

Architectural Review of King Solomon's Temple, Jerusalem

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Abstract

The paper reviewed King Solomon's Temple in Jerusalem 484 post slavery years and more than 400 years before the birth of Jesus Christ. It is an exposition of the architecture of a most exotic and exquisite divine blue print handed to King David by God. It brought to focus, especially to architects and professionals in the built-up environment, what planning and engineering exploit many would never have imagined possible then. The paper examined the building materials used in the construction and finishing of this architectural masterpiece which has remained mentioned in history even after more 2500 years it was annihilated by King Nebuchadnezzar of Babylon. It examined the labor force and cost. It attempted to estimate the cost of the temple, to compare its cost with other great buildings made to glorify deities. The paper listed some of such existing top religious' temples, Christian churches and Islamic mosques in the world. It concluded with other authors that the reference by scholars that the temple surpasses all-in cost is a fact and that architecture works like Santa Sophia and Taj Mahal, Eiffel Tower, Crystal Palace, and Sydney Opera House or Burj towers in our contemporary world exemplifies that such fit could be matched or surpassed. It, therefore, recommended that contemporary architects aspire to attain inspirations that will match and surpass the ingenuity of King Solomon's era.

Keywords: *King Solomon's Temple, Architecture, Architects, Labor and Building materials*

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Background to the Study

Great buildings are designed to make statements. Some glorify God or symbolize the power of a ruler. Temples, Cathedrals and Palaces have been built ever since man first laid one stone on another, (Hawkes, 1993). Some are monuments to wealth, or instrument of war; others are shrines to culture or the sport. Several reflect a desire evident through the centuries to build ever higher, creating structures which have tested contemporary building technology to the limit and sometimes beyond it. Many towers have collapsed when ambition has outstripped knowledge of laws of governing stresses; one of the most remarkable towers to have fallen was Gothic spire at Foothill (Hawkes, 1993)

Although the purpose of these buildings may vary, without a function they could hardly have been created, for architects unlike other artists, cannot work without a client ready and willing to pay the bill. All buildings described here have some claim to be unique. They are either the first, the biggest, the tallest, the most original or the most fantastic of their kind. Some buildings like the Crystal Palace, the Eiffel Tower or the New Orleans Superdome, to have carried the art of building into new territory. Others have been chosen because they reflect the obsessions of a single man, like Antonio Gaudi or Felix Houphouet-Boigny determined to leave a statement in stone or concrete behind them.

There are mysteries like the great pyramid of Cholula, science fiction fantasies like Biosphere 11, and near – follies such as the Sydney Opera House and Burj towers in Dubai in which beautiful ideas demanded to be translated into reality, however that turned to be. Every important culture has produced great buildings; sometimes it is the only thing they have left behind. Such remains remarkable works of architecture and engineering over centuries and hundreds of thousands of years. King Solomon's Temple was one of such greatest works by man. Like frozen music, it contained the loudest and sweetest sounds man ever contrived to make.

Throughout history, temples played a major role in religious manifestations. Presently, more than a quarter of the world's population shares oriental beliefs, which include the Buddhist, Hindu, The Sikh, and the Tao. All these pray to their deities and venerate them in temples that are as architecturally diverse as the religions that separate them. Covered in spectacular bas-reliefs and sculptures, with oddly shaped towers that could easily make one wonder how it was possible to create such architectural marvels centuries ago plated in gold, decorated with gems and diamonds. (Dingmans, 2013).

The first temple known to history was King Solomon's Temple, built in about 960 BC in Jerusalem on Mount Zion. As noted in Dingmans, (2013), historians estimate that it might be the most expensive temple ever built, but unfortunately, it was destroyed during the Babylonian invasions in 586 BC. Dingmans noted that since the many religious buildings have attempted to rival in shape and size and cost. This adventure has remained elusive. (Mishkan Ministries, 2017)

Documentation of some existing world's most expensive and beautiful temples and their costs include, Chion –in Temple, Higashiyama-Ku, Kyoto, Japan, valued at \$10, million, commissioned around 1234 AD, (2). Potala Palace, in Lhasa, Tibet, \$15 million, built in 637 AD, (3). Temple of Heaven, Beijing, China worth \$20 million, Borobudur, Java, in Indonesia estimated at \$70 million, Golden Temple, Punjab, India said to have cost \$100 Million and Shwedagon Pagoda, in Yangon Burma built 2500 years ago, but archeologist estimate it was erected between 6th and 10th centuries AD and is estimated at a whopping \$2.4 Billion. (<https://www.therichest.com/lukury/mostexpensive/riches-and-religion>)

