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SOLOMON'S TEMPLE

The Bronze Castings of Jachin and Boaz Pillars

by W.Bro. Harvey Lovewell

I received a letter from a brother who is getting on in years. In his letter .he asked for information on how the two pillars of Solomon's Temple, **Boaz and Jachin**, could have been constructed.

This request prompted the reply to him that I did not know, and looking through our books, I was unable to find or give him an answer. This, then, started my research into this subject, and the research has taken me all over and has touched onto subjects that were to appear to have no bearing on the subject of the research. Many new questions have arisen from the initial question, the answers to which are a matter of conjecture; some I have been able to answer and others for the purpose of this paper will remain unanswered.

There are many translations and interpretations of the books of the bible many of which do not agree with each other. For the purpose of this paper I have chosen to use **The Jerusalem Bible**. As my copy, has a complete set of annotations for explanation where needed, so all references to the Bible are from that translation.
Where I have found conflict I have described the alternatives and leave you to make up your own mind on the matter

I therefore, present to you my ideas on how our forefathers may have built large bronze objects like the Pillars and the sea.

The Pillars.

The pillars **Jachin and Boaz,** which were placed at the entrance to King Solomon's Temple, are mentioned in many writings.
In the Bible, **1 Kings, 7.21;** and in **2 Chronicles, 3.17;** and many references in Masonic Writings. The Pillars **Jachin and Boaz** are also mentioned **in An Apocalyptic Cyclopaedia of Advanced Magical Arts and Alternate Meanings** 2nd Edition 1996, where they are given the meanings, strength and beauty among others.

In the annotations to the Jerusalem Bible, referring to the pillars, it states the *two names are obscure: possibly,* "it *is firm* " *and "it is strong* ".
Albright in his book; Archaeology and the Religion of Israel, in discussing the work of **R.B.Y. Scott**, states *"that the names of the two columns Jachin and Boaz. Which stood before the Temple of Solomon, represent the first words of dynastic oracles,*

which were inscribed upon them. The Jachin formula may have been "Yahweh will establish (Yakin) thy throne forever" (or the like) and the Boaz formula may have run "in the strength of Yahweh shall the king rejoice or something similar. Further he says when discussing pillars, "s*ome of these pairs of columns were used to support the roof of the portico, in megaron fashion, others were free standing. Without constructional relation to the building. There can he no reasonable doubt that the pillars Jachin and Boaz were of the latter type."*-

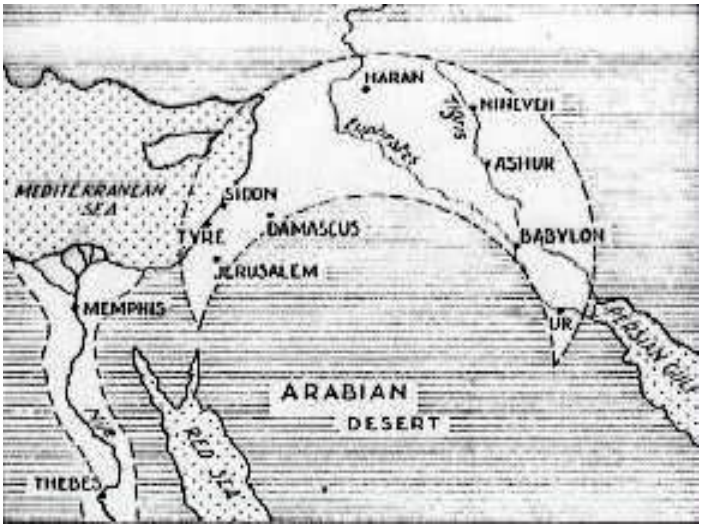
Solomon's Temple, built by Phoenician artisans, contained the Ark of the Covenant in the Holy of Holies. Before it stood the great altar for sacrifices, and nearby the Molten Sea, the huge bronze basin symbolizing the source of life. Ten lavers on wheeled stands carried water for washing utensils used for burnt offerings.

Colin Breckon in his paper, The Building of Solomon's Temple says, when referring to **Alex Horne;** Boaz could be a *corruption of a now obsolete word **Bose or Boss** which at one time meant hollow.*

Other writers have referred to them as "cosmic Pillars" "like the pillars of Hercules" and as representing the twin mountains between which the sun was believed to emerge each morning. They have also been described as cult objects for burning incense.

History

Much of what we know of our ancestors from the time before Christ can be attributed to the study of ancient man as he lived in what could be called the cradle of civilization. That is the middle east, that area described by **Dr Werner Keller** in his book **"The Bible as History"** as the Fertile Crescent, reaching from the Persian Gulf to the Red Sea encompassing the area of the Tigris and Euphrates rivers through to the Mediterranean Sea.



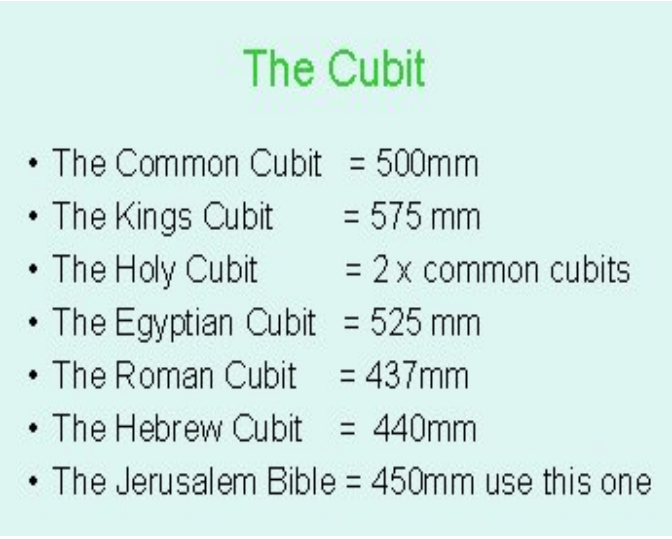
Probably the most researched documents of this area, is the collection of books that we know as the Bible, especially the Old Testament which tells stories of people who lived then, and the places they lived in as well as aspects of their culture. The **Historical Books** remain the primary witness to the culture of Israel and Judah. Recent scholars however refer to these as theological mythology. The text, almost a polemic (dispute one side wanting to force its view on the other) of the southern tribes against the religiosity of the

northern tribes and other neighbouring peoples, was composed about 800 to 600 BCE and is written in part to chronicle the Deity's actions in history. This view of the stories of events as perceived and researched by the writers, this can be seen in the differing versions of the one event. There is controversy in using these texts for historical reconstruction, nevertheless using these writings and the findings of archaeology; one can obtain some idea of the culture and technology of the times.

