

The Art of Architecture

By D.H. Coop

Since prehistoric times, man has been interested in architecture. When caves were not available, ancient people began to build structures for shelter, storage, and worship. Since then, the art of architecture has evolved into more complex and more beautiful buildings for a multitude of purposes. Each one of these structures, from the most primitive to the most modern, requires a basic understanding of mathematical shapes.



The first shape used in architecture was most likely the post and lintel, which can be seen in the construction of Stonehenge in England. The ancient Greeks also adopted the post and lintel in the construction in their buildings. However, the people of the Fertile Crescent in the Middle East developed structures using the triangle as the basic shape, the most well-known example of which is the ancient pyramids.

The post and lintel was the standard of construction for the Romans as well. However, they also began using the arch, a variation of the circle. Though the arch had existed for a long time, it had never had been widely used as a building concept. The Roman aqueducts were an engineering wonder that used the arch as support for the transportation of fresh water to cities across the empire.

Post and lintel was also the favored construction of the Romanesque architecture of the Middle Ages. In order to support taller and taller structures, they adapted the construction to support more elaborate buildings. They made the first-level walls thicker than the ones that were higher up on the building. The higher the structure, the thicker the walls were on the bottom levels. However, these thick walls caused problems with creating openings for windows. The solution was found in the flying buttress, an arm-like structure that held up the thin walls of large building, such as the cathedrals of the Gothic period. The thin walls allowed space for colorful, stained-glass windows, which served as a source of light and beauty and offered an opportunity to tell a visual story.

In the New World, these same ideas of building took shape in the architecture of natives and European colonists. The Mayans and Aztecs build temples using the pyramid concept. When the Swedes came to the New World, they built log cabins using available forest materials, and this type of construction was soon adopted by other new settlers. As settlers continued to move west, they left the forests of the east for the Great Plains and began to build houses of sod with post and lintel doors.

Over time, buildings took on different decorative exteriors: Victorian, Spanish, empire, bungalow, Queen Anne, Georgian, Cape Cod, and French provincial, to name just a few. But, though the exteriors changed, the post and lintel still remained the construction standard underneath.

In the late 19th century, when the need for taller structures was limited by available structural materials, Otis and his elevator and the invention of the Bessemer process for producing steel allowed architects to build taller and taller buildings, and the skyscraper was born. This opened up a new direction in architecture.

In the early 20th century, architects began to explore ways to create multi-use facilities utilizing simple lines and maximizing the space. The most famous of these structures is the Bauhaus experiment, which provided a place for people to live, work, and play, all in one facility.

Today cosmetic exteriors are on display once more, as exemplified by the Dancing House in Prague and the Milwaukee Art Museum. And though the majority of construction still rests on post and lintel construction, the pyramid remains an artistic option, as seen in the inverted pyramid in Tempe and the Louvre Pyramid in Paris.