



Standing on the Shoulders of Giants Curriculum

Excerpts from Nile Valley Contributions to Civilization

Chapter 3

Reading Time: Approximately 20 Minutes

The Architectural Masterpieces of Kemet

Architecture is one of the most powerful expressions of human creativity. Incorporated within it are elements relating to art, the physical sciences, psychology and religion. Architectural structures serve as gathering places where people work, pray, and are entertained...The philosophy of a nation is often reflected in its architecture. Nowhere is this statement more accurate than with respect to ancient Kemet. Before the Medu Netcher (hieroglyphics) were deciphered, and hundreds of years before the complexities of the science, religion and philosophy of Kemet were known, her ancient temples, pyramids and tombs commanded the respect and admiration of millions of awe-struck visitors. Numerous questions have been asked as to why, and how, these monuments were built? Many of these questions remain unanswered to this very day. (98)

In archeology, whenever a temple or ancient monument is aligned to a specific rising or setting position of the sun, moon or other heavenly body, that site is usually referred to as an **observatory** or a **solar** or **lunar** structure. From this perspective, practically every pyramid and temple in the Nile Valley served some **astronomic** purpose. These ancient buildings were designed not only to accommodate the physical needs of the people, they were also **astronomically** oriented to facilitate their spiritual needs as well. (99)

Temples were designed to create a sense of **grandeur** and to inspire greater faith within the priests and the general population. The harmonic proportion of the structure, its orientation to **celestial** bodies and the location of the sacred alter (Holy of Holies), were all part of the design to create an environment where the “spirit” of a specific **Netcher** would dwell. Every component within a temple—the soaring height of the columns, the number of columns, the **clerestory** windows, the positioning of the walls, the paintings and carvings on the walls and columns—all reflected an intense desire to establish a **sacred** place for a dialogue between the human form and its spiritual essence. (99)

Sidebar: The architectural form of the arch was considered by many to have introduced by the Romans. But this example of an arched ceiling, at the Temple of Abydos, was built around 1300 B.C.E., approximately 700 years before the founding of Rome. (98)

The mortuary temple of Queen Hatshepsut is considered one of the finest architectural structures ever created. It was built into the mountains on the west bank of the city of Waset (Luxor) around 1470 B.C.E. the original name of the temple was Zosert-Zosru, which means “The Holy of Holies.” This structure is now called “Dier el-Bahari,” which was the name given it by the Arabs. (98)

The Step Pyramid of Saqqara

Ancient Kemet is a land of many firsts, and chief among them is the distinction of being the home of the world's first skyscraper. The first stone building ever constructed still stands majestically within the vast complex of temples at Saqqara. It is called the Step Pyramid. There are a total of 15 royal pyramids at Saqqara. Most are in varying stages of disrepair, but they were all developed from the same prototype. (100)

The Step Pyramid was built around 2630 B.C.E., for a king of the Third Dynasty named Zoser. His pyramid rises to a height of 197 feet in a series of six box-like steps called mastabas (an Arabic word which means *mud benches*). The early mastabas were small rectangular tombs in which the bodies of nobles were buried during the early dynastic period in Kemet. The Step Pyramid of Zoser represents a profound shift in the construction of the traditional tomb. In this instance, six mastabas were built, one on top of the other. Each of the five mastabas was smaller than the one beneath it. This created a tiered monument that symbolically represented a stairway to heaven. The completed structure was encased in polished limestone—thus the first pyramid was born. (100)

The Step Pyramid is but one of a number of structures comprising the largest stone complex ever built under the rulership of one leader. The uniquely stylized architecture of the enclosure wall, and the adjoining colonnade, gives the impression that you are viewing a contemporary structure, not one that was built more than 4,500 years ago. The architectural designs employed at this site set the architectural standard in Kemet for the next 3,000 years. (100)

The enclosure wall at the Saqqara complex was originally nearly 1800 feet long and 900 feet wide. This wall rose to a height of over 30 feet, and enclosed more than a square mile of land. Upon entering the pyramid complex of Zoser, one must walk through a [colonnade](#) consisting of 40 columns believed to represent the 40 provinces or states of early Kemet. The design of these columns is quite reminiscent of the architectural style that would be attributed to the Greeks more than 2,000 years later. (102)

