Louis-François Trouard, who placed a coffered dome, as a miniature reminiscence of the Pantheon, at the center of the design.⁵² The subject for the Grand Prix in 1754 was a "salon" for the three arts of painting, sculpture, and architecture. Later, just as the Luxembourg Gallery closed, the Grand Prix of 1779 had as its subject a museum, which, in addition to rooms for the display of painting, sculpture, and architecture, would also house the sciences (notably geography), with their library, and natural history.⁵³ The four winning designs each had a modestly sized Pantheon-like rotunda at the center of the edifice.⁵⁴ In the designs of 1753 and 1779, this central Pantheon-like space was less a functional room than a temple dedicated to the noble concepts of art, culture, and science. This symbolic use of the Pantheon was codified in J.-N.-L. Durand's *Précis des leçons d'architecture données à l'École polytechnique* (1802-1805),⁵⁵ which circulated widely throughout European and later

⁵⁰ McClellan 1994, pp. 51-52.

⁵¹ McClellan 1994, pp. 13 and 49.

⁵² Pevsner 1976, p. 118 (Fig. 8.14); Egbert 1980, p. 172. The gallery with Pantheon-like dome would reappear in the second prize of the Grand Prix of 1791, as well as in the actual Museo Pio-Clementino (ca. 1773-1780), built in the Vatican complex of buildings by Michelangelo Simonetti and then Giuseppe Camporesi, where the sculpture display "culminat[ed] in the [Pantheon-like coffered] Rotunda as the room for the major deities" (Pevsner 1976, pp. 116-117 [Fig. 8.11]).

⁵³ Henry Lemonnier, ed., *Procès-verbaux de l'Académie royale d'Architecture 1671-1793*, Paris 1924, vol. 8, p. 377 (May 3, 1779); Van-Cléemputte and Prieur 1787-1796, cahier 1, Plate 1.

⁵⁴ Pérouse de Montclos 1984, pp. 162-166 with illustrations; Egbert 1980, p. 175.

⁵⁵ Pevsner 1976, p. 122 (Fig. 8.26).

American schools of architecture and was to echo throughout the subsequent history of museum design, all the way into the twentieth century with John Russell Pope's National Gallery of Art (1937) in Washington, DC.

In 1783, after the Treaty of Paris, which recognized the new American nation and settled peace between Great Britain and France, the French king promised a considerable sum of money for the new museum project in the Grand Gallery of the Louvre.⁵⁶ At this time, Boullée offered his own design for a museum, which gave much greater prominence to the central rotunda than had any of the earlier student projects for the Grand Prix of 1753 and of 1779 or the prototypical museum based on these Grand Prix designs that Durand subsequently would publish in his *Précis*. Anticipating the Cenotaph to Newton of 1784, Boullée's museum, with limited space for exhibitions, was primarily a giant Deist temple to Nature where, under the central dome, a pyramid of steps rose in the guise of a metaphorical Mount Parnassus, crowned with a "Temple of Fame" made of an honorific ring of columns carrying statues of the great men of France carved by France's most eminent artists.⁵⁷ The ceremonial and symbolic aspect of Boullée's domed interior of the museum project was echoed in Charles Percier's Grand Prix of 1786, whose subject was a modification of the Grand Prix of 1753, now redefined as a building to house the three academies of painting and sculpture, architecture, and letters. Whereas the nominal function of the central rotunda, with its Pantheon-like coffering and oculus, was an auditorium, its scale revealed its essentially symbolic character. In elevation, Percier's edifice strongly resembled Boullée's museum, as well as aspects of Boullée's public library project of circa 1784, thereby further suggesting the influence of the older architect's work.⁵⁸

Both Boullée's museum project and Percier's Grand Prix of 1786 for the assembled academies appear to have exerted a decisive influence on the greatest Pantheon-like museum of the entire modern period, Karl Friedrich Schinkel's Altes (Old) Museum (Fig. 13.8), so-called because a Neues (New) Museum was later built on the same Museum Island in Berlin.⁵⁹ The essentially ceremonial and symbolic nature of Schinkel's entrance porch and central

⁵⁶ McClellan 1994, p. 58.

⁵⁷ On the eighteenth-century idea of placing the busts of the great men of France in public buildings, see Etlin 1994a, pp. 25–26.

⁵⁸ I am referring to Boullée's project for a public library on the site of the Capucines Monastery, where the blank front facade is broken in the middle by a broad line of columns spaced two deep and constituting the front face of an entrance porch further defined by a double row of columns to the rear, which, in turn, constitute the front of a sanctuary-like semicircular entrance court. For an illustration, see Pevsner 1976, p. 103 (Fig. 7.29).

⁵⁹ Here I differ with Pevsner, who, in *A History of Building Types*, argues that both the front colonnaded porch and the central rotunda of Schinkel's Altes Museum were "clearly inspired by Durand" (p. 127). Neither Durand's single row of entrance columns nor his modestly sized central rotunda compare with Schinkel's grander development of both features, which follow upon the example set by Boullée and Percier.



13.8. Karl Friedrich Schinkel, Altes Museum, Berlin, 1824–1830. (Photo: Erich Lessing/Art Resource, NY)

rotunda was confirmed by Aloys Hirt's objections to their nonutilitarian character.⁶⁰ Schinkel's facade, with its broad sweep of columns and its deep central entrance loggia enriched with a second row of columns, appears as a variation

⁶⁰ "The only objections [to Schinkel's memorandum of January 8, 1823, to the king] came from Hirt, who criticised Schinkel's basic ideas for the building, especially the rotunda and colonnaded front, on the grounds of their lack of utility." (Gottfried Riemann, "View of the Interior of the Rotunda of the Altes Museum," cat. entry 56 in Michael Snodin, ed., *Karl Friedrich Schinkel: A Universal Man*, New Haven 1991, pp. 130–132; p. 131.

of Percier's front facade for his academy design for the Grand Prix of 1786, which, in turn, is a variation on the facade of Boullée's public library project of circa 1784. As Nikolaus Pevsner has observed, "the eighteen fluted ionic columns between the square angle piers are the noblest introduction to a temple of art."⁶¹ As for the coffered rotunda of the Altes Museum, Schinkel, in his rebuttal to Hirt's criticism, explained that he considered this "beautiful and sublime room" to be a "sanctuary," thereby emphasizing its symbolic, temple-like character:

Finally, so mighty a building as the Museum will certainly be, must have a worthy center. This must be the sanctuary, where the most precious objects are located.⁶²

Schinkel's commitment to the sanctuary-like quality of the rotunda prompted him, during construction, not to open the two side doors that had been envisaged on the plan, thereby "endeavor[ing] to isolate the 'Pantheon' more from the rest of the building."⁶³ Schinkel's evocation of the Pantheon was direct, not only through the coffering of the dome and the oculus but also in the size of the central rotunda: one-half the Pantheon itself.⁶⁴

One can only speculate as to the effect that the publication of Percier's Grand Prix of 1786 might have had on Schinkel, as well as the unpublished museum and public library projects by Boullée, drawings that Schinkel's teacher and idol Friedrich Gilly might have seen during his trip through Europe in 1797–1799, with a visit to Paris that had deep repercussions on the subsequent development of German Neoclassical architecture.⁶⁵ Schinkel's Altes Museum was, in part, designed to rival Leo von Klenze's Glyptothek (1815–1830) in Munich so that the Prussians could have an art museum at least the equal to its much-admired Bavarian predecessor. The most important room in the Glyptothek was the coffered Pantheon-like rotunda, whose decoration and art, as von Klenze explained, was to "reflect the most beautiful era of the ancient world."⁶⁶

Frank Lloyd Wright used the Pantheon as the prototype for a museum when he designed the Solomon R. Guggenheim Museum in New York to house a collection of "non-objective art" (Fig. 13.9). Conceived in 1944 but not constructed until after World War II in 1956–1959, the centralized exhibition

⁶¹ Pevsner 1976, p. 127.