In the same manner, Christian churches like temples are dedicated to the worship of a supreme God, and many Christian periods have spoken of the sovereignty of their God through architectural expressions built to eulogies their God. Some of these pinnacles of worship include Milan Cathedral in Italy, that took 600 years to build, St. Paul's Cathedral in the United Kingdom, Notre Dame de Paris, completed in 1345 AD, Hagia Sophia in about 1500 years ago, St. Peter's Basilica, Vatican City described as the finest example of Renaissance architecture built by luminaries as Donato Bramante and Michelangelo, Cologne Cathedral in Germany built between 1248 to 1880 in Gothic style and lastly, but not the least as this documentation is continuous is Florence Cathedral in Italy whose constructions lasted for 150 years. The cathedral which started as a Gothic structure incorporated some Renaissance features (Curl, 1999, Fletcher, 2000, Kleiner, Mamiya and Tansey, 2001). The Moslems were not left out in pursuit of an architecture that glorified Allah. Such magnificent works of architecture include, Al-Haram in Macca, Saudi Arabia, Al-Masjid an – Nabawi in Medina, Saudi Arabia, Al Aqsa Jerusalem, Sultan Omar Ali Saifuddin in Brunei, Zahir in Kedah, Malaysia, Hassan 11, in Morocco among many others.

The Temples, Cathedrals, and Mosques all are known to be exquisite actions towards reverencing a supreme being. Each of them is characterized by unique architecture resulting from rituals. All cost money and time, which in some cases ran into centuries, yet according to history, King Solomon's Temple was finest and most expensive. Its construction duration of seven years also remains outstanding in history.

Literature Review

To review the architecture of King Solomon's temple, it became pertinent to go down in the history of architecture, especially the periods that characterized religious rituals. Some of these relevant periods are reviewed below and there include, Early Christian and Byzantine, Romanesque, Gothic Renaissance, and Islamic.

The study considered it necessary to also review in brief the architecture of ancient Egypt, because of its uniqueness of existence and relationship to the life of the Jews. This is so because the architecture of ancient Egypt, was the first documentation in the civilized world, and secondly, it remains peculiar in the lives of the Jews whose 400 years in exile in Egypt in no small terms must have provided a new concept of the tent to housing. The Jews did not only build Egypt, but they also patronized their architectural heritage.

Early Christian and Byzantine Architecture

This was an integral part of the Roman Empire, the most important buildings are of three types; churches, commemorative structures, and cemeteries. The exemplar of churches after it was granted freedom in C4, was the basilica of which San Pietro, Rome was an influential example before its demolition. (Curl, 1999, Fletcher, 2000, Kleiner, Mamiya and Tansey, 2001). A factor that affected the development of the architecture of churches was the conviction that God was invisible and needed not to be housed. (Singh and Singh 2012).

Romanesque Architecture

This architecture includes those phases of European, architecture which was based on Roman art from the end of Roman Empire in 475 AD to the end of the 12th century, having a common structural approach, although details varied locally according to influences of those regions or nations. This architecture flourished in Italy, France, Germany, and England. The architecture developed on the ruins of Roman architecture, whose ruins provided quarry for the new constructions. In Romanesque architecture climatic conditions, religion and social life of the people played their part. In the north large windows were used due to their duller climate. They were provided to exclude dazzling sunshine in the south. Roof slopes were largely determined by climate. Pitched roofs were not used in the south. Churches flourished everywhere which resulted in the building of magnificent cathedrals and up to the 13th-century architecture was almost regarded a sacred science. The general architectural character of Romanesque style is sober and dignified. The architectural character consisted of Roman basilicas. There were transepts and prolonged sanctuaries and walls were roughly built and were relieved externally by buttresses. Horizontal moldings in columns and capitals and series of semi-circular arches on corbels were used to form decorative features. Columns were cylindrical and formed as massive piers. Shafts were treated with flutings or carved ornamentally. Cross vaults over square plans and dome overcrossing of transepts and naves were used as roofs. For openings, rose or wheel windows were often used. Glass was not in use then. (Singh and Singh 2012, Curl, 1999, Fletcher, 2004, and Kleiner, 2001, Gympel 1996, and Fiez, 1999)

Gothic Architecture

The Gothic architectural style was more connected with a taste for the exotic and is most often referred to as architecture of pointed arch, pointed rib-vaults, pier with clusters of shafts, deep buttresses, some the flying types. (Curl, 1999). Gothic architecture evolved from Romanesque architecture and is mainly distinguished by the introduction of pointed arches. The entire structure of Gothic style consisted of a skeleton of piers, buttresses, arches, ribbed-vaulting, all held in equilibrium by the combination of oblique and vertical forces neutralizing each other. In Gothic architecture, the conception of unity was prioritized as artist impression played less importance to structural stability and unity. (Singh and Singh, 2012).