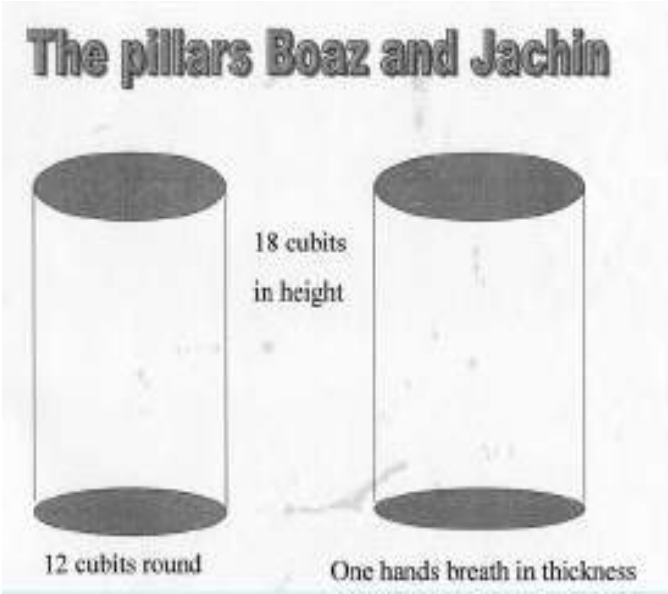
The part of the Bible that set in motion the research for this paper is **1 Kings 7,13:26** together with **2 Chronicles, 3-4**. This tells the story of a bronze worker, Huram-Abi, (Hiram Abif) who came from Tyre, an island on the coast of what is now Lebanon, but in those days was Phoenicia. He was employed on the construction of King Solomon's Temple. Huram-Abi is described, in **2 Chronicles 2,14,** as *the son of a Danite woman by a Tyrian father. He is skilled in the use of gold, silver, bronze, iron, stone, wood, scarlet, violet, fine linen, crimson, in engraving of all kinds, and in the execution of any designs suggested to him,*
In Kings he is described as "*a widow's son from the tribe of Naph-ta-li"* Where he is from will not affect this work. He really sounds like a versatile and clever worker. The purpose here, however is to concentrate on his bronze work.

To quote from, **I Kings 7, 15** *He cast two bronze pillars, the height of one pillar was eighteen cubits and a cord of twelve long gave the measurement of girth. As was also second pillar.*
In Chronicles the pillars are described as being "30 and 5 cubits high!"

To get an idea of what the exact length a cubit was, in itself, not an easy task, as there are cubits and cubits**. World Book Encyclopaedia,** says in reference to a cubit *It was based on the length of a man 's arm from the tip of the middle finger to the elbow. No one knows when this measurement was established. The Egyptian cubit was 21 inches, the Roman cubit was 17.5 inches, and the Hebrew cubit was* 17.58 *inches. In the English system the cubit is 18* inches. My measurement is 19.75 inches or 50cm.



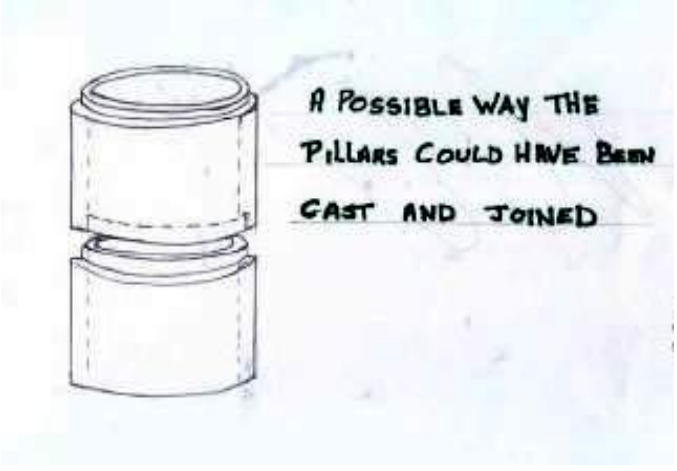
In the Jerusalem Bible the cubit is given as 18 inches or 45 centimetres. As already stated I will use the Jerusalem Bible, as my reference, as to what the truth is, academic argument will not change the concept I am trying to develop.



I will therefore use this measurement, which is a cubit of 45 cm. The metric measurements of the pillars, from **1 Kings 7, 15** are, eight point one meters in height and a circumference of five point four meters. Traditionally we are told that the pillars were hollow, I have been unable to find out if this is true or not. For the pillars to be solid the mass would be enormous. In my research it has also been suggested by some scholars that the pillars could have been built of timber and then gilded.

Colin Breckon in his paper, The Building of Solomon's Temple says, when referring to **Alex Horne;** Boaz could be a *corruption of a now obsolete word* ***Bose or Boss*** *which at one time meant hollow.*

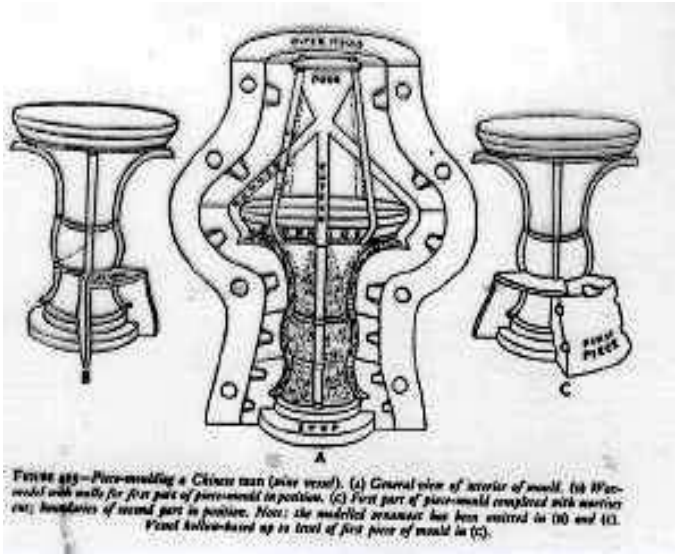
This hypothesis would make a lot of sense and solve many problems. In spite of all this I will assume that the pillars were cast bronze and hollow. Also in my research some scholars have suggested that the pillars could have been cast in sections each fitting into the other, similar to the construction of a stone pillar. This theory has a lot going for it, as the problems of handling large quantities of molten metal would be reduced to more manageable proportions, as would the transport of the castings.



Bronze cauldrons dated to 100 B.C.E. with a capacity of 600 litres have been found. These were made in segments and joined together with rivets.

In addition he made a capital to top the pillar. This was five cubits, or 2.25 meters high, and this was decorated around the outside with filigree and pomegranates. I will not consider these capitals as part of this paper although the treatment of them would be similar to the other castings.

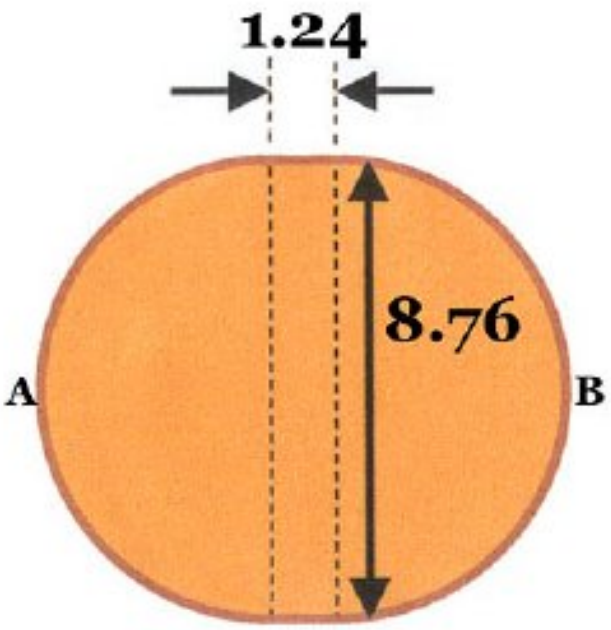
He also made other large castings**. I Kings 7, 23** *He made the Sea of cast metal, ten cubits, from rim to rim, circular in shape and five cubits high; a cord of thirty cubits long gave the* measurement *of its girth.* That is a bowl 4.5 meters in diameter and 2.25 meters deep.
Twelve cast bronze oxen, three for each side of a square, supported this bowl. My research has revealed that there is no agreement on the shape of The Sea. **A Zuidhof** In his computer program The Molten Sea, states that the Sea is Cup shaped. The program tries to answer the claim that the Bible says that pi is equal to 3.