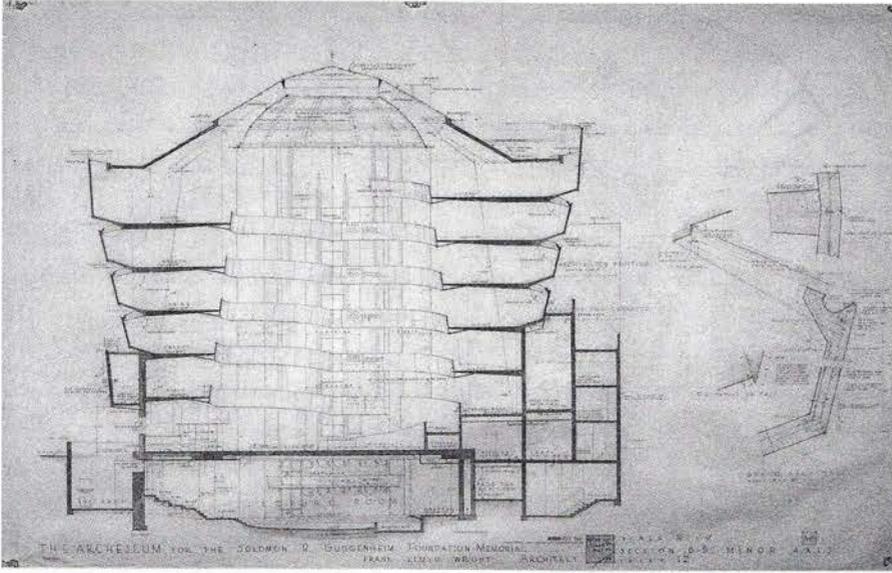
⁶² Karl Friedrich Schinkel, "Comment on the Report of Hofrat Hirt of February 5, 1823," as quoted in Riemann's entry 56 in Snodin 1991, p. 132 (punctuation and spelling modified).

⁶³ Riemann in Snodin 1991, p. 132.

⁶⁴ Riemann in Snodin 1991, p. 132.

⁶⁵ On Friedrich Gilly's visit to Paris and his relationship with Schinkel, see Watkin and Mellinshoff 1987, pp. 69–72, 85–86.

⁶⁶ Leo von Klenze, as quoted in *Ein griechischer Traum: Leo von Klenze. Der Archäologe*, Glyptothek, December 6, 1985–February 9, 1986, exh. cat., Munich 1985, p. 338 (my translation).



13.9. Frank Lloyd Wright, “Archeseum,” September 1936, Solomon R. Guggenheim Museum, New York, 1943–1959. (Photo: © 2009 The Frank Lloyd Wright Foundation, Scottsdale AZ/Art Resource, NY/Artists Rights Society [ARS], NY)

space with skylight and spiraling ramp that provided uninterrupted passage throughout the entire gallery declared by means of its architecture that this was an entirely new and self-sufficient world of art. We have seen that Wright considered this edifice to be his Pantheon, a remark made to the supervising architect William H. Short.⁶⁷ Yet credit should also be given to its patron in the person of Hilla Rebay, curator of New York’s Museum of Non-Objective Painting and of the Solomon R. Guggenheim Foundation, which sponsored the new museum by Wright.⁶⁸ Rebay not only selected Wright as the architect but also encouraged him to abandon his initial idea about a horizontal design in favor of a vertically oriented building that would impart a sense of spirituality. Asking Wright to abandon his interest in – “this crawling in wide extensions” – she encouraged the architect to combine horizontal and vertical, “a sensitiveness, that will not only spread horizontally, but also vertically, up to the infinite infinity of space.”⁶⁹ Rebay, explains Neil Levine, “elaborated on her concept of a sanctuary for the spirit, imploring Wright to embody its ‘cosmic breath’ in his design: ‘With infinity and sacred depth create the dome of spirit: expression of the cosmic breath itself – bring light to light!’”⁷⁰

⁶⁷ See note 9.

⁶⁸ Joan M. Lukach, *Hilla Rebay: In Search of the Spirit in Art*, New York 1983, pp. 183–184 and 208; Levine 1996, p. 299.

⁶⁹ Rebay to Wright, August 12, 1943, in Lukach 1983, p. 187, and Levine 1996, pp. 320–321.

⁷⁰ Levine 1996, p. 319, Rebay to Wright, June 23, 1943, as quoted from Lukach 1983, p. 186. With respect to Rebay’s use of the word “dome,” Lukach explains: “Her occasional use of

In abandoning his initial impulse for a horizontal project in favor of a vertical scheme, Wright envisaged an inverted hollow “ziggarut” with a spiraling ramp around a grand central space capped with a dome.⁷¹ Through most of the development of the project, Wright’s “Dome,” as he called it,⁷² evoked the Pantheon, as shown in the first model, which was presented in 1944–1945, and in subsequent renditions where he envisaged a shallow dome of translucent glass comprised of two layers of concentric rings of Pyrex glass tubes with an intermediary frame of steel tubes arranged in three stacked rings of concentric circles, culminating in a glazed oculus set within a compression ring.⁷³ As Neil Levine has explained, after a trip to Rome in August 1956, Wright strengthened his allusion to the Pantheon with his penultimate design, which is illustrated here, where he now proposed “a coffered dome of sandblasted glass” hung from a concrete framework.⁷⁴ Yet Wright did not make explicit reference to the Pantheon in the final design, which abandoned the hung dome in favor of a total integration of form, space, structure, and decorative effect in the manner of an “organic architecture” that he had achieved earlier in Unity Temple and that he had described as his goal in his account of that building in his autobiography.⁷⁵

Like the architect of the Pantheon, who subtly manipulated the shape of the coffers in the dome such that they appear to expand upward and outward, unbounded by the dome’s inner surface, as if carried into the skies by the oculus of light that is isolated visually from the grid of the dome by a wide band of smooth, unbroken surface,⁷⁶ Wright achieved a comparable effect in the Guggenheim Museum with his spiraling ramp and central skylight. Wright’s ramp seems to spiral upward, cantilevered into space off the recessed vertical structural piers that, nonetheless, come forward at the top of the rotunda to join together in rounded arches that are dramatically withdrawn from the

the phrase ‘dome of the spirit,’ which she used interchangeably with ‘cathedral’ or ‘temple,’ was an inadvertently suggestive lapse into another language, *Dom* being the German word for cathedral. The phrase conjures up the vision of a lofty and circular interior space – and in 1939, Rebay herself made a sketch for a circular exhibition gallery, all on one level with no stairs, making use of an ingenious flow of traffic from gallery to gallery” (p. 187).

⁷¹ Levine 1996, p. 298, Fig. 291: 1943–1944 Schemes A/D.

⁷² Wright to Rebay, July 25, 1945: “The model is up to the *Dome*” (his italics), in Lukach 1983, p. 191.

⁷³ For illustrations, see Rebay 1983, Figs. 41–42 (1944–1945), and Levine 1996, p. 329, Fig. 319 (September 1945) and p. 338, Fig. 326 (1951).

⁷⁴ Levine 1996, p. 342.

⁷⁵ On the Unity Temples as exemplifying this ideal of organic architecture, see Richard A. Etlin, *Frank Lloyd Wright and Le Corbusier: The Romantic Legacy*, Manchester 1994, pp. 47–48, and 206 n. 144, with account from Edgar Tafel, *Apprentice to Genius: Years with Frank Lloyd Wright* 1979, pp. 71–72.