Renaissance Architecture

From the French *renaitre*, (to be born again) and the Italian *Rinascimento* (rebirth), the term is given to the great revival of arts and letters under the influence of classical precedents which began in Italy in C14 and continued during the following two centuries, spreading to virtually

all parts of Europe. (Curl, 1999). Accordingly, Fletcher (2000) and Kleiner et, al (2001) described it as a convenient label for the style of architecture that developed then and was characteristic of Brunelleschi in Florence. Renaissance architecture used Gothic methods in construction, but the classic character of Roman architecture. The renaissance architects adopted the Byzantine treatment of domes over square compartments. They made the exterior of domes a dominating feature by further increasing the height of the drum and decorating it not only with windows, but also with new columns. The pointed arch was now ousted by semi-circular Roman arch. Gothic Ribbed' vault' was replaced with ancient Roman semi-circular vaults and cross – vaults. (Singh and Singh 2012).

Islamic Architecture

Islamic architecture developed between the 13th century and 18th century. During this period of about 600 years, distinctive developments took place in most Muslim nations. The architectural character of this period was simpler evolving more of structural expression by the buildings and luxury planning of big gardens, lakes, water channels, and fountains. Some Islamic architects adopted flat roofs of corbelled stone slabs.

Egyptian Architecture

Due to its geographical situation, Egypt has been an outlet and inlet for foreign trade. All the cities developed along the banks of Nile and most of the architecture of historical importance like the pyramids and temples. The climate and geology influenced the architecture of Egypt. The limestone, sandstone granite, and basalt considered as very strong and durable stones were abundantly available. The climate consisting of two seasons, spring and summer with equal duration also contributed to the architectural character. Storm and rain are rare a condition that contributed to the preservation of buildings. Brilliant sunshine made designs simple in form. There was little or no need for windows as sufficient light and ventilation reached the interior through doors and slits. The character is one made permanent with the use of stones, with post and lintel (Trabeated style). The major architectural product includes the great Sphinx, Tombs, Temples, and Obelisks. (Singh and Singh, 2012, Curl, 1999).

Lessons from the literature review

It became necessary to review architectural periods of early Christian and Byzantine, Romanesque, Renaissance, Gothic and Islamic styles because most temples, cathedrals, and mosques listed in the development of this paper are inclined to one or more of these architectural periods and the study examined if any of these periods took something from the architecture of King Solomon's temple, since it existed in more than 2500 years before the oldest among them. The architecture of ancient Egypt, in contrast existed far before the temple since the temple started 484 years after the exodus and was completed in seven years. The paper also examined the possible influence of early Egyptian architecture on King Solomon's temple because the Jews were part of the labor force that built the Pyramids, Sphinxes and Obelisks of Egypt during their 400 years in Egypt.

To claim that the architecture of ancient Egypt influenced that in Jerusalem, may not be out of place for the following reasons;

1. The Jews were predominately tent dwellers, and tent architecture comes with limitation in evolution and growth. The Jews stayed for more than four hundred years in Egypt had them mingle with the Egyptians, as Joseph initially introduced them to their city, which must have been shaped like that of their host.
2. The Jews for over two hundred years were enslaved and were used to build the Egyptian Pyramids, Tombs, Temples and Sphinxes, and engagement that had them acquiring construction skills and becoming master masons.
3. Jerusalem has a Mediterranean climate, hence more of daylight and little rain. The Egyptians according to Singh et al (2012), and Fletcher (2000), carefully noted the predominant use of little or no windows in the architecture of ancient Egypt another common feature in the temple as small and high-level windows were used all through the temple project.
4. Egyptians had primary knowledge and use of trabeated architecture or column and beams, a prominent component in King Solomon's temple in Jerusalem. The most vital building material in Egypt, the stone was also extensively used in a more refined application in the temple.

The chief builder or master mason of the temple, was from Tyre the present-day Lebanon. This country and Egypt are separated by the Mediterranean Sea. Both Israel and Lebanon share a Mediterranean climate. Only southern Egypt share that and receives rainfall in winter. Egypt is predominantly a desert climate, hot and dry. However, unlike Egypt, Tyre has an abundance of the finest timber. Olive, Cypress, and Cedar were among the best. In conclusion, temple's design, agreeably was divine, but its construction in no doubt had Tyrese and Egyptian influences with Tyrese master mason dominating in all the construction aspects of the temple.