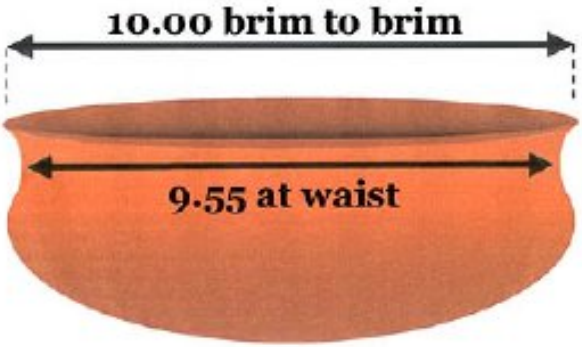
In *Asimov's Guide to the Bible,* Isaac Asimov remarked: *"The exact function of the 'molten sea' is not stated, though it seems most likely that it was a container for water used in the various rituals. "The interesting point is that its upper rim seems to be circular in shape with a diameter of ten cubits and a circumference of thirty cubits. This is impossible, for the ratio of the circumference to the diam eter (a ratio called 'pi' by mathematicians) is given here as 30/10 or 3, whereas the real value of pi is an unending decimal which begins 3.14159 . . . If the molten sea were really ten cubits in diameter it would have to be just under thirty-one and a half cubits in circumference.*
"The explanation is, of course, that the Biblical writers were not mathematicians or even interested in mathematics and were merely giving approximate figures. Still, to those who are obsessed with the notion that every word in the Bible is infallible (and who know a little mathematics) it is bound to come

as a shock to be told that the Bible says that the value of pi is 3."

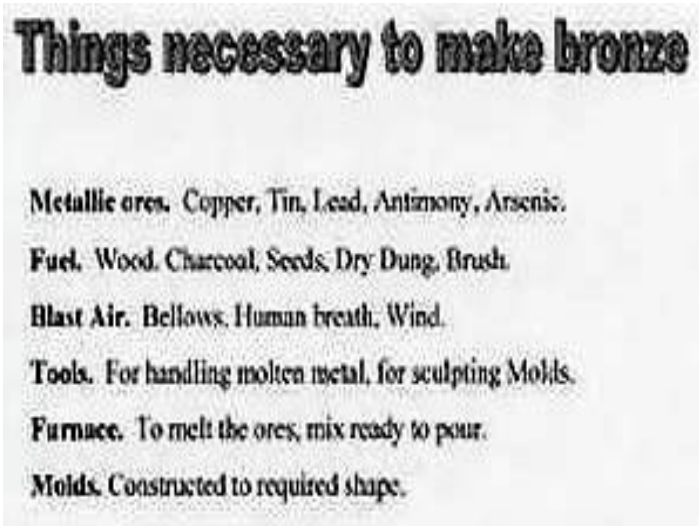
Consider the following possibilities, which I offer for your consideration. The shape of the following illustrations equates to the description in the scripture. The first is oval shaped. The layout consists of two semicircles with diameters of 8.76 cubits, separated by a rectangle 1.2 cubits wide. At its widest point, A to B, this Sea measures 8.76 + 1.24 = 10.00 cubits from brim to brim. Its circumference is (8.76 x pi) + 1.24 + 1.24 = 30.00 cubits.



Is this oval the best solution to the problem? Probably not. Maybe we can consider a circular Sea but to look at it in three dimensions. We know that it had a rim, so it was somewhat narrower just under the rim.

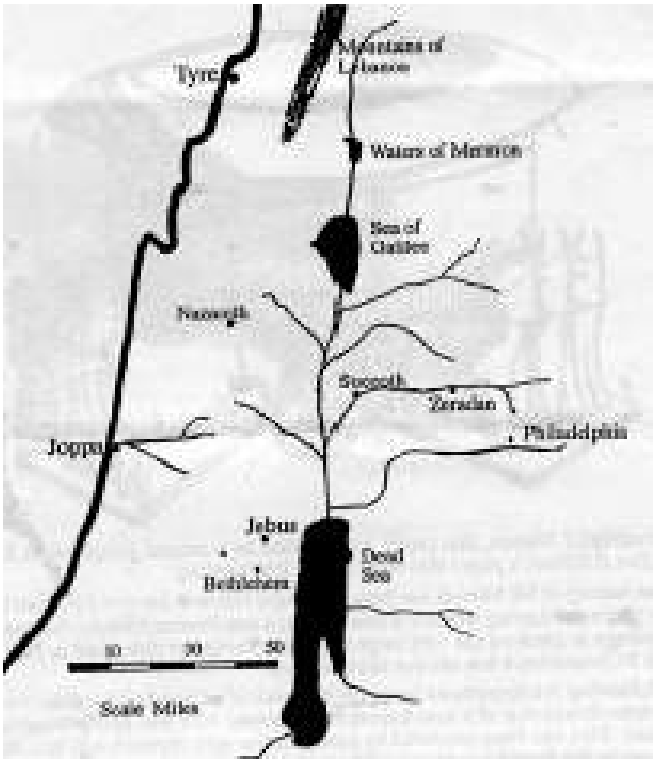


Therefore, it could easily have measured 10.00 cubits from brim to brim, yet have been only 9.55 cubits wide at the waist, where "it took a line thirty cubits long to go round it" because 9.55 x pi = 30.00.



Josephus Was originally known as Joseph Ben-Matthias, the commander of the Jewish insurgents at Joppa in the time of Emperor Nero. He changed sides and went over to the Romans changing his name to Josephus. Writing in his work, The Antiquities of the Jews says "*Solomon also cast a brazen sea, the figure of which was a hemisphere".* I have assumed therefore that the sea, was a hemisphere or one half of a sphere and my calculations reflect this. The argument as to the exact

shape of the sea will not change the hypothesis I am trying to develop. **Singer et al** when commenting on the casting of the bronze articles mentioned in Kings and Chronicles says; *it has been estimated that the Brazen Sea alone weighed* 200 *tons*. I will dispute this statement later on. One can see however, that we are dealing with large castings and heavy quantities of metal.



These must be handled and melted and handled again. In **2 Chronicles 4, 17:18.** *The king made them by the process of sand casting in the Jordan area between Succoth and Zeredan Solomon made all these articles in great quantities, no reckoning being made of the weight of the bronze.*

The Castings. Their Size.