The architect responsible for designing the Step Pyramid and its surrounding compound was referred to by Manetho in 285 B.C.E. as “the inventor of the art of building with hewn stone.” This architect's name was Imhotep and he is described as “the world's first multigenius.” Imhotep's brilliance superseded his architectural ability, for he was also revered as an astronomer, philosopher, poet and physician. He was recorded in history as the world's first physician, a title that was later bestowed upon a Greek named Hippocrates who was born some 2,200 years later. (102)

During his lifetime, Imhotep was given many titles, among them: *Chancellor of the King of Lower Kemet*, *the First after the King of Upper Kemet*, *High Priest of Heliopolis* and *Administrator of the Great Palace*, just to name a few. He was [deified](#) 2,000 years after his death by the residents of Kemet and was later referred to as *Asclepius*, the god of medicine, by the Greeks. As a philosopher, Imhotep is

credited with having written many poems and proverbs, the most famous of which is: “ Eat, drink, and be merry for tomorrow we shall die.” (102)

Very rarely is a noble man more popular than the king he serves. But in the case of Imhotep, he was worshiped in early Christianity as the *Prince of Peace* and described as the “first Christ,” a title meaning “the anointed one.” (102)

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The Great Pyramid of Giza

Ten miles west of Cairo, at the geographical center of the Earth’s landmass, is a man-made limestone plateau, which is one mile square and rises one hundred thirty feet above the Nile Delta. This area, which today is called Giza, is unmistakably the most important archeological site on the planet. It is at the Giza Plateau that we find the ancient remains of a vast industrial complex comprising ten pyramidal

structures, the most famous of which is the *Great Pyramid*. This Great Pyramid is the largest, oldest and only remaining of the *Seven Wonders of the World*. (103)

When it was originally constructed, the Great Pyramid rose to a height of 481 feet, in 201 stair-stepped tiers. Unfortunately, the last twelve courses of stone and the capstone were removed at some undisclosed point in time. (103)

The first major assault on the Great Pyramid occurred in 820 A.C.E., when a Persian [caliph](#), by the name of Abdullah Al Mamun, burrowed into its interior in an attempt to find the great treasures rumored to have been stored inside its secret chambers. After tunneling more than 100 feet through the solid core of the pyramid, Al Mamun’s men finally broke through into a narrow passageway. The men scurried about in the various rooms of the corridors of the pyramid. They were unable to find any treasure and they abandoned their search in disgust. As a result of Al Mamun’s forced entry into the pyramid, its interior was made accessible to outsiders for the first time in more than one thousand years. (104)

The second major attack against the pyramid occurred in 1356 A.C.E., when its polished limestone exterior was removed and used to rebuild the city of Cairo after a devastating earthquake. Originally, the entire outer surface of the pyramid was covered with polished white limestone, giving the appearance of one smooth and continuous surface reflecting the light of the sun and moon. (104)

Over the course of several decades, the entire 22 acres of 100-inch thick limestone casing was removed and used in the construction of the mosques of El Hasan, El Rifai and the fortress of Qalat El Gebel in Cairo. The stripping of the limestone covering left the pyramid's outer core of masonry exposed. These same blocks now provide enthusiastic tourists easy access to climb to the pyramid's apex. (104)

Many Egyptologists are of the opinion that the Great Pyramid was built by [pagan primitives](#) to house the body of a deceased king. They believe its measurements were made by crude instruments and that a slave labor force of thousands of men was used to quarry, transport and position the approximately two and one-half million stones, that make up this great structure. These beliefs persist, despite the lack of evidence to fully support them. (105)

The Great Pyramid may not be the largest stone structure ever created, but it is still, many thousands of years after its construction, the most perfectly aligned building to true north. This misalignment has been attributed to the shifting of the Earth's crust since the pyramid's construction, and not an error on the part of those who constructed it. (105)

The Paris Observatory is the most perfectly aligned structure built in modern times, and it is aligned six minutes off true north. How is it possible that "slaves" or primitive workers accomplished a feat, thousands of years ago, which "skilled" technicians would have difficulty duplicating today? This question has not been answered, so it is ignored. (105)