Architectural Style of the Temple

Perhaps the architecture of King Solomon's Temple may have not taken anything from the architecture of ancient Egypt, a prominent architecture that thrived for more than a thousand years before the temple. However, there existed similarity in shape as existed as rectangular and square shapes were common and predominant in Egyptian architecture and that of the temple

The Architecture of ascent was equally common to both, The Pyramids and obelisks were quite tall. The two pillars, Jachim & Boaz went up in glorification of Yahweh too. The use of carving, sculptures, and statues were common as the temple had carvings and statues of Angels endowing its spaces, an art common in early Egyptian architecture. The Egyptians were able to reach heights through the use of steps. Such was the case in the temple, winding staircase rose to the first floor and another straight flight went to the 3rd.

Ornamentation

King Solomon's Temple was decorated by exquisite ornaments just as Egyptian palaces and pyramids. The fact that Humaribi, a Tyrese was the Chief Mason signified expatriate engagement which most likely brought with it foreign resemblance. Humaribi made many of the temple articles of worship and must have brought with him foreign influence.

King Solomon's Temple in Jerusalem

Architecture is the skillful combination of a number elements such as mass, stability, durability, materials, construction, form, proportion, correct ornament, decorative color, sculpture and painting, uniformity, the imitation of nature, and association. (Crowder, 1976). Crowder further noted that to gain a more complete understanding of architecture that it is necessary to study man's adaptations of these features to meet his physical and spiritual needs. A good architecture keeps pace with a dynamic society by meeting new human needs and capitalizing upon advances in technology. Thus, the architect, to fulfill his public obligation, cannot concern himself with the static limitations of the style. He aims to satisfy function, not fashion. Crowder, (1976) described the above as the meaning of contemporary design. The freedom to solve an architectural problem without forcing a building into a certain look or structural pattern Crowder concluded that buildings should be defined to suit the purposes and activities of those inhabiting them and in like manner should reflect virtually what is happening in them. Crowder (1976) shares the same views with Vitruvius, ten books on architecture as translated by Morris (2017). Crowder in a study of church architecture for the Baptist pointed out the need to imbibe beauty, proportion, lines and forms, materials, colors, furnishings and equipment, acoustic quality and lighting.

The Temple

The architecture of the temple Solomon was divine as noted in 2 Chronicles, where King David instructed Solomon on the need for precision in the construction of the temple, as its design blueprint was handed to him by God. An appraisal of the temple as recorded below confirms that mortal dreams have limitation while divine is Holy. Little wonder therefore why the construction took seven years, a remarkable number in the events of God and the Jews.

The aim of building the temple was to worship God, burn incense, make sacrifices and praises and the temple was located on Mount Moriah, in Jerusalem. Construction commenced on April 17th in the fourth year of King Solomon's reign and was completed on November 7th, in the eleventh year of King Solomon's reign. The project lasted seven years.

Brief

King Solomon's temple for God is unique, because not only that its design was divine (1 Kings) but because it was built on promise of peace (1 Kings), as King David, Solomon's father fought many wars, and according to the Bible God rather chose Solomon to build the temple and gave him peace. The briefing of the temple design and the design composition as recorded in 2 Chronicles was directed by God. King David gave Solomon the blueprint of the Temple and its surroundings, as quoted by King David in verse 2 Chronicles, 28 verse 19, "Every part of this blueprint was given to me in writing from the hand of the Lord". The blueprint contained the plan for the Temple and its surroundings, the treasuries, the upstairs rooms, the inside rooms the sanctuary, for the place of mercy, the plan for the outer court, the outside rooms, the storage areas, and the treasuries for gifts dedicated by famous persons. The specifications for articles for worship and sacrifice. The temple was made up of the following parts; the Holy of Holies, the Chambers, the Courts, the Molten Sea, the Storage, upstairs rooms, the Sanctuary, and the Treasuries for gifts dedicated by famous persons. An annex of rooms was built along

the full length of both sides of the temple against the outer walls, and the rooms were three floors high. The lower floor being 2.3 meters (7.5ft) wide and the second floor 2.7 meters (9ft) wide, then the last floor 3.1 meters (10.5ft) wide. The temple had these unique sections.