Let us now look at these castings and see what we can make of them. How much bronze is in the pillar? How much did it weigh?
We are told that the height is 8.1M and the circumference is 5.4M. The thickness of the pillar we are told is a hands breadth. My hands breadth is 97mm. However the Jerusalem Bible says that a hands breadth or palm is 72mm so I will use this value in my calculations. All calculations rounded to the nearest whole number.

The pillar's circumference is,
c=5.4M Therefore the outside diameter will be o/s, d = c / π = 5.4/3.1416
We will call the outside diameter, D1=1.72M
And the inside diameter D2
Therefore the outside radius R1 =1.72/2 =**.86M**

The inside diameter will be equal to the outside diameter minus the wall thickness of 72mm multiplied by two. **(.144m**) The outside radius Rl and inside radius R2 will be one half of the appropriate diameters. I will use the measurement of the radius to calculate the volume.

D2 = D1**- .**72x2 = 1**.**72-(**.**072x2) = 1.576m
Inside radius r2= 1.576/2 = **.788m**

Volume of pillar VP = v I of outside dimensions less v2 of core

vI = πr^2 h, therefore v1 = 3.1416 x .86 x .86 x 8.1 = **19M ^{3}**
volume of outer cylinder
v2= πr^2h,therefore v2= 3.1416x**.**78 8x**.**788x8**.**1 = **16M^3**
volume of inner cylinder

VP=v1-v2 =19–16= **3M^3** this is the volume of bronze in the pillar.

The weight of Bronze can vary dependent on the percentage of copper and other metals used in the alloying process. The variant will be a percentage plus or minus around 9 tons per cubic meter. We will therefore assume a weight of 9 tons per m^3. It follows then that the weight of one pillar without the capital will be. **3 x 9 = 27 tons. (approx.)**

If the pillar had been cast in sections, say 10 sections, each 81 cm long, then each would have weighed 2**.**7 tonnes, this is far more believable than one casting. The technology for melting and handling large amounts of molten metal **and** successfully casting same was just not available at this time in history. Even at 2.7 tonnes credibility is stretched.

My investigations and discussions with a Professor of Archeometallurgy brought the response of total disbelief that *"the people of the Bronze age were able to cast bronze weighing tons".*

Tylecote in his work **The Coming of the Age of Iron** discussing the size of castings, says in reference to the Chou dynasty (770 BCE) *A bronze caldron found at Anyang in* 1946: *it weighted 1400kg and was about/ 1M across. Of course these may have been t/he product of good organization rather than large capacity smelting and melting.*

Earlier I made mention of the Sea sometimes referred to as the Molten Sea or Brazen Sea. The size of which was 4.5m in diameter and 2.25m deep and a hands breadth in thickness. These measurements suggest that it is one half of a sphere.
We can therefore calculate both the volume of bronze and the capacity of the bowl. **1 Kings 7, 26**. Tells us that *it held two thousand baths.* Chronicles tells us however, that the sea held 3000 baths. These inconsistencies I leave for each of you to consider. The measurements for liquids used in the Bible are the words *seah, cor and bath.* A cor is equal to 450 litres and a bath is one tenth of a Cor or 45 litres. However we have variations from this measurement as well.

The Peoples New Testament States *The Bath, the tenth of the chomer,* (cor) *or seven gallons and four pints and a half* Using US gallons that's.28 litres, using imperial gallons that's 34 litres. One can assume that US gallons were used in this version.

To calculate the volume of bronze that makes up the **Sea** therefore, we must find the volume of two spheres then subtract the inner from the outer, then divide by two as we want the volume of the bowl which we will assume is one half of a sphere, that is, the **Sea.** Whilst this may appear simplistic, as there could be variations in size due to ornamentation etc. for the purpose of this exercise the variations would be small and would not affect the ideas presented.

The volume of the **outside** sphere is **v1**, and the **inside** sphere is **v2**. However we need to find the volume of our basin, which is one half a sphere. T o do this we divide the volume of the sphere by 2

$$\mathbf{v1}=\frac{4\times3.1416\times2.25\times2.25\times2.25}{3}=\frac{\mathbf{48}}{\mathbf{2}}\ \mathbf{m^3}\ =\mathbf{24m^3}$$

Again we are told that the Sea is a hands breadth in thickness so we must reduce the diameter .by two times 72mm that is 144mm. But our calculation uses the radius so we will reduce it by 72mm.

$$\mathbf{v2}=\frac{4\times3.1416\times2.178\times2.178\times2.178}{3}=\frac{\mathbf{44m^3}}{\mathbf{2}}=\mathbf{22m^3}$$

This is the capacity of the bowl.

The volume of the metal in the Sea therefore is:
v1 -v2 or 24 -22 = **2m^3**

As we have seen, the weight of bronze is 9 tons per m^3, therefore its weight would be:-2 x 9 = **18 tons**

The capacity of the Sea is calculated as follows. One cubic meter is equal to 1000 litres of water. The Sea's capacity would be, therefore 22m^3 times 1000 or 22000 litres.

We have read in Kings that the Sea held 2000 baths. If the calculations are correct, then a bath would be equal to 11litres.

This big basin, used by the priests for ritual washing before sacrifices, symbolized the Source of life, stood on the backs of twelve bronze oxen. The rim must have been four metres off the ground!

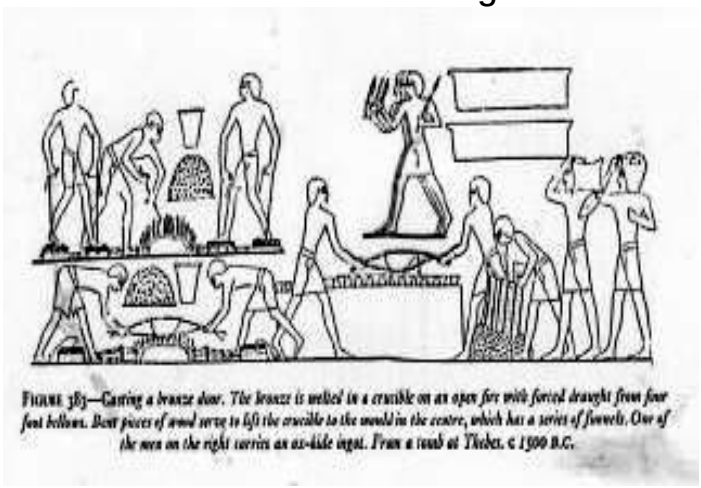


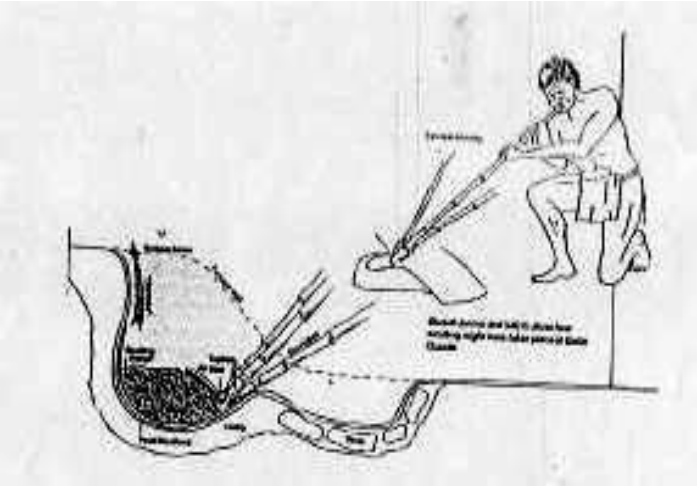
FIGURE 383—Casting a bronze door. The bronze is melted in a crucible on an open fire with forced draught from four foot bellows. Bent pieces of wood serve to lift the crucible to the mould in the centre, which has a series of funnels. One of the men on the right carries an ox-hide ingot. From a tomb at Thebes. c 1500 B.C.

