



FURTHER READING

American Association of Nurse Anesthetists. <https://www.aana.com/about-us>.

Anesthesia History Association. <http://www.ahahq.com/>.

Cole-Adams, Kate. 2017. *Anesthesia: The Gift of Oblivion and the Mystery of Consciousness*. Berkeley: Counterpoint.

Waisel, David B. 2001. "The Role of World War II and the European Theater of Operations in the Development of Anesthesiology as a Physician Specialty in the USA." *Anesthesiology* 94: 907–914.

ARCHITECT

Architecture is a field with enormous challenges and opportunities to serve a variety of clients. Generally speaking, architects are involved in the design of buildings and structures and sometimes in the construction supervision of those designs. Some architects take leadership roles; others prefer to work behind the scenes. Some prefer developing general layouts; others create interiors or design the myriad details that comprise a building. In all cases, architects and those who work with them are problem solvers.

As in any field, there are increasing levels of responsibility. A recent graduate of a college architecture program typically puts in several years as an intern under the guidance of an experienced, licensed architect. A typical day will find a young architect taking measurements and photographs of an existing site or building, laying out a bathroom's floor plan, building a scale model of a neighborhood, or delivering a set of drawings to the building department for review and approval. A more senior architect, or job captain, might assign drafting tasks to a team; review a set of drawings, marking them up to identify errors or incomplete information; or assemble specifications for different components or pieces of equipment. A project architect, another next step up the ladder, might create a master plan, which is a layout of several buildings, or perhaps meet with a professional engineer to discuss a structural system or detail. A typical day for an architectural project manager might require assembling the many specifications for materials and equipment, working on project budgets, or visiting a job site to ensure that the builder is doing the work as proposed. A firm's owner, or principal, might make a presentation to a client, consult with members of the team, or sign contracts for a new project.

Most buildings are designed using the local vernacular, or style. In Europe and the Americas, the Industrial Revolution brought about a new architecture style called modernism. By the late 1800s, concrete had been rediscovered as an inexpensive, durable, and good-looking building material, and industrial developments in glass and steel production allowed buildings to be lighter; these advances, along with the invention of the modern elevator, gave rise to the skyscraper.

After World War II, the United States scrambled to build housing for its returning war veterans, who were entitled to federal housing subsidies as a part of the G.I. Bill. Architects and builders designed and built flat-roofed, glass box office buildings and low-slung ranch-type houses by the millions. This surge in development inspired contemporary masters of architecture, such as Frank Lloyd Wright and Mies van der Rohe, whose designs were often imitated.

In the early 1960s, architect Robert Venturi designed a house for his mother in Philadelphia. Instead of following Mies van der Rohe's famous maxim "Less is more," Venturi countered with "Less is a bore." He turned his mom's small house, completed in 1964, into an homage to traditional architectural details, such as arches and gable roofs, that had been frowned upon by modern architects. He wrote a book criticizing modernism and called for architects to reconnect architecture to history, complexity, and "messy vitality." His words ignited a style called postmodernism, which helped usher in a return to heavier materials like brick and granite, usually in the form of a thin veneer. Another important architect, who preferred heavier materials like brick and concrete, was Louis Kahn. Some of his most notable buildings include the iconic Salk Institute in La Jolla, California, of 1963 and the parliament building in Bangladesh, which was completed in 1982.

Until the late 1980s, architects drew plans for buildings using pencil and pen on paper. With the rise of office and home computers in the 1990s, digital design techniques became the norm. New computing technologies led to a proliferation of more sculptural forms as well as a greater capacity to control the fabrication of building parts and to more easily resolve complex environmental, structural, or other data-driven design problems.

By the 1990s, the environmental movement had become a significant influence on architects across the globe, resulting in using sustainable design and construction strategies to conserve earth's resources for future generations. By the turn of the twenty-first century, women were entering the profession in ever greater numbers, and the Iraqi-born British architect Zaha Hadid had become one of the world's best-known architects. Increasingly, architecture had become even more of a global endeavor, and many American architects began working abroad, especially in developing Asian economies. Architectural academies sprung up to meet development needs worldwide. The English architect Norman Foster, one of the most renowned and successful architects in the world, said, "As an architect you design for the present, with an awareness of the past for a future which is essentially unknown." As in every profession, architecture has its standouts, such as those named above. But for each famous architect, thousands of others design interesting, good buildings that help their clients achieve their goals.

Ken Conzelmann and Judith Raymond