Description of the Temple Environment

The assemblage of the world's architectural genius at Jerusalem, and the amassed store of materials of gold, silver, brass, iron, granite, and marble, together with the precious stones and costly woods and fabrics from foreign shores, resulted in a structure distinctive in design, gigantic in proportions, and glorious in embellishments, the like that the world then had never seen before and which was never matched, much less exceeded. The Temple consisted of series of terraces roundabout Mount Moriah, the highest point of which was crowned by the Great Porch, with the Holy and Most Holy place (Mishkan Ministries, 2017). The second highest terrace, surrounding the Mount, was an oblong or rectangular 487.68 meters (1600) feet long and 243.84 meters (80) feet wide retaining wall rising from the base of the Mount to a height of from 24.38 meters to 73. 152 meters 80 to 240) feet as conditions required for support, for defense, and to produce a uniform raised level about the Mount. Within this first enclosure, the architects provided homes for the porters and singers, as well as havens for the worshippers. The upper terrace was 243. 84 meters (800) feet long and 121.92 meters (400) feet wide, surrounded by a retaining wall of the great stone. The eastern half of second enclosed terrace or courtyard was embellished by three rows of hewed stones or pillars, roundabout, forming a colonnade and supporting an entablature of cedar beams and costly stones. The Covert for the King was located on the north side and was of solid brass. In the western half of this oblong enclosure, and on the north side, was the Court for the women, surrounded by high walls and enclosing a series of chambers suitably arranged (Mishkan Ministries, 2017).

To the south was the Court of priests, containing the chambers for those who were actively engaged in the Temple's services. In the center of the western half of the great court was the inner court, 121.9 meters (400 feet) by 60.96 meters (200 feet) in size, in the form of a rectangle, surrounded by a cloistered colonnade of three rows of pillars supporting a beautiful entablature of cedar beams and costly stones. The only entrance to the inner court was through the Great Gate on the eastern side. In the center of the eastern half of the inner court stood the Great Altar of the Burnt offering. In the southeast corner was the Molten Sea and on the north and south sides, five on each side were Lavers. The western square of the inner court contained the House, or Holy and Most Holy Places, surrounded by a series of chambers. The approach to these sacred precincts was through the Great Porch, rising to a height of 240 feet (Mishkan Ministries, 2017)

These crowning terraces which supported the temple and King Solomon's palace or citadel, including the house of the forest of Lebanon, the queen's palace, the porch of pillars, and kindred structures, were surrounded for the sake of security by a wall which began at the bottom of the mount. Some of the ideas of this wall were reared 85.34 meters (280 feet) in height before they attained the desired level, and these massive and curious bases, together with the superstructure, formed an impressive prospect, which was the marvel of all beholders. 2. Chronicles 3:4.

Approaching the temple terraces from the southwest was a road leading through a gate into the great citadel, within the walls of which were the numerous buildings. The citadel was an evaluation just below that of the temple, and visitors to the latter had to pass through the former. Here was the King's Palace, the House of the Forest of Lebanon, the Porch of Pillars, the Queen's Palace, the Tower of David, and the Palace of the Captain of the Host, the Palace of the High priest, and the Judgment Seat or Throne. Within this same enclosure were to be found the homes of the Royal Harem, and the immediate official family and attendants. Here also were the Royal Gardens in which were to be found a great variety of trees and beautiful shrubbery, and enclosure for wild and domestic animals and birds.

The king's Palace, the House of the Forest of Lebanon, and the other royal buildings were of a size and magnificence such as has never seen before and was priced because it reflected the high political rank of the nation, as the Temple reflected the glory of its religious institutions. The road from the southwest gate ran diagonally northeastward to a central square which was dominated by the tower of David. At the south of the square was the Court Guards, at the west of the Queen's Palace, and at the east the Palace of King Solomon.

Architecture Details of the Temple

The temple was 27.43 meters (ninety feet) long, 9.14 meters (thirty feet) wide, and forty feet high. All along the front of the temple was porch 9.14 meters (thirty feet) wide and 4.57 meters (fifteen feet) deep. Narrow windows were used throughout. 1 King 6:1-4.

An annex of rows was built along the full length of both sides of the temple against the water walls. The entire annex floor was cypress woods. These rooms were three stories high, the lower floor is 2.28 meters ($7\frac{1}{2}$ feet wide), the second floor 2.74 meters (9 feet) wide and the upper floor 3.2 meters ($10\frac{1}{2}$ feet wide). The rooms were connected to the wall of the temple by beams resting on blocks built out from the wall – so the beams were not inserted into the walls themselves. 1 King 6: 5-6

The stones used in the construction of the temple were prefinished at the quarry, so the entire structure was built without the sound of hammer or ax or any other tool at the building site. The bottom floor of the side rooms was entered from the right side of the temple, and there were wounding stairs going up the second floor; another flight of stairs led from the second to the third.

Within the inner sanctuary, Solomon placed two statues of angels made from olive wood, every 4.57 meters (fifteen feet high). They were placed so that their outspread wings reached from wall to wall while their inner wings touched each other at the center of the room; each wing was 2.28 meters ($7\frac{1}{2}$ feet long), so each angel measured 4.57 meters (fifteen feet) from wing, tip to tip. The two angels were identical in all dimensions and each was overlaid with gold.