How the Egyptians cast bronze.

Bronze Making

Now we must try to answer the following questions. Where did these people get the ore? How did they smelt it? How did these people melt all this metal? Where did they do it? How did they make the moulds? How did they get the molten metal to the moulds? How did they get the finished product to

the site? How did they erect the pillars and the sea?



One way of melting.

To find answers to these questions we must look at what Archaeology tells us about early metal workings. Humans have used metals for only the last 12000 years, a much shorter time than the period which stone was used for tools, weapons and ornaments. The McGraw Hill " Encyclopaedia of Science and Technology tells us, *The earliest datable finds of human-altered metal are small copper objects from sites in the Near East, including a pendant from Shanidar in Iraq dated around* 9500 *BC.* Copper was used at this time in the Middle East and prehistoric Europe for jewellery and in ritual religious ceremony.

The first coins were made and used in Asia Minor in the early part of 7000 BCE. Smelting was discovered in the middle of 5000 BCE. At this time, trade in metals was taking place so metals not found naturally in one place were traded with those peoples who had them. Copper was available from the mines in the Arabah. Tin was traded with the British who mined it at Cornwall. Other metals as well as tin were alloyed, arsenic, antimony and lead each used for particular purposes. Knowledge of smelting led to the mixing of metals and the discovery that this alloying made a better metal than either of those mixed. Primitive bronze has been excavated and dated as far back as 3000 BCE.

As copper melts at a temperature of 1083°C, high heat was needed and a means of forcing air, to make the fire hotter, had to be invented. The furnace was developed.

To make bronze castings the following things are essential, ores, fuel, blast air and tools, furnaces and crucibles and have of course, a mould. Forbes in **Metallurgy in Antiquity** says. *The ores were mostly plentiful and of good quality in the ancien1 Near East and* further *but the fuel was often rather a problem. For the quantity and above all the quality of the fuel*

determine to a large extent the temperature attained in the furnace and this again is largely responsible for the possibility of working certain ores and of using certain processes. In other words the fuel determines to a certain degree the melting and smelting activities of the early smith.

The Problem of Fuel.

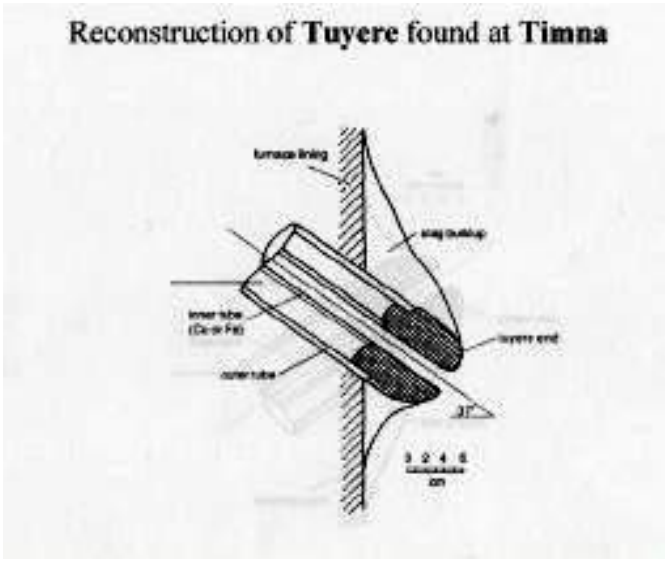
What then of this fuel problem? To overcome this problem smelting was done close to a supply of appropriate fuel. We are all aware of the desert nature of the areas we are discussing. Was this always so? **R.J. Forbes,** says. *It has been proven that the Romans used 21.8 kg wood to roast one kg of ore, and an additional 68.5 kg wood for smelting and refining (one third of the fuel was wood and the remainder charcoal). One kg charcoal has a calorific value equal to that of 90.2 kg wood.* That's burning an awful lot of wood.

One can assume that Hiram needed similar quantities. Studies done in similar climates have shown that one acre of land grew 125 trees and 900 kg of fuel were produced from each 40-year-old tree. A tree bearing area of **.**8 acre was required for each one ton of copper. In modern times we know that this area is rich in oil. Could these people have found on the surface quantities of pitch?

Writing in the Palestine Quarterly **Menashe Har-Er** states, *Smelting and casting of the metal was usually done near the mines, and mainly in the vicinity of the sources of forest wood* and *apparently utilized the stands of Haloxylon persicum which were common in the region and reached heights of* 3-5 *meters these plants have almost completely disappeared today.*

Stands of **Quercus calliprinos** a slow growing oak and **Juniperus Photicia**, a softwood
Juniper tree from altitudes of 1000 to 1600 meters reached heights of 10 meters and more, they grew in the western Edom Mountains and were cut and converted to charcoal and transported to the smelting sites by camel and donkey caravans.

Early smelting was carried out with a variety of primitive furnaces. This usually burnt charcoal, but other fuels were also burnt; including dung, date seeds brush etc.



The Furnace.

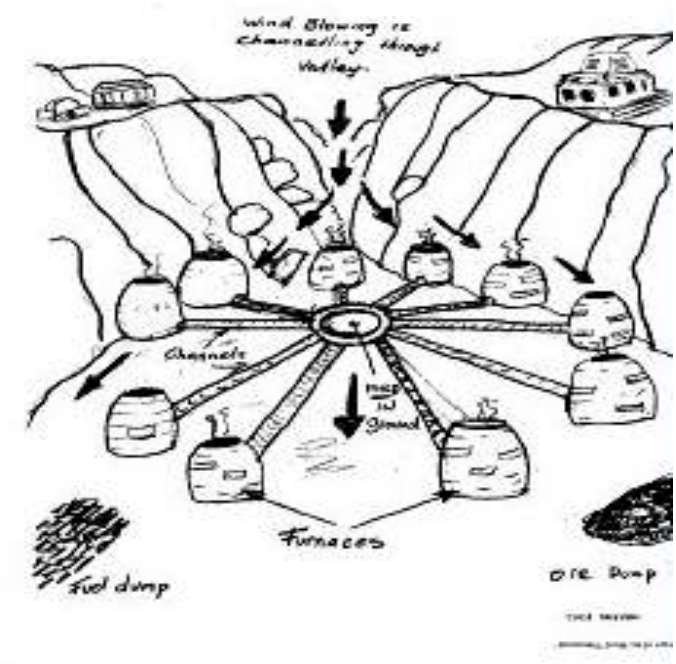
For the melting of scraps of metal in crucibles, usually a fired clay bowl, a ring of stones a pile of hot charcoal and a clay tuyere

{pronounced “twee-yer” a ceramic tube) connected to a bellows are all that would be required.