⁷⁶ See MacDonald 2002, p. 74, and William C. Loerke, “A Rereading of the Interior Elevation of Hadrian’s Rotunda,” *Journal of the Society of Architectural Historians* 49, no. 1, pp. 22–43; p. 42.

middle of the central skylight, which, like the oculus of the Pantheon, presents a floating circular disk of hovering sky.

James Johnson Sweeney, appointed director of the Guggenheim Museum in October, 1952,⁷⁷ "pointed to the "great-room" character' of Wright's design" shortly after the opening, explains Levine, as "the most individual and gratifying feature of the building as an art museum" and remarked that "its effect on the public is immediately noticeable."⁷⁸ The term "great room" readily suggests itself to the visitor; yet it might have come from Wright himself, who had spoken in his autobiography of the sanctuary in Unity Temple as a "Noble ROOM."⁷⁹ We have seen that Louis Kahn was to express a similar sentiment about the Pantheon as a world unto itself, so appropriate for conveying the essence of a great cultural institution.

THE PUBLIC LIBRARY

One of the most memorable as well as characteristic undertakings of the Enlightenment was the all-encompassing intellectual effort to chart the entire expanse of knowledge in an encyclopedia, of which there were several in the eighteenth century: the *Lexicon technicum* (1704) by John Harris, the *Cyclopaedia* (1728) by Ephraim Chambers, the *Encyclopedia Britannica*, first published in 1771 and subsequently expanded, and "the most renowned and influential of encyclopedias, the French *Encyclopédie*, completed in 1772" under the direction of Denis Diderot and Jean le Rond d'Alembert. This century, in effect, gave birth to the "modern encyclopedia."⁸⁰ In many respects, the enterprise of an encyclopedia was the intellectual equivalent to the other universalist aspects of the Enlightenment studied previously: Deism and Unitarianism in religion, cosmopolitanism in outlook, democracy in government, and the museum as a comprehensive collection of the arts. Echoing the *Encyclopédie*, Boullée explained the preeminent status of the national library in his memorandum of 1785: "The most precious monument for a nation is, without a doubt, that which houses all of acquired knowledge."⁸¹ Thus, the national library, open to its citizens, takes its place within the pantheon of Enlightenment building programs and, accordingly, would utilize the Pantheon as its model.

⁷⁷ Levine 1996, p. 487 n. 173.

⁷⁸ Levine 1996, p. 348.

⁷⁹ Frank Lloyd Wright, *An Autobiography*, New York 1932, pp. 154 and 156.

⁸⁰ Levey and Greenhall 1983, s.v. "Encyclopedia," p. 266.

⁸¹ Boullée 1968, p. 127 (fol. 119v). The *Encyclopédie* had characterized the Royal Library as follows: "It is one of the most noble institutions. There is no expense more magnificent and more useful" (as quoted in French in Fritz Milkau and Georg Leyh, eds., *Handbuch der Bibliothekswissenschaft*, 4 vols., 2nd rev. ed., Wiesbaden 1957-1961; vol. 3, p. 14 [my translation]).

As a comprehensive history of the library has affirmed, “the modern scholarly library is the creation of the Enlightenment.” In German-speaking lands, an extensive library became an important new room in the palaces of local rulers, its collection often open to the public. Likewise, German university libraries acquired both increased stature and fame, unknown to their seventeenth-century counterparts.⁸²

In France, focus was placed on the transformation of the Royal Library into a national library with public access. Such a high cultural endeavor required a comparably inspired design from the architect. “If there is one subject that should please an architect,” mused Boullée, “and at the same time inspire his genius, it is the project of a public library.”⁸³ Commissioned by the government to study the possibility of constructing a new national library near the Place Vendôme in Paris, Boullée offered a design largely inspired by the cruciform plans for a museum of the Grand Prix of 1779 and centered around a modest Pantheon-like central dome. Too costly, the project was abandoned in favor of transforming the courtyard of the current Royal Library into a new reading room, which Boullée designed as what might be considered a longitudinal Pantheon, a top-lit coffered barrel vault placed over an amphitheater of books. Constrained, then, by budget and site, the architect took the concept of the cosmic symbolism of the Pantheon and adapted it to a basilica format. Yet Boullée left no doubt as to the cosmic effect that he sought there: “this basilica will offer the grandest and most striking image of any existing thing.”⁸⁴ One of several studies for the main facade featured two atlantes, or giants, carrying a celestial sphere.

Boullée’s intentions for the public library were not lost on the young architects and students of architecture who proposed major library projects in the succeeding years. For a Prix d’émulation in 1787, Jean-Nicolas Sobre designed a public library whose major room was covered by an immense Pantheon-like dome, painted with the signs of the zodiac and opened in the middle with an oculus. The walls of this temple of learning were to be lined with books, and an amphitheater of steps within the center of the room was to serve as a classroom for public courses. This central rotunda was surrounded by a double ring of spaces in the shape of two concentric squares: the inner ring containing the statues of great men, the outer ring serving to house printed books and manuscripts. To all four sides of this central complex of concentric rooms were

⁸² Milkau and Leyh 1957–1961, vol. 2, pp. 863–867; vol. 3, pp. 10–11 and 14. See also, Dorinda Outram, *The Enlightenment*, 2nd ed., Cambridge 2005, pp. 16–17, who, reviewing the research of more recent scholars, confirms this conclusion and summarizes the expansion of literacy and book collecting among a wide range of social classes, even among the lower classes.

⁸³ Boullée 1968, p. 126 (fol. 119).

⁸⁴ Boullée 1968, p. 130 (fol. 121v).

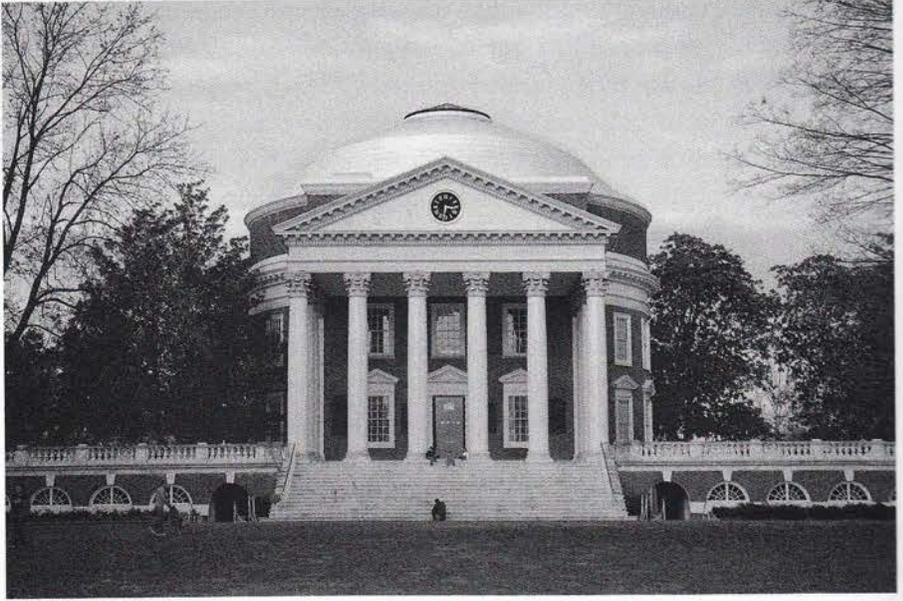
barrel-vaulted spaces with coffers and skylights after the manner of Boullée's own second library project.⁸⁵

One variant on this theme can be found in Alexandre-Jean-Baptiste Guy de Gisors's project of the Year VIII (1799–1800) to complete the unfinished Church of the Madeleine, which visually terminated the street leading from the north axis of the Place de la Concorde, as the National Library. Gisors provided three successive amphitheatres of books, each under a domed ceiling with central oculus. Gisors's choice of this unfinished monument for the National Library was pregnant with meaning. It corresponded axially to the Palais Bourbon on the other side of the Seine, a building, as we have seen, that had housed the national legislature during the Directorate and which just now in 1799 was being transformed into the National Archives. As for the square itself, originally constructed to honor Louis XV, whose equestrian statue had graced the center, it was rebaptized during the French Revolution as Place de la Révolution and the guillotine was erected in place of the king's statue. After the Terror, the square was renamed Place de la Concorde, as a civic gesture of domestic reconciliation between warring factions. Had Gisors's library project been realized, then each of the two major civic buildings closing the two sides of the axis would have presented Pantheon-inspired domed spaces as the major room.