Then he made square doorposts of olive wood for the entrance to the temple. There were two folding doors of cypress wood and each door was hinged to fold back upon itself. Angels,

palm trees and open flowers were carved on these doors and carefully overlaid with gold. The wall of the inner court had three layers of hewn stone and one layer of cedar beams.

The Inner Court of the Temple

The avenue from the southwest gate of the citadel, having passed the palaces, the porches, and the House of the Forest of Lebanon, proceeded again northeastward to an open space before the House of the High Priest, where there was a gate leading upward to the Forecourt of the Temple. This outer court occupied the whole of the eastern half of the Temple terrace, and on its northern side was the great brass Covert for the King. At the western side of the Forecourt was the gate to the inner Court, whence rose the façade of the Temple itself.

The Altar of Burnt- Offering

In the center of the eastern half of the inner court stood the most indispensable part of apparatus for worship. The Altar of Burnt offering, made of brass 12 meters (40 feet) long, 12 meters (40 feet) wide and 6 meters (20 feet high). 2 chronicle 4:1

The Molten Sea

The inner court, the southeast corner, stood the most striking of the creations of Solomon's Phoenician artist, Humaribi of Tyre. This was the Molten Sea. It was a large circular tank of bronze, 18.28 meters (60 feet around), 6 meters (20 feet) across and 3 meters (10 feet) high, with a brim the thickness of handbreadth. These instruments unveiled Humaribi's mastery of the principles of circular form and construction. This great sea rested on the backs of twelve bronze bulls which, in groups of three, faced the four cardinal points. 1 Kings 7:23-27; 2 Chronicles 4:2-5.

The Lavers

There were ten lavers of brass raised on bases resting upon wheels. They were used for washing the animals to be sacrificed in the burnt – offering and the general cleansing of the court after the services. Each one was 2.43 meters (8 feet long), 2.43 meters (8 feet) wide and 1.82 meters (6 feet) high. The Lavers, bases, and wheels were highly ornamented and symbolically embellished with lions, oxen cherubim and palm trees. Five of the Lavers stood on the north side of the inner court and five on the south side. 1Kings 7:27-39.

The Great Porch

The great was a monumental structure 73.15 meters (240 feet) high, built over the entrance to the sanctuary. This entrance or vestibule was forty 12.19 meters (40 feet) long and 3 meters (10 feet) wide. Through this porch, the priests were admitted to the sanctuary (2 Chronicles 3:4; 1 Kings 6:3, Stone, 2017)

The Two Pillars of Brass

These two great bronze shafts, standing in relief, formed an important feature in the architecture of the temple. Each one was 21.33 meters (70 feet) high and 7.31 meters (24 feet) in circumference. They were highly ornamented by a network of brass, overhung with wreaths of bronze pomegranates, each row containing one hundred. Upon the pillars and the top of the

capitals were pommels (great bowls or vessels for oil) over which were hung, festoon-wise, wreaths of pomegranates, interspersed here and there with lily work. They bore the names of Jachin and Boaz and were placed in front of the porch leading to the Sanctuary. (2 Chronicles 3:15; 1 Kings 7:15-22; 2 Chronicles 4:12-13, Stone, 2017)

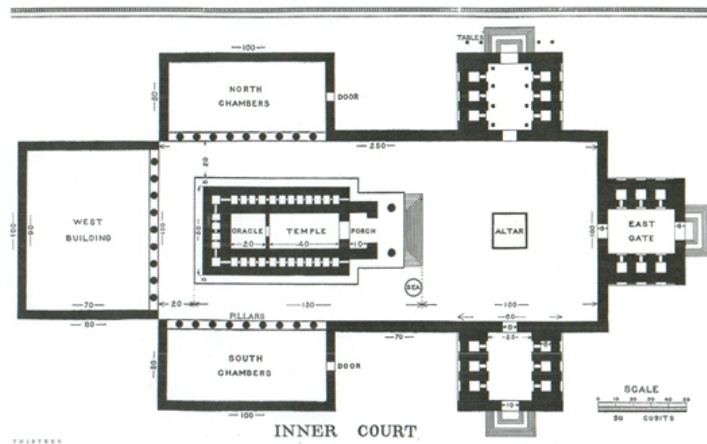
The Holy Place

The Holy Place or the Greater House was a double cube eighty 24.38 meters (80 feet) long, 12.19 meters (40 feet) wide and 12.19 meters (40 feet) high, sealed with fir tree, overlaid with fine gold and setting of palm trees and in chains, with engraved cherubim on the walls. The entire house was garnished with precious stones for beauty. The entrance to the house was by a large double door, two leaves to the one door and two leaves to the other, of olive wood, carved with cherubim, palm trees, and open flowers, all overlaid with pure gold.