The pyramid's precise alignment to true north is confirmation that its builders possessed a working knowledge of geography, which is essential to the development of any nation. From the earliest of times the inhabitants of the Nile Valley had to continuously survey and reestablish the agricultural boundaries that were washed away with the annual flooding of the Nile. The designation of national and domestic boundaries, construction of temples and the undertakings of trade and commerce all require a working knowledge of geography and [geodesy](#). (105-106)

Today, the basis of geography is the system of latitude and longitude used to measure the size of our planet and to chart its surface with supreme accuracy. Most people think of this as an invention of the modern world because it requires a working knowledge of a higher form of mathematics such as spherical trigonometry. However, we find this exact knowledge incorporated into the interior and exterior measurements of the Great Pyramid. (106)

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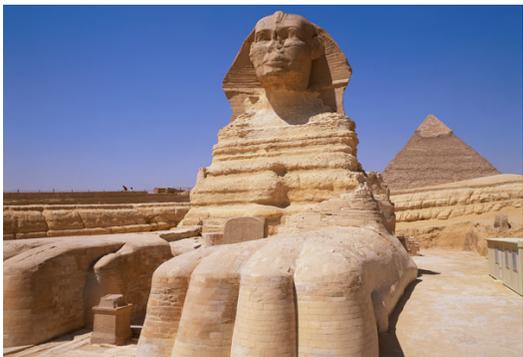
Math is an integral part of astronomy, the science of observing the stars and planets. Astronomy is vital for the calculation of the length of the year and the precise moment of the [solstices](#) and [equinoxes](#), which leads to the creation of a calendric system. It is a commonly accepted fact that the Egyptians were responsible for the development of a 365 ¼ day year, a 24-hour day and the "second" as a unit of measure for the hour. Clues as to how this information was obtained can be found in the interior passages of the Great Pyramid, which were used as astronomical observatories for watching and clocking the heavens. (107-108)

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The most impressive aspect of the Great Pyramid is its sheer size and volume. It is composed of approximately two and one-half million stones which weigh an average of two and one-half tons each. There are several located above the King's Chamber that weigh as much as 70 tons—the equivalent of a railroad locomotive. Its base covers an area of 13.11 square acres or seven city blocks. It is perfectly level to within one-half inch. (110)

There is more stone in the Great Pyramid than in all the cathedrals, churches and chapels built in England since the time of Christ. In more contemporary terms, the Great Pyramid was built to a height equaling a 45-story building and with enough stone to build 30 Empire State buildings. So vast is the structure that, if all of its stones were cut into one-foot blocks and laid end to end, they would stretch two-thirds of the distance around the Earth at the equator. The cement used to bind these stones in place is 1/50 of an inch, the thickness of two sheets of paper, and it is nearly invisible when compared to the one-half inch of mortar used in traditional brick construction. (110)

If you were to give a modern construction engineer the task of building a structure 85 million cubic feet in volume, composed of over two and one-half million blocks of limestone and granite—weighing from two to 70 tons apiece, with a joint tolerance of no more than 1/50 of an inch, and an orientation of true north—the engineer would probably tell you that what you are asking for is impossible to build by any means known today. (110)



Her-Em-Akhet: The Great Sphinx

Kemet has long been regarded as a land of many mysteries, but one of the most [enigmatic](#) structures which has baffled mankind throughout the ages is the statue called the Sphinx. Carved “in situ” out of one single mass of stone, which was formerly a part of the physical geography of the Giza Plateau, the Sphinx stares majestically towards the eastern horizon. (112)

The Sphinx is the largest and oldest monument ever sculpted from a single rock. It has the head of a person and the body of a reclined lion. As late as the Eighteenth Dynasty (ca. 1550 B.C.E.), this monument was called *Her-em-akhet* (Heru-of-the-horizon). This name was a direct reference to *Heru* the sun Netcher (child of Ausar and Aset), and the *akhet*, which means “places where the sun rises and sets.” Her-em-akhet faces the rising sun and its strategic positioning at the foot of the Great Pyramid provides a clue to its symbolic meaning. (112)

This great statue is 240 feet long and 66 feet high, it has a shoulder span of 38 feet, a head that is almost 14 feet wide and a 7-foot smile. Her-em-akhet represents a perfect blend of art and architecture, mystery and magnificence. It aesthetically integrates the essence of man and animal in

such a way that it expresses the divine relationship between the two. This is not your typical [anthropomorphic](#) statue. (112)