Have you ever blown air on to a fire to get it going? This phenomenon no doubt gave man the idea to build bellows, to give more air at a greater pressure, the size of the bellows increasing to meet the need for greater pressure and heat to work larger quantities of metal. These are still in use in some parts of the world.

The melting of large quantities of metal is however another matter. This was probably done by using multiple furnaces, adjacent to the mould in the ground, with channels leading from each furnace into the mould between the furnaces. This would enable the quantity of molten metal needed for the pour to be cast before the metal solidified.

Werner Keller describes an excavation that was made by **Nelson Glueck** in the 1940s at an area known as Wadi-el-Arabah. The excavation site at Ezion-geber, also known as Elath and today called Elat: *In the middle of a square walled enclosure an extensive building came into* view. *The green discoloration on the walls left no doubt as to the purpose of the building, it was a blast furnace. The mud brick walls had two rows of openings. They were flues: a skilful system of air passages was included in the construction. The whole thing was a proper, up to date blast furnace, built in accordance with a principle that celebrated it resurrection in modern industry a century ago, as the Bessemer System. Flues and chimneys both lay along a north to south axis, for the incessant winds and storms from the Wadi-el-Arabah had to take the role of bellows.*



A further description of this area comes from **Nelson Glueck** he is writing about the excavation at Ezion-geber which was found buried at Tell el-Kheleifeh.*What puzzled us greatly when we first commenced operation at Tell el-Kheleifeh was what seemed to us to be the particularly unfortunate location of the site. Situated in the center of the Arabah rift, which is banked on either side by high hills leading, respectively, into Arabia and the Sinai, it is open to the full fury of the almost constant winds that blow fiercely down the Wadi Arabah, as if forced through a wind tunnel* **and further on** *The very first building brought to light at the northwest corner of the mound*

turned out to be the largest and most elaborate smelter ever discovered in antiquity. Each of the walls of its rooms was pierced by two rows of carefully constructed apertures, which could only be flues. The upper rows opened into a system of transverse air channels utilising the winds blowing constantly from the north and northeast to fan the flames in the furnace rooms. The lower rows were intended to permit the gases formed in one chamber to penetrate into the second and so on and *preheat its contents. It was easy to reconstruct the smelting process. The ores were given a preliminary "roasting" at the individual mining sites in the Wadi Arabah, and then brought for further smelting and refining at Ezion-geber. Layers of ore »ere placed between layers of lime in large, thick walled, pottery crucibles. Piles of charcoal from the wooded hills of Edom were packed all around them in the open furnace rooms of the smelter, with the fires being ignited in successive order at proper intervals of time.*

The Arabah is an extension of the great rift valley that goes from Africa through the Red Sea the Gulf of Aqabar and on to the Dead Sea and **Glueck** says in reference to the site of Ezion-geber *and shelter under the lee of the hills from the fierce winds which blow down the center of the funnel like rift of the Wadi Arabah,* The bronze workers used this wind to operate a natural blast for their furnaces, That was 3000 years ago, Today we use compressed air, In the same area were discovered smelting pots with a capacity of 14 cubic feet or $1.3m^3$, I believe the forgoing tells us how the bronze could have been produced and the metal melted prior to being placed into a mould.

Whilst this description gives some idea of where and how a furnace could operate this area is many kilometres from Jerusalem and may or may not have been the site for Solomon's bronze work, scholars are still debating this. The site is also far away from where Succoth is believed to have been.

The Mould.

To make up the castings a mould is required to get the shape needed, be it the pillars, the sea, or any of the other articles previously mentioned, Man has used various moulds in the past, an open mould made in stone and clay was common for such things as axe and arrowheads.

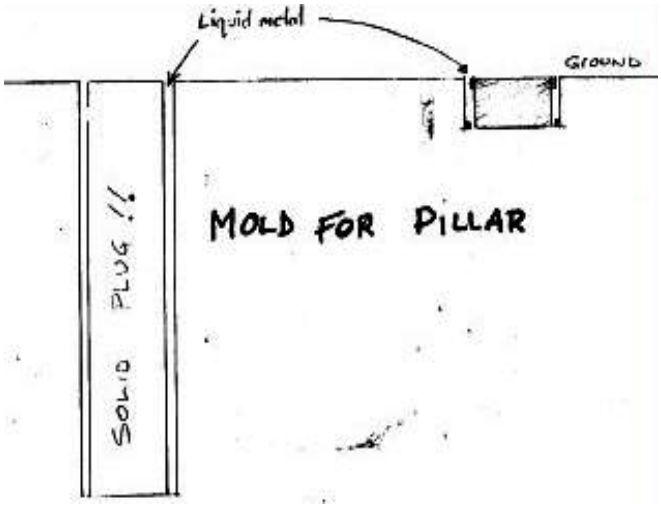
A two piece mould was used for more complex moulds like sword handles. To make more elaborate shapes a method called the lost wax technique was used. This involved the forming of the desired shape in wax, then enclosing the wax model in fine clay, but leaving a small channel to the exterior, When the clay is heated the melted wax can be poured out; thus the clay becomes a hollow mould and molten metal can be poured into it, After it is cooled the, clay can be broken away and one is left with a metal copy of the original.

We however, must look at a mould of very much larger proportions. As previously mentioned, the Bible says that the castings were made by the *process of sand casting.*

Singer says that, *moulding in clay was the principal process for casting in antiquity, I* have given a description of a furnace found in the Arabah and how use was made of the prevailing winds to assist in the smelting. **Singer** continues to give us a description of the area and method of building these castings. *The soil is a marl, with patches of clay. It is clear that the moulds were actually excavated in one of these patches; there is no mention in the Hebrew text that any special clay was used. Such vast mo1ds could hardly have been constructed in any other way. This is only one small step beyond the method already used in Egypt and common elsewhere, of supporting clay moulds by burying them in the ground before the furnace.*
This would allow the molten metal to be poured direct from the smelter to the mould, with channels from several furnaces to different parts of the mould, to ensure an even distribution of the melt; **Singer** goes on with a description of the construction of the mould for the Sea or great bowl

In front of the furnace pit was dug. To an arm pivoted at its centre a template was attached, the outer edge being curved to the profile of the basin, so that when the arm swung around the pivot the template described the desired shape, Ropes probably of straw, were laid on the floor and up the sides of the pit, and then covered with well beaten clay and broken pots. The *ropes provided vents for the escape of gases evolved when the molten metal was poured into the mould. The space between the walls and, the floor of the pit and the edge of the template was gradually filled up with more clay and broken bricks or pots, the template being moved round as required. The outermost quarter inch or so of the filling was of more finely textured clay suitable for modelling the decorative borders of the bowl, "like the brim of a cup the flower of a Lily* ". The *clay surface was allowed to dry slowly, cracks being stopped with clay.* The *construction of the core for the inner surface of the basin was now*

col1sidered; this core would be suspended within the mould, and only a handbreadth above it. A framework of metal supports would be placed to keep it in position, After drying, the mould and channels leading to it from the furnaces would be well baked, and heated with charcoal so that the metal would not become chilled. When the glowing coals had been swept out, the sections of the inner mould were firmly fixed in register, lest it should float upon the molten metal. The mould was now ready for the metal.