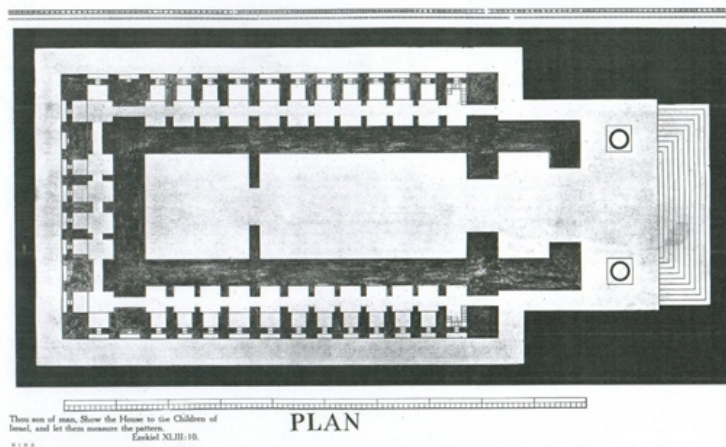
The furniture of the Holy Place consisted of ten candlesticks of pure gold, five on the right side and five on the left, together with their lamps and snuffers; also ten tables with pure gold, five on the right side and five on the left, together with their bowls, basins, spoons, and covers. To these must be added the golden altar of incense and harmoniously arranged within the walls, ceilings, and floors of gold set with precious stones, 1 Kings 7:49; 2 Chronicles 4:8.

The Most Holy Place

The Holy of Holies was a perfect cube of 12.19 meters (40 feet), 6 meters (20 feet) long, 6 meters (20 feet) wide and 6 meters (20 feet) high. All the walls roundabout was carved with figures of cherubim, palm trees, and open flowers, all overlaid with precious stones for beauty. The two doors leading to this Most Holy Place were of olive wood, cunningly carved with cherubim, palm trees, and open flowers and overlaid with pure gold. Each door had two leaves which folded. Over this entrance hung the veil of blue, purple, and crimson of the finest fabric, cunningly wrought with cherubim, palm trees, and open flowers. This beautiful tapestry defined the entrance to the Oracle. The only piece of furniture in the Most Holy Place was the Sacred Ark of the Covenant of the Lord, containing the testimony. This was the place within the oracles shadowed by wings of two gigantic cherubim of olive wood, overlaid with pure gold. Each cherub was 6 meters (20 feet) high with an outspread of wings of forty 12.19 meters (40 feet). 1 Kings 6:23.



Source: http://www.phoenixmasonry.org/king_solomons_temple/page_13.htm

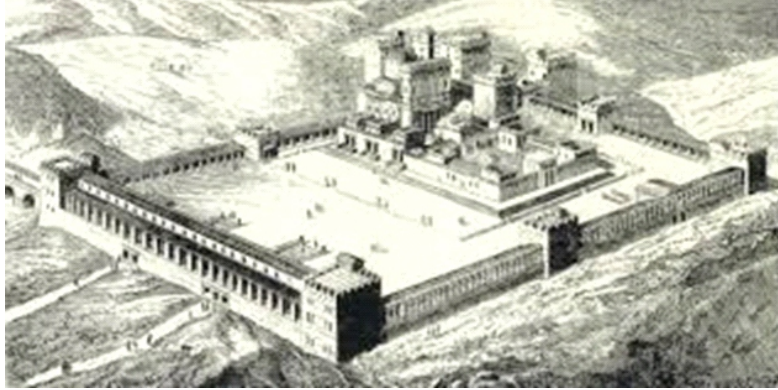


Source: http://www.phoenixmasonry.org/king_solomons_temple/page_9.htm



Pictorial Expressions of King Solomon's Temple

Source: http://www.phoenixmasonry.org/king_solomons_temple/page_9.htm



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Labour Details

For a project of this magnitude, and considering the limited technology then, no cranes, quarries, bulldozers, machinery for site work it became pertinent to turn humans to machines. This need for labor resulted in the assemblage of one hundred and eighty-four thousand labor force, who worked daily for seven years to complete the temple. The distribution of the labor gathered for this edifice is listed below:

- i. Chief Builder, Hiramabi from Tyre, whose mother was a Jew,
- ii. 3,600 foremen whose duty was to supervise,
- iii. 30,000 lumbermen from the Jewish tribe,
- iv. 80,000 stone cutters, foreigners residing in Israel,
- v. 70,000 non-skilled laborers from the foreigners' league.
- vi. A total of 184,000 workers.