Symbolically, the body of the beast represents the animal nature which exists in man, and the lion exemplifies the royalty and power of the divine spirit that exists in its lower physical form. The head of a man symbolizes the intelligence of the mind which must be cultivated in order to elevate the [consciousness](#) into a higher spiritual state so that it may become [divine](#). Metaphorically speaking, it is the [suppression](#) of lower animal nature and the refinement of the thought process that leads to the spiritual evolution of man. Spiritually speaking, it is only by conquering the “beast” within that one is capable of truly knowing God. (112-113)

Knowledge comes from enlightenment—light (good/God), which vanishes the darkness—ignorance (evil/devil). Heru represents the conquest of good over evil (Set/Satan) and Her-em-akhet exemplifies the external conquest of good over evil because he faces the eastern horizon and is physically *enlightened* by the sun as it rises each morning. (113)

The Sphinx has been called the “soul of Egypt” by Zahi Hawass, the director of the Egyptian Antiquity Organization; but in order to understand the depth of its soul, one must go back to its Kemetite roots. A simple analysis of the names that foreigners have used to describe this statue helps to explain how they misinterpreted its spiritual meaning. In Arabic the Sphinx is called *Abu-Hol* which means “Father of Terror.” This concept was derived from the Greek word *sphinx* which means “the strangler.” (113)

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The Temple of Her-Em-Akhet

A short distance east of the paws of Her-em-akhet stands an ancient temple which was one of the last major monuments to be discovered at Giza. Although excavation of the site was not begun until the 1920s, it wasn’t until forty years later that the temple was studied in detail and the results of the study were revealed to the world. Herbert Ricke, a Swiss archeologist, spent three years researching the structure and concluded that it was the oldest solar temple ever built in Kemet. (114)

An article published in the April 1986 issue of *Smithsonian* magazine reviewed Mr. Ricke’s findings:

He identified niche-sanctuaries on its east and west sides dedicated to the rising and setting sun, a colonnaded court with 24 massive pillars marking the 24 hours of the day, and ten or 12 statues of the pharaoh [Khafre]. Ricke further concluded that the Sphinx was not placed to guard the Giza necropolis, as some Egyptologists had surmised, but instead was a symbol of the sun-god himself, peering over the colonnade into the sanctuaries below. (114-115)

This temple is perfectly oriented to the astronomical mid-point of the year, the [vernal](#) and autumnal equinoxes. It is during the spring and fall equinoxes that the earth experiences 12 hours of daylight and 12 hours of darkness. This temple is so precisely aligned to the movements of the sun, that anyone standing in the eastern sanctuary at the equinox will see the sun trace the outline of the head of Her-em-akhet while illuminating the sanctuary as it sets behind the shoulder of this great statue. The same scene can be witnessed in the sanctuary of another temple, as the sun sets during the winter solstice. (115)

The *Smithsonian* article also describes other fascinating discoveries made by Ricke:

Two other astonishing alignments were revealed as the study went on, both involving the Egyptian hieroglyph *akhet*, which means “places where the sun rises and sets.” The *akhet* is rendered as a sun between two mountains. Viewed from the Sphinx at the time of the summer solstice when the sun is at its greatest distance north of the celestial equator, it sets directly between the pyramids of Khufu and Khafre, thus writing across the horizon an *akhet* “on the scale of the acres”...This is a clear reference to Horus [Heru] the god and the *akhet* sign, because anyone approaching from ancient Memphis would have seen the head of the Sphinx silhouetted between the two pyramids. (115)

Her-em-akhet is separated from the Pyramid of Khafre by a distance of more than 1,500 feet and the solar temple, which is located directly in front of Her-em-akhet, was built 70 feet *below* it. Yet despite these vast distances the architects, engineers and designers of this human headed statue, the solar temple and the second pyramid were able to orient all three structures to the solstices and equinoxes with a skill that is unimaginable by today’s standards. To many, the buildings at Giza are much more than monuments to the dead. These ancient edifices are the signatures of Godlike men, written in stone across the sky, and, they serve as a physical reminder of what man once was and the level of Godliness he must aspire to attain. (116)