The method of casting the pillars would have been similar, these could have been made vertical with the outside part done first with whatever decoration desired, The core could then have been built up in the middle with the appropriate handbreadth left for the molten bronze, However, if the mould were the full 8.1 metres the pressure of the molten metal at the base together with its depth would make a successful cast unlikely, In addition it would be difficult to get the melt in fast enough for even solidifying.

When solidified they could have been dug up, Even so it would still have been a major task to lift, Possibly it was done with a timber framework and levers, no doubt there was plenty of manpower. It appears to me that, if the hypothesis that the pillars were cast in sections is accepted, then the construction of the mould or moulds would have to be easier there would be less metal in the melt and handling would not be so hard. Stone pillars were built this way for the same handling reasons.

We now must look at how these huge castings were taken to the Temple, From the map of Israel it can be seen that the distance from the smelters located at Succoth, which we have been told is situated at Tell Deir Alla is a considerable distance.

In addition to this **Werner Keller,** tells us that:- *At Tell Deir Alla in, Transjorden where the River Jabbok leaves the hills six miles before it joins the Jordan the expedition discovered traces of Succoth, the Israelite city dating to the days of Joshua* this is adjacent to the Wadi-el-Arabah.

Goods in those days were transported on the backs of asses or camels. Horses and chariots were well known, but the horses were not the heavy draught horses of today. They were fairly light horses, and with the primitive harness in use at that time, pulling a fairly light chariot with one or

two men in it was probably as much as they could do. Thus, we can forget about drays, heavy carts and the like. We must therefore, question just how big a load could have been moved!
Asses and camels had been used by the Israelites and others for transporting goods for hundreds of years. I believe it safe to assume that asses were used to transport the castings from the foundry to Jerusalem. I don't know the carrying capacity of an ass, but it probably does not exceed l00 kilograms. Further, this load would have to be in two equal parts -one each side of the ass. So we get back to castings of no more than 50 kilograms -about the maximum load of a single furnace.

Then there is the biblical statement act that the casting was done in the plain of the Jordan River, between Succoth and Zarethan. (See earlier map)These are in the Rift Valley, about 35 kilometers from Jerusalem, and about 25 kilometers from where the Jordan enters the Dead Sea. The Dead Sea is about 1290 feet (393 meters) below sea level. The foundry was probably some 1100 to 1150 feet (335 to 350 meters) below sea level. Jerusalem is about 2700 feet (822 meters) above sea level.

So transporting the castings involved a climb of some 3800 feet (1158 meters) through rugged country, where the road consisted of a dirt track probably not much wider in many places than the space taken by a man leading a loaded ass. This, I believe, would absolutely preclude the use of any form of wheeled transport for goods being taken to or from the foundry. So again we get back to asses each carrying two castings of not more than about 50 kilograms each. Bronze, when cast, takes the form of the mould very accurately.

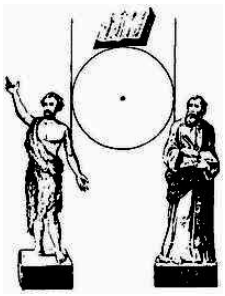
It would have relatively easy for the artisans of King Solomon' s time to make moulds sufficiently accurate for the resultant castings to fit together closely. The pillar or other object thus formed would appear to the casual observer to be one piece.

We know that King Solomon had many horses and chariots, I Kings 10.26:29 *Solomon built up a force of chariots and horses; he had one thousand four hundred chariots and twelve thousand horses;* one could ask given the above could chariots have been use to transport the castings given the hypothesis that the castings were small then joined together. Were these objects constructed and raised gradually in place? Were they assembled then lifted?
There are many theories, as to how heavy objects were raised. The pillars had to be lifted onto their base and stood up, then fixed down. Levers could be used to raise them a small amount, then wedges and blocks inserted and the process repeated until the required height was achieved. The construction of heavy timber scaffolding at the side of the object

to be raised allowing lifting by cables affixed to levers. Whatever the method used it would have been laborious. We can only wonder at the ingenuity of our forefathers.

Conclusion.

Trying to get at the exact truth of what happened all that time ago is difficult. A lot of
Assumptions must be made. I don't know how close this paper is, to what was done by the artisans of King Solomon but as a suggestion to what was done; it is probably as good as any.
I have quoted from past scholars who have seen and worked the sites of antiquity, this I have not done. I would most certainly like to, as the research for this paper has filled my mind with countless questions to which, I would like to find the answers. I hope that this lecture has also given you the desire to find out more.



The Point Within a Circle

As Masons, we are all introduced during our Ritual lectures to the Masonic symbol of the **Point within a Circle**, and instructed in its allusion. The most interesting thing to me during my own such introduction was that the figure representing this symbol contained not only a point within a circle, but also two straight vertical lines touching the sides of the circle.

It was explained during the ensuing lecture that these lines represented the two **Holy Saints John**, namely John the Baptist, and John the Evangelist. This struck me as peculiar to say the least, and I have been trying to figure out this peculiarity ever since.

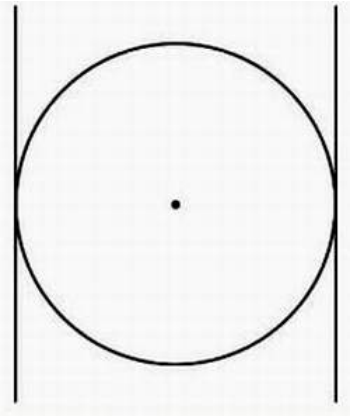


Figure 1

The Masonic Symbol of the Point in a Circle. In some versions of this symbol the Volume of Sacred Law (VSL) is pictured above the circle.

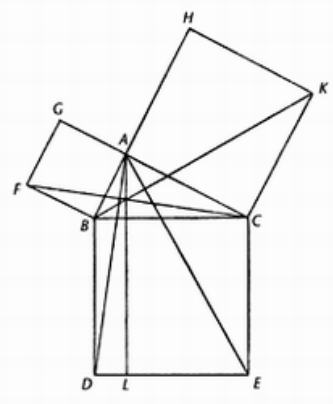
In the course of my inquiry I found several explanations, including one which pointed out that the **Feasts** of the two Saint Johns are separated by six months time, and that the symbol of the Point Within a Circle is a sort of miniature omery showing the path of the earth about the Sun, with the feasts designating **winter and summer solstices.**

Another explanation likened the circle to an astronomical or astrological diagram, complete with astrological symbols arranged about the circle circumference, and which held that the vertical lines were representative of the **Tropic of Cancer** and the **Tropic of Capricorn**.

Yet another variation of the explanation of the Point Within a Circle also identified the vertical lines as signifying the two Saints John, but expounded upon the significance of the VSL in the symbol and offered an exhaustive discussion of chapters and verses within the Bible attributed to Saint John the Baptist and Saint John the Evangelist all of which alluded to the Point Within a Circle representing God and man, respectively.

A further version was discovered which ignored the vertical lines, but which asserted that the Point Within a Circle was the Monad and represented God.