All of these library projects with their cosmic theme came to fruition not in France but in the United States, in Thomas Jefferson's design for the University of Virginia. Education, for Jefferson, was central to the success of the new American republic. "I have looked on our present state of liberty," he opined in 1805, "as a short-lived possession unless the mass of the people could be informed to a certain degree." In 1821, while reflecting on his efforts on behalf of his 1779 Bill for the Commonwealth of Virginia on the "More General Diffusion of Knowledge," Jefferson wrote: "Nobody can doubt my zeal for the general instruction of the people." This law envisaged three tiers of public education: primary school, district colleges, and a state university. "For the collegiate and university levels," as scholars have explained, "it provided a selection process for educating the best and brightest students 'without regard to wealth, birth or other accidental condition or circumstance.'"⁸⁶ The University of Virginia was created as the capstone of this universal and democratic system of education. The Rotunda (Fig. 13.10), designed by Jefferson as a half-scale version of the Pantheon, became the fitting embodiment of these principles.

⁸⁵ For illustrations of the project by Sobre, as well as the library design by Gisors discussed in the following, see Etlin 1994a, pp. 68–69.

⁸⁶ Patricia C. Sherwood and Joseph Michael Lasala, "Education and Architecture: The Evolution of the University of Virginia's Academical Village," in Richard Guy Wilson, ed., *Thomas Jefferson's Academical Village: The Creation of an Architectural Masterpiece*, Bayly Art Museum of the University of Virginia, October 7, 1993–January 9, 1994, exh. cat., Charlottesville 1993, p. 9.



13.10. Thomas Jefferson, Rotunda, University of Virginia, Charlottesville, 1818–1828. (Photo: Courtesy Thomas Schumacher)

Yet the very existence of the Rotunda, let alone its form and purpose, emerged only by stages in Jefferson's mind. His initial design for the university lacked a focal building, which was proposed to him by the architect Benjamin Latrobe, who in a letter and sketch of July 24, 1817, suggested a grand central auditorium building, which he drew in the manner of the Pantheon. Latrobe appears to have been in close contact with the French émigré Joseph Ramée, who at the time was designing Union College in Schenectady, New York, with a Pantheon-inspired central building for his new campus.⁸⁷

In Latrobe's project, the ground floor of his Pantheon-like edifice was to house a semicircular lecture room; above, a circular lecture hall underneath the dome.⁸⁸ The idea of a monumental point of focus for the campus greatly appealed to Jefferson, who modified Latrobe's sketch by scaling it to one-half the size of the Pantheon and by providing enough similar details so as to ensure a ready resemblance to the ancient model. Of course, the Rotunda was built of local red brick with white wooden trim, its dome of laminated wood, thereby making it both visually and structurally an American variant on the Roman concrete prototype.

⁸⁷ Paul V. Turner, *Joseph Ramée: International Architect of the Revolutionary Era*, New York 1996, pp. 197–216.

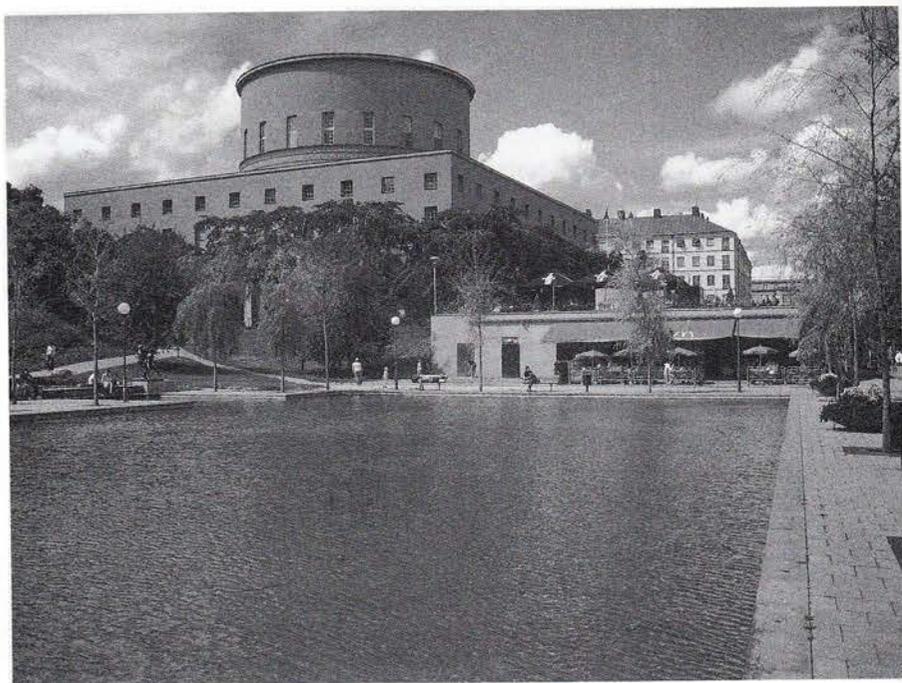
⁸⁸ Benjamin Latrobe, sketch and letter of July 24, 1817, in Sherwood and Lasala 1993, p. 20 (Fig. 10).

This difference in materials had major implications for the design of the front porch in its volumetric relationship to the rear cylinder, which extended outward to the sides of the porch, and to the dome above. Since the exterior wall of Jefferson's Rotunda lacked the considerable thickness of the original, which had made the outside cylinder of the Pantheon much broader than the interior volume, Jefferson's entire edifice presented a more slender profile. Thus, Jefferson was obliged to change the temple front of its porch from eight to six columns in order to retain a suitable relationship for all of the major architectural features.

With respect to function, instead of placing a lecture hall under the dome as Latrobe had suggested, Jefferson decided to house the university's library there. It was a fitting symbol of the nature of the university, for the cosmic imagery of the Pantheon confirmed the Enlightenment notion, as Boullée had expressed it, that the library houses humankind's collective understanding of the universe. To make this message explicit, Jefferson planned to "paint the dome sky blue and set gilt stars and planets against it; there would be a seat for an operator, and the stars could be changed to conform to their varying positions."⁸⁹ In other words, Jefferson was proposing to realize a variation of the planetarium that Boullée had proposed in his *Cenotaph to Newton* of 1784 and to combine it with Boullée's holistic library concept of 1784–1785. The similarities between Boullée's projects and Jefferson's Rotunda should not surprise because Jefferson had served as American minister to France in the period 1784–1789 and had close contact with the architects of the Académie Royale d'Architecture during the time of his Paris sojourn.

Had Jefferson ever wished to render the interior of his Rotunda as a single volume, thereby approximating the effect of the Pantheon? Stanford White, of the eminent American Beaux-Arts architectural firm McKim, Meade and White, certainly believed so, arguing that only circumstances beyond Jefferson's control had obliged him to place two other floors with rooms in the Rotunda. White voiced his opinion while preparing to restore the Rotunda after his firm had been engaged by the University of Virginia in the aftermath of the fire of October 1895, which had nearly destroyed Jefferson's masterpiece. In the previous year, White and Charles Follen McKim, who were engaged in planning a new campus for New York University's University Heights campus in the Bronx and Columbia University in Manhattan, each had designed a Pantheon-like central library for his respective campus, probably inspired by Jefferson's Rotunda. Now the firm had the opportunity to work on the original itself, which was repaired in the form that White imagined that Jefferson would have intended, with one large interior domed room. For three-quarters of a century, the Rotunda's interior stood as a closer approximation to the

⁸⁹ Frederick Doveton Nichols, *Thomas Jefferson's Architectural Drawings*, Boston 1960, p. 9.