Humarabi's Resume

As recorded in 2 Chronicles 2:3, Hiramabi the chief builder was described by King Hiram of Tyre as a master craftsman, intelligent and understanding son of his kingdom. A skillful goldsmith, silversmith, exquisite in brass and iron, master of everything in stonework, carpentry, and weaving. Expert in dyeing of purple work, an inventor and an engraver.

The following were made by him: two pillars, a capital at the top of each of the pillars, Latticework covering the bases of the capital of each of the pillars, 400 Pomegranates in two rows on the latticework to cover the bases of the capitals. 10 movable stands, holding 10 vats, One large tank and twelve Oxen supporting it, Pots, Shovels, Basins, all made of burnished bronze, All the utensils and furniture were made by him in pure gold, this included the altar, the tables, where the bread of the presence of God was displayed. Lampstands 10 in number, Flowers, Lamps, Tons, Cups, Snuffers, Basins, Spoons, Fire pans, the Hinges of the door to the Most Holy Place, The main entrance doors of the Temple.

Labour Management

Very little was known about the labor-management of this magnificent temple other than the 3,600 foremen supervising 180,000 skilled and unskilled labor. The analysis shows that every foreman had fifty workers to supervise. Perhaps other forms of accountability existed. Solomon rotated the 30,000. The number was all among the Jewish population that built the temple. (2Chronicles) the rest 153,000 workers were foreigner's resident in Israel. The chief builder was from Tyre. There was no mention about the condition of enjoyment of the workers, only the chief builder who however was his King's responsibility.

Estimated Labor Cost

Using contemporary average wage rates for labor, where a non-skilled worker, working for eight hours daily earns \$8 per hour and \$64 daily, that means the 180,000 unskilled laborers employed in the Temple construction will be earning \$11,520,000 daily, \$345,600,000 monthly and \$4,147,200,000 annually. At the rate, labor cost for unskilled workers would have come to a whopping \$29,030,400,000. There were 3600 foremen and if paid \$100 daily on the average would earn \$360,000, \$10,800,000 monthly and \$907,200,000 for the seven years the construction lasted. The cost of timber from Lebanon was paid in cash crops, 20,000 sacks of crushed wheat, 20,000 barrels of Barley, 20,000 barrels of wine and 20,000 barrels of pure Olive oil. This, in metric will amount to 3,813,600 liters of olive oil and wine. The estimated cost of lumbering paid in cash to the King of Tyre came to \$714,628,200 using prevailing market rates. In conclusion labor cost of the Temple in our present economy would amount to \$30,652,228,200. Thirty billion, Six Hundred and Fifty-Two million, two hundred

thousand, and two hundred United State Dollars. This figure already dwarfed the cost of most expensive religious building cost estimate in the world today put at \$2.4 Billion.

Temple's Treasures

All that David and his men gave was brought into the temple on completion as treasure. 2(Chronicles) and include, \$85 Million worth of pure gold, \$20 Million worth of purest silver, while David's men pledged \$145 Million worth of gold, \$50 Million in foreign currency, \$30 Million worth of silver, 800tons of bronze, and 4600 tons of iron.

King Solomon's Wealth

Solomon received a billion dollars' worth of gold each year from the Kings of Arabia and many other lands. Trade balance from his exports from gold he received formed 200 large shields of gold worth \$280,000 each or\$56. Million, 300 smaller shields worth \$140, 000 or \$42 Million. Solomon had 4000 stall horses, 12,000 Calvary men in the chariot cities. Silver in Jerusalem then was like stones.

Conclusion and Recommendation

King Solomon's Temple was the perfect architectural expression of the religious faith of a people. As such, it has never been equaled in the history of the world, much less excel. Its actual life was short, but its influence has been incalculable. Built to endure for centuries only a few years elapsed before it was desecrated and then destroyed by invading armies. Yet its fame did not die. The children of then Israel, with fervid determination, rebuilt it twice, and twice more it was destroyed. The descendants of its builders were scattered far and wide over the face of the earth, but the traditions of their labor and their unity and their accomplishment have remained to inspire all subsequent ages and the magnificence of the Temple they built is still acknowledged as the epitome of gorgeous architecture.

In furtherance, the paper listed some great contemporary architectural wonders, such as Eiffel Towers, Statue of Liberty, Santa Sophia, Taj Mahal, Crystal Palace, Burj Towers, and Sydney Opera House remarked the projects as a pointer that the temple's architecture could be matched and even surpassed.

The recommendation that architects and engineers should aspire to acquire such intuition as exhibited by Humaribi of Tyre, if the expertise exhibited in the great temple of King Solomon will be repeated or surpassed.

Acknowledgement

We acknowledge the recommendation and encouragement from Venerable Dr. Kingsley Okoro of Alex Ekwueme University and the assistance of Timothy Azubuikheh who without complain did the entire graphic work.

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