13.11. Gunnar Asplund, public library, Stockholm, 1920–1928. (Photo: Courtesy Johan Mårtelius)

Pantheon than it ever had been, before it was restored in 1973–1976 to its original, internal configuration.⁹⁰

The Pantheon's legacy in library design of the twentieth century emerges most forcefully in Erik Gunnar Asplund's Stockholm Public Library, which underwent a long gestation with several designs between circa 1920 and its opening in 1928 (Fig. 13.11). The Pantheon was a repeated point of reference in Asplund's architecture, which, before the architect's conversion to the International Style, participated in the Neoclassical revival that was popular in Scandinavian countries in the early decades of the twentieth century. In his first complete project for the public library, dating from 1921, Asplund envisaged a central amphitheater of books under a Pantheon-like dome, where in place of recessed coffers he would have substituted deep skylights.⁹¹ Both front and rear facades would reveal this central domed chamber. In the final, built design, Asplund transformed the literal reference to the Pantheon into an abstract one, now utilizing a tall cylinder in place of the dome, albeit paving the floor with a pattern reminiscent of the Pantheon's marble pattern.⁹²

⁹⁰ Leland M. Roth, *McKim, Mead and White, Architects*, New York 1983, pp. 188–199.

⁹¹ Claes Caldenby and Olof Hultin, eds., *Asplund*, Stockholm 1985, p. 92. For illustrations, see <http://www.arkitekturmuseet.se/arkiv/>, AM 1990–04–51, AM 1990–0452, AM 1990–04–54, or Stuart Wrede, *The Architecture of Erik Gunnar Asplund*, Cambridge, Mass., 1983, Figs. 100, 101, and 103.

⁹² Elias Cornell, "The Sky as a Vault ... Gunnar Asplund and the Articulation of Space" [his ellipsis], in Caldenby and Hultin 1985, pp. 23–33; p. 29. Cornell also notes: "In a famous essay

Throughout his architecture, Asplund explored the metaphysical qualities of space and light. Reflecting on the symbolic staircase of Sigurd Lewerentz's "back-lit Jacob's ladder to the cremation plateau" in the domed room of the cemetery exhibit at the 1923 Göteborg Exhibition, Asplund asked rhetorically, "Suppose there had been no building and just an open sky at the end of the staircase?"⁹³ This thought helps us to understand Asplund's attention to light and space in three of his edifices where the Pantheon played an important role. In the Woodland Chapel of the South Stockholm Cemetery (1920), the architect created a Pantheon-like dome with mystical indirect light entering through a glazed central skylight. Asplund explained that the dome "was intended to hover weightlessly."⁹⁴ In the Hall of Fame of his Skandia Cinema (Stockholm, 1922–1923), he combined cove lighting along the walls of the cylindrical space with an unlit domed vault, glimpsed through the central oculus in a flat ceiling. Looking upward into the dark blue surface with its suggestion of the limitless space of a domed vault, the eye and mind become lost in a dark infinity, what Asplund termed "a dark nothingness."⁹⁵

The young Alvar Aalto, who soon would become the leading Finnish architect of his generation, perceptively noted the psychological and even spiritual aspects of Asplund's work. Having just met Asplund in the Skandia Cinema, Aalto observed:

I had the impression that this was an architecture where ordinary systems hadn't served as parameters. Here the point of departure was man, with all the innumerable nuances of his emotional life, and nature.⁹⁶

Like Boullée's Cenotaph to Newton and his library projects, Asplund's Stockholm Public Library was "a metaphor for the mind."⁹⁷

In effect, Asplund's library was his own Jacob's Ladder. In both the first and final scheme, a ceremonial staircase provides ascent into the central, book-

which was also a document of its age, Carl Nordenfalk compared the Stockholm Public Library to the Pantheon" (p. 29).

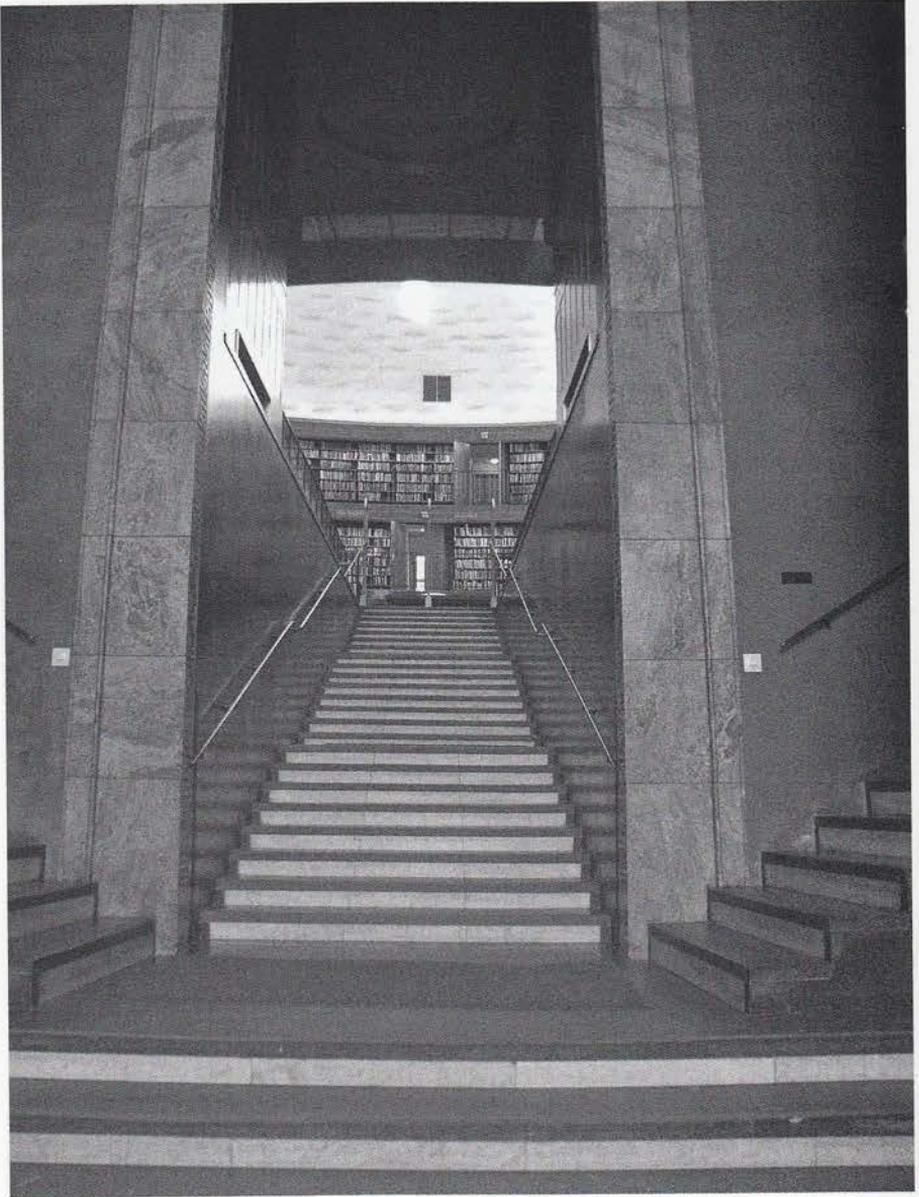
⁹³ Asplund as quoted in Cornell, "The Sky as a Vault," in Caldenby and Hultin 1985, p. 25. Cornell also quotes Asplund on Lewerentz's use of stairs to create a sense of anticipation, an effect that Asplund probably had in mind in his library design: "The original idea of the progressively higher terraces and the increasing upward gradient of the staircase have the effect of heightening expectation." (Cornell, "The Sky as a Vault," p. 25.)

⁹⁴ Asplund, as quoted in Cornell, "The Sky as a Vault," in Caldenby and Hultin 1985, p. 23.

⁹⁵ Asplund, as quoted in Cornell, "The Sky as a Vault," in Caldenby and Hultin 1985, p. 28. Cornell comments, "Asplund had created this room, populated by the cult objects of the time, like a miniature Pantheon."

⁹⁶ Alvar Aalto, as quoted in Wrede 1983, p. 94.

⁹⁷ Wrede 1983, pp. 109–110 and 233 n. 77. Here I disagree with Wrede, who believes that the Cenotaph to Newton "was a mechanical model of the universe" rather than a "represent[ation of] the interior or the mind" and that Boullée's library project "could, given its rectangular shape, hardly be interpreted as a metaphor for the mind."



13.12. Gunnar Asplund, public library, Stockholm, view into the reading room. (Photo: Courtesy Stadsbiblioteket, Stockholm)

lined library hall (Fig. 13.12).⁹⁸ The initial design presents an ascent focused on three dark doors at the rear of the hall on each level of the amphitheater of books, which seem to suggest the dark recesses of the mind. In the final design, these doors were replaced by a single square, interior window from an annular

⁹⁸ For an illustration, see <http://www.arkitekturmuseet.se/arkiv/>, AM 1990-04-55, or Wrede 1983, Fig. 102.

corridor. Considered in conjunction with the ring of much larger rectangular windows that only come into view as one proceeds farther up the symbolic staircase leading into the central hall of books, this diminutive window obviously has no significant effect on the level of useful illumination but, rather, serves suggestively as a symbolic third eye into the mind.

Asplund was very sensitive to the effects of contrast in scale. Writing about the oversized details in the main room of the Skandia Cinema, he explained that "a large motif always gives the impression of nearness, i.e., reduces the size of the room."⁹⁹ Conversely, we can extrapolate to say that Asplund understood that the small scale of the square window in the Stockholm Public Library, juxtaposed with the large rectangular, sun-filled openings, would make it seem not only like a miniature but also as if it were receding deeply into space, the perfect metaphor of a journey into the mind.¹⁰⁰

The invitation to such a mental or spiritual journey is reinforced throughout the building. In both the preliminary scheme and the executed building, this processional ascent upward is preceded with a floor mosaic inscribed with the ancient Greek phrase "Know Thyself," an image that Asplund had sketched during a visit in 1914 to the Terme Museum in Rome.¹⁰¹ Figures of Adam and Eve, each with an apple in hand, form the door handles of the large glass entrance, thereby obliging each visitor literally to take the matter in hand. Whereas the Enlightenment, with its optimistic view of the progress of human knowledge, provided us with the first projects and realizations of the public library, in the aftermath of World War I Asplund suggests that a more sober self-assessment of human potentialities and proclivities would be in order.

There was no need, of course, to await World War I to offer a more skeptical view of the human condition. On the back of his drawing for the Temple of the Earth, which he had dedicated to the concept of human equality, Jean-Jacques Lequeu had sarcastically proposed to the minister of the interior that the edifice be constructed as the central chapel at the new Cemetery of Père Lachaise in Paris, recently opened in 1804, "because it is certainly useless to the French, who are enemies of equality, and who will never get along with their fellow human beings."¹⁰² Both Asplund's cautious skepticism and Lequeu's cynical black humor serve as potent reminders that the idealism of the architecture considered in this chapter was an appeal to the better aspects of human nature. The final section on Neoclassicism and the sublime will present us

⁹⁹ Asplund as quoted in Cornell, "The Sky as a Vault," in Caldenby and Hultin 1985, p. 26.

¹⁰⁰ Cornell twice refers to the "narrowing staircase" of the first project as a "ladder to heaven." It is unclear if this phrase, presented in quotation marks, is from Asplund. Elias Cornell, "The Sky as a Vault," in Caldenby and Hultin 1985, pp. 29 and 31.

¹⁰¹ Karin Winter, "Den italienska resan," *Arkitektur* 6, 1985, p. 15. I am grateful to Nicholas Adams for this reference. See also, Cornell, "The Sky as a Vault," in Caldenby and Hultin 1985, p. 24.

¹⁰² Leith 1991, p. 179 (Fig. 200, photograph of Lequeu's handwritten note).

with a further encounter with good and evil with respect to the theme of the Pantheon.

NEOCLASSICISM AND THE SUBLIME

The buildings discussed in this chapter, which took the Pantheon as their model, partook of a new stylistic movement born in the mid eighteenth century and later revived in the twentieth, known as Neoclassicism. Many also were invested with the attributes of an aesthetic category of major importance to the eighteenth century known as "the sublime."¹⁰³ Both the style and the aesthetic were often related, sharing common psychological and, at times, even spiritual outlooks.

Neoclassicism, as a style, favored pure prismatic volumes, surfaces either left plain or adorned with identically repetitious motifs, and freestanding columns that were evenly spaced in long, uninterrupted rows. Simple forms with repetitive features, explained Boullée, make the strongest impression on our minds and present the most harmonious forms.¹⁰⁴ To that end, the architects who adapted the interior of the Pantheon to their Neoclassical designs tended to favor the dome rather than the highly articulated lower cylinder with its niches and pairs of columns at different scales.

With respect to colonnades, Boullée found a source of inspiration in the porch of the Pantheon. Lamenting that "our churches, far from being surrounded by colonnades, are formed by walls with pier buttresses that resemble walls of fortifications," he then proceeded to praise the Pantheon's porch, universally admired for "the noble columns and proportions of its architecture." "Is it not extraordinary," mused Boullée, "that an example so widely admired has not yet been imitated in our capital?"¹⁰⁵ The Neoclassical buildings that adapted the Pantheon's dome were often, as we have seen, graced with colonnades on the facade or in the interior. When columns were employed in conjunction with the dome, they were almost always a single or double ring that either supported the dome or were placed underneath as a freestanding sanctuary. The model for this latter arrangement was probably Giovanni Battista Piranesi's engraving of the Pantheon with a so-called Temple of Vesta in the interior (Fig. 13.13).

For Neoclassical architects, it was important not to copy the Pantheon too closely. Hence, in 1779 a commission of the Académie Royale d'Architecture

¹⁰³ For a longer discussion of the relationship of the Pantheon to the sublime and to its ongoing legacy, including Boullée's architecture, see Richard A. Etlin, "Architecture and the Sublime," in Timothy Costelloe, ed., *The Sublime: From Antiquity to the Present*, Cambridge 2012, pp. 230–273.

¹⁰⁴ Boullée 1968, pp. 62–65 (fols. 77v–79v). This chapter is entitled, "De l'Essence des corps. De leurs propriétés. De leur analogie avec notre organisation."

¹⁰⁵ Boullée 1968, p. 87 (fol. 92).



13.13. Giovanni Battista Piranesi, imaginary ancient Temple of Vesta, 1743.

criticized the design for a palace to serve as a papal conclave by one of its Grand Prix winners sojourning at the Académie de France in Rome precisely for this fault: "The idea of the circular room in the center ... is absolutely the same as the one that, in his project for a palace of justice presented last year, constituted the main meeting room of that building, and for which he was criticized for having imitated too closely the Pantheon."¹⁰⁶ The most extreme cases of abstraction occurred when either the dome without coffers or a spherical cavity was employed, often covered with stars as an expression of a Deist wonder about the magnificence of Nature.

This Deist attitude also informed many of the projects that engaged the sublime. As explained in the popular treatise published by Edmund Burke in 1757 and soon translated into French, *A Philosophical Enquiry into the Origin*

¹⁰⁶ Lemonnier 1924, vol. 8, p. 376.

of *Our Ideas of the Sublime and Beautiful*, the sublime in architecture required "magnitude in building": "To the sublime in building, greatness of dimension seems requisite; for on a few parts, and those small, the imagination cannot rise to any idea of infinity." Although Burke did not mention the Pantheon, he probably had this edifice in mind when he observed that one way to create the effect of infinity in architecture was through the use of a dome, because the eye would run uninterruptedly over the surface, thereby presenting an unending image of grandeur.¹⁰⁷ Boullée further developed this idea, which he applied to the form of the sphere, that he had used in the Cenotaph to Newton:

The other advantages of a spherical body are to develop under our eyes the largest surface, which makes it majestic; to have the simplest form, whose beauty issues from the lack of interruption to the surface; and to join these qualities with that of grace, because the contour is as smooth and as flowing as possible!¹⁰⁸

The sublime joined the Deist worship of Nature through what Burke termed "magnificence," as illustrated through reference to the starry sky, a feature that, as we have seen, was popular with Neoclassical architects adapting the Pantheon for their buildings: "The starry heaven, though it occurs so very frequently to our view, never fails to excite an idea of grandeur."¹⁰⁹

Thus, the Neoclassical response to the grandeur of the Pantheon's dome, and by extension to its potentially spherical interior, was marked by a psychological and even spiritual transport. "Let any one reflect," suggested Joseph Addison in 1712, "on the disposition of mind he finds in himself, at his first entrance into the Pantheon at Rome, and how his imagination is filled with something great and amazing."¹¹⁰ To some commentators on the sublime, the effect was physical: "Every person upon seeing a grand object," explained John Baillie in *An Essay on the Sublime* (1747), "is affected with something which as it were extends his very being, and expands it to a kind of immensity."¹¹¹ Boullée exploited this sensation in the interior of his Cenotaph to Newton through recourse to the psychological effects of standing within a vast, dark, star-lit spherical cavity: With curved surfaces at every side and with the tomb as the sole point of focus, the visitor, as Boullée explains, would feel frozen at the center, unable to move:

¹⁰⁷ Edmund Burke, in *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful*, ed. J. T. Boulton, 1759, 2nd ed., Notre Dame 1968, pp. 74–76, 139–142.

¹⁰⁸ Boullée 1968, p. 64 (fol. 79).

¹⁰⁹ Burke repr. 1968, p. 78.

¹¹⁰ [Joseph Addison], Essay no. 415, *The Spectator* (Thursday, June 26, 1712), as quoted in Marjorie Hope Nicolson, *Mountain Gloom and Mountain Glory: The Development of the Aesthetics of the Infinite*, New York 1963, p. 318. See also p. 319, and Colton 1979, p. 154.

¹¹¹ John Baillie, *An Essay on the Sublime*, 1747, New York repr. 1967, p. 4 (see also p. 6). In *The Sublime: A Study of Critical Theories in XVIII-Century England*, Ann Arbor 1960, p. 73, Samuel H. Monk credits Baillie with "very nearly evol[ving] the idea of empathy."

He is obliged, as if [held] by a thousand forces, to remain where he is at the center.... Isolated on all sides, his sight can only be directed toward the immensity of the sky.¹¹²

Through this Neoclassical application of the sublime, the visitor to Newton's tomb would learn about "the expanse of [Newton's] enlightenment and the sublimity of his genius"¹¹³ by having his or her "mind elevated to the contemplation of the Creator and to experience celestial feelings."¹¹⁴ The resultant feeling would be such that "the spectator would find himself transported into the sky as if by enchantment and carried on the clouds into the immensity of space."¹¹⁵

Some manner of these feelings of transport and enchantment recur in various later buildings, especially in the twentieth century with the renewed enthusiasm for Neoclassicism. We sense this in Louis Kahn's abstracted application of the Pantheon as a model for several of his interior spaces. The same has been observed about Gunnar Asplund's Stockholm Library. One critic argued that the fully roofed cylinder of Asplund's library paradoxically seems less a covered room than the Pantheon with its open, central oculus.¹¹⁶ The result, as another observer has commented, is that "the room disappears without intermission into the diffuse and infinite."¹¹⁷

Perhaps it is fitting that in the most drastic departure from the democratic values that informed the cultural institutions of an emerging modern world, in which architects made repeated recourse to the Pantheon as model, the psychological and spiritual effects of the sublime would most likely have been aborted. Adolf Hitler had a long-standing fascination with the Pantheon, which he adapted in modified form in his project for a gigantic Grosse Halle (Great Hall) that he wished to build in a prominent location in Berlin. Subsequently aided in the design of the Grosse Halle by his official architect Albert Speer, who further developed Hitler's earlier sketches from the 1920s, Hitler envisaged a building so large that that it would accommodate a crowd of 150,000–180,000 people (Fig. 13.14). With its dome projected to rise 825 feet, the Great Hall, to borrow a phrase from Speer himself, was truly on a "megalomaniac" scale.¹¹⁸

¹¹² Boullée 1968, p. 139 (fol. 127v).

¹¹³ Boullée, p. 137 (fol. 127).

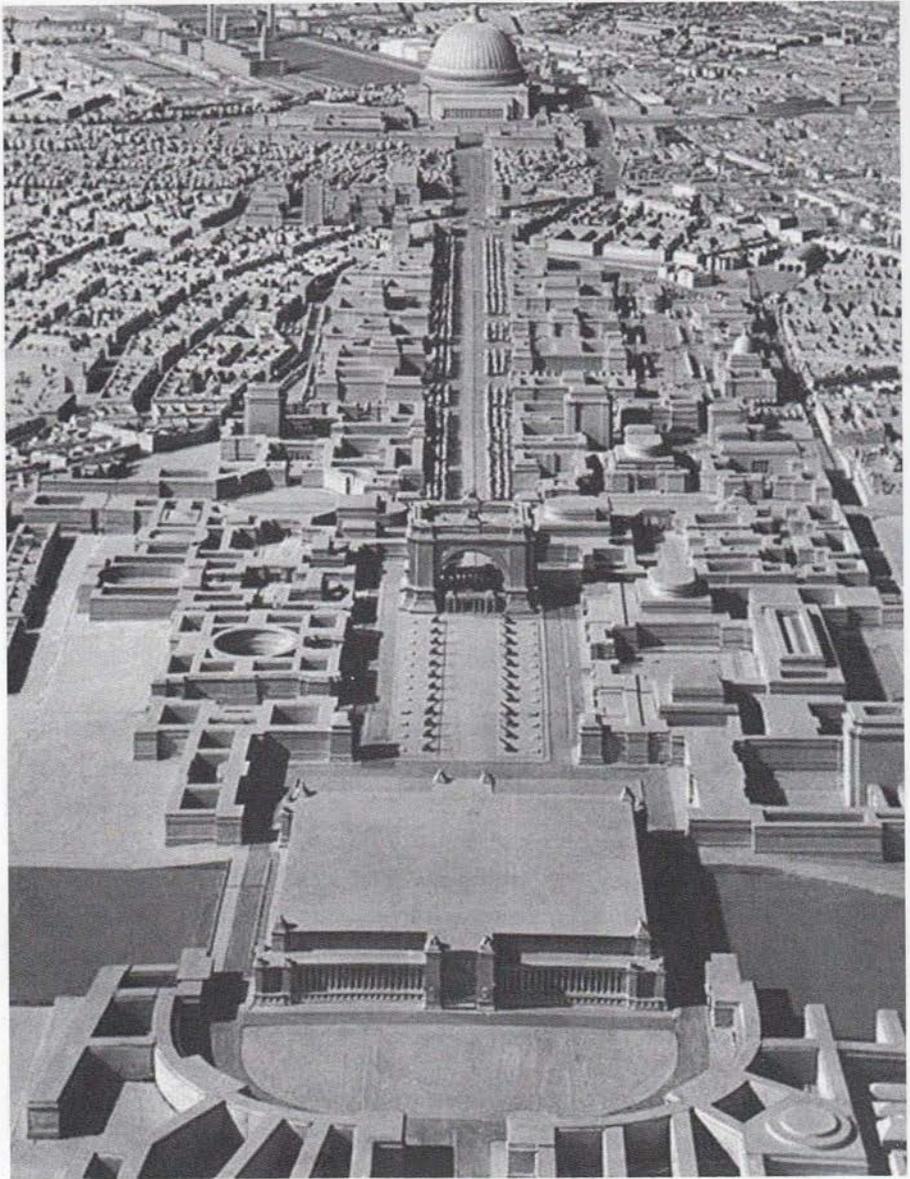
¹¹⁴ Boullée, p. 156 (fol. 138).

¹¹⁵ Boullée, pp. 138–139 (fol. 127v).

¹¹⁶ Carl Nordenfalk, as summarized by Cornell, in "The Sky as a Vault," in Caldenby and Hultin 1985, p. 29.

¹¹⁷ Cornell in Caldenby and Hultin 1985, p. 29. Cornell stresses that making "a room of infinite sentiment," to quote Lars Wahlman, was of interest to Asplund, Lewerentz, and their contemporaries in Finland (p. 24).

¹¹⁸ In his postwar memoirs, Speer entitled the chapter on the Nuremberg buildings "Gebaute Megalomanie," rendered as "Architectural Megalomania" in the translated edition of



13.14. Albert Speer, after Adolf Hitler, central axis with Grosse Halle (project), Berlin, ca. 1937–1941.

For Hitler and Speer, size was significant because it corresponded to their understanding of grandeur, as well as to the need for an appropriate setting for the vast crowd. Both men had relished the electrifying effect that their Nazi festivals with large crowds could have on the psyche, as people were

Erinnerungen (Berlin 1969, Chapter 5; *Inside the Third Reich*, trans. Richard and Clara Winston, New York 1970). On the evolution of the Grosse Halle project, see Frederic Spotts, *Hitler and the Power of Aesthetics*, New York 2004, pp. 357–361.

emotionally swept away by the chanting throngs at the Nuremberg Nazi Party rallies, where 100,000 regimented men marched to the approval of 100,000 spectators.¹¹⁹

Yet grandeur in architecture had its dangers as well as its possibilities. As Boullée had observed when criticizing St. Peter's in Rome for not conveying adequately its vast size, the parts of this building were simply too "colossal in proportion: ... thinking, as artists say, of 'doing something grand,' [the architect mistakenly] made something 'gigantic.'"¹²⁰ At one point, Speer came to the same realization about his and Hitler's Grosse Halle. He began to doubt whether transforming the outdoor rituals of the Nuremberg rallies into an indoor event within the Pantheon-inspired Grosse Halle would be effective. While designing the building, Speer traveled to Rome to visit St. Peter's, an edifice, as Speer explained, that "would have fitted several times over" in the Grosse Halle. In effect, Speer boasted that the Grosse Halle "would contain sixteen times the volume of St. Peter's."¹²¹ Yet upon entering St. Peter's, Speer was surprised to find that its gigantic interior, so much smaller than his and Hitler's own projected edifice, was scaled in such a way that he found it difficult to relate to its architecture.¹²² "I was disappointed," he later wrote in his memoirs,

that its size has no relationship to the impression on the observer. Already with this order of magnitude, I now recognized, the impression is no longer proportional to the size of the building. I then feared that the effect of our Great Hall would not correspond to Hitler's expectations.¹²³

This Nazi project teaches an important lesson about the experience of architecture and points to the source of the Pantheon's ultimate appeal. As August Schmarsow had written in a prescient essay of 1893, "The Essence of Architectural Creation":

As the creatress of space, architecture creates, in a way no other art can, enclosures for us in which the vertical middle axis is not physically present but remains empty.... The spatial construct is, so to speak, an emanation of the human being present, a projection from within the subject, irrespective of whether we physically place ourselves inside the space or mentally project ourselves into it.¹²⁴

¹¹⁹ Spotts 2004, p. 66.

¹²⁰ Boullée 1968, p. 82 (fol. 89v).

¹²¹ Speer trans. 1970, pp. 74 and 153.

¹²² This had been a common criticism in the eighteenth century. See Michael Petzet, *Soufflotts Sainte-Geneviève und der französische Kirchenbau des 18. Jahrhunderts*, Berlin 1961, pp. 111–112, and Richard A. Etlin, "St. Peter's in the Modern Era: The Paradoxical Colossus," in William Tronzo, ed., *St. Peter's in the Vatican*, New York 2005, pp. 270–304; pp. 280–283.

¹²³ Speer, *Erinnerungen*, p. 169 (my translation).

¹²⁴ August Schmarsow, "The Essence of Architectural Creation," in Harry Francis Mallgrave and Eleftherios Ikononou, eds., *Empathy, Form, and Space: Problems in German Aesthetics, 1873–1893*, Santa Monica 1994, pp. 281–297; pp. 288–289.

The Pantheon, with its implied but empty central axis under the light of the central oculus and with its cylindrical chamber capped with a hemispherical dome, presents the archetypical architectural configuration of the “essence” of this architectural experience at the optimal size. For this reason, Louis Kahn was able to correctly opine, with a twinkle in his eye, that the Pantheon was a perfect building except for one fault: it had a door.¹²⁵

Applying Schmarsow’s explanation to the Pantheon, we can see, as Kahn subtly hinted, that having arrived at the threshold of the Pantheon’s interior, we already occupy the space fully, imagining ourselves at the center and filling the vast cavity with our sense of self, what the Germans in Schmarsow’s circle of *Einfühlung* philosophers termed *Raumgefühl*, the feeling of space, which, in turn, involved *Körpergefühl*, the feeling of the body, and *Vitalgefühl*, the feeling of life forces. This Boullée understood when he designed his Cenotaph to Newton with entrance into the spherical cavity immediately at the center, alongside Newton’s sarcophagus, “the only material object”¹²⁶ in the enveloping space. In this way, the visitor identifies with the central tomb while projecting himself or herself, to use Schmarsow’s terminology, into the circumambient space. Boullée, like Kahn, had intuited what Schmarsow would elucidate with the words of a philosopher of aesthetics: “As soon as we have learned to experience ourselves and ourselves alone as the center of this space, whose coordinates intersect in us, we have found the precious kernel ... on which architectural creation is based.”¹²⁷ In the Pantheon, these coordinates are infinite and all-encompassing, expanding to all sides of a virtually perfect spherical cavity whose dimensions and whose architectural surface treatment are the embodiment of perfection, a perfection that gives an understanding of the individual’s place in the universe that is unique in the history of world architecture.

¹²⁵ Louis Kahn, Lecture at Princeton University, ca. 1970–1971. Unfortunately, this lecture, attended by the author, is not included in the anthology of Kahn’s writings edited by Alessandra Latour. Yet in Kahn’s “American Institute of Architects Gold Medal Award Address” of 1971, the architect observed about the Pantheon: “The entrance door is its only impurity” (Latour 1991, p. 264).

¹²⁶ Boullée 1968, p. 139 (fol. 127v).

¹²⁷ Schmarsow in Mallgrave and Ikonomou 1994, pp. 286–287.