These various explanations, though they were all plausible in the world of Masonic symbolism, did not satisfy my curiosity. I began to consider that the figure representing the point within a circle is reminiscent of a drawing which one finds in a textbook illustrating some principle of Geometry.



47th proposition

We are all acquainted with the Masonic symbol of the 47th Proposition of Euclid; I began to wonder if the point within a circle might be a similar construction.
It was at about this time that through further reading I discovered what was described as a closely held secret of ancient craft Masons; namely that if one is to draw a circle and then draw a further line across that circle through its center point (marking it's diameter) a right triangle can be simply yet consistently constructed.

The technique involved is to draw a line starting at the point where the line through the circle center intersects the circle circumference (point A in figure 2), and to extend that line until it touches the circle at any point on its circumference (Figure 2 point C),
The line is then continued from the point of the intersection with the circumference to the point at which the center line intersects the circle on the opposite side of the circles' diameter
(Figure 2 point B) and is further continued to the start (Figure 2 point A). The end result is that a right triangle is constructed regardless of the point on the circles circumference selected. Try it yourself, it works very nicely.

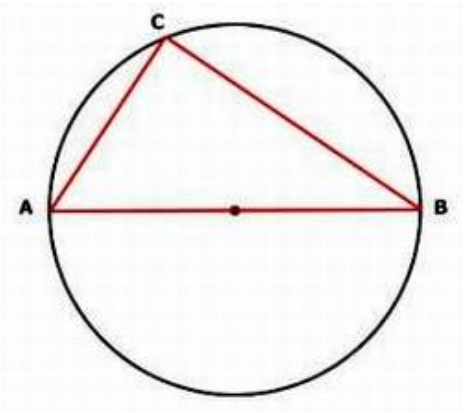


Figure 2
Constructing a Right Angle using the technique described in the text.

This method for the construction of a right angle is presented as **Theorem 12**, in book III of Euclid's Elements, **"An angle inscribed in a semi-circle is a right angle"**. Euclid wrote: "let angle ABC be inscribed in the semi-circle ABC; that is, let AC be a diameter and let the vertex B lie on the circumference; then angle ABC is aright angle".

Although presented in Euclid's Elements and provided with a proof formulated by Euclid, it was the Greek Philosopher, Astronomer, and Mathematician **Thales of Miletus,** (ca 624 BC - 546Bc), who is credited with the first publication of this theorem.

Naturally, as a trade Secret this technique would have proven extremely valuable to the ancient Craft Masons, and could be used among other things, to check the squares of workmen to ensure that they were true.

It is also probable that the development of scientific surveying and navigating instruments such as the astrolabe made use of this, or a similar Theorem in their construction and as their operating principle.

When reading this I recalled the symbol of the Point Within a Circle, and began to wonder if the Point Within a Circle might actually be a diagram which was intended to be used as a proof of Thales Theorem.

I decided to research the matter and in the course of doing so, discovered an except from a Masonic Handbook which (regarding the point within a circle) stated; Ritualistically, this is a symbol of control of conduct; a standard of right living. The symbol has an extreme antiquity. Early Egyptian monuments are carved with the **Alpha and the Omega** or symbol of **God**

in the center of a circle embordered by two upright parallel perpendicular serpents, representing the power and wisdom of the **Creator.**

The symbol apparently came into Masonry from an operative practice; know to but a few **Master workmen** on Cathedrals and great buildings.

Any school boy knows it now; put a dot on a circle anywhere; draw a straight line across the circle through its center; connect the dot with the points at which the line through the center cuts the circle; the result is a perfect square.

This was the Operative Master's great secret-knowing how to "try the square" it was by this that he tested the working tools of the Fellows of the Craft; did he do so often enough, it was impossible either for their tools or their work "to materially err".

I nearly considered the matter settled, and was convinced that I had draw the correct conclusion thinking that the Point Within a Circle was a clue to the Geometric construction by which Thales Theorem could be derived.

I was surprised to discover that the proof of the theorem did not involve the construction of parallel tangent lines at all, but rather relied upon the construction of a simple radius to the vertex producing the right angle

(The three angles of a triangle must sum to 180 degrees. Construction of segment CO creates the equilateral triangles COB and COA. The relationships between angle alpha and beta within the triangle are based upon Euclid's Propositions. Angle alpha + beta sum to 90 degrees.), (see Figure 3).

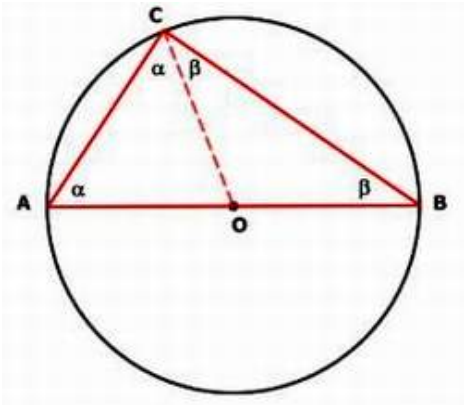


Figure 3
The diagram of the proof used by Euclid for Thales Teorem.

Further investigation revealed that over the centuries there have been numerous other of the Theorem developed, all different from that of Euclid, but none of them employing two parallel tangent lines.

I quickly began to suspect that Thales Theorem was not actually related to the Point Within a Circle, but rather that the Point Within a Circle was associated with a different Geometric construction. I combed Geometry textbooks, Masonic Encyclopedias, and the Internet searching for Geometric figure which was constructed using a circle, a point at the center of the circle, and two parallel tangent lines on that circle.

What I discovered was a second method by which a right triangle could be constructed, using these very elements along with one additional straight line, which is also a tangent to the circle.

I have reproduced this figure as described by my source (Figure 4) below, along with an explanation of how the figure is drawn.

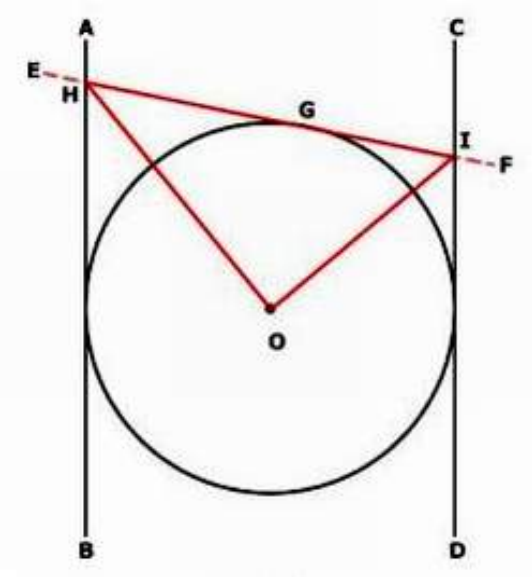


Figure 4
An alternative method of constructing a right triangle within a circle using the center of the circle and two parallel tangent lines.

In Figure 4, AB and CD are two parallel tangents to a circle having a center O.
A random tangent EF with the point of contact G intersects AB at point H and CD at point I, and continued back to the center of the circle, point O.
This construction produces a triangle in which angle HOI is 90 degrees.

A narrative description of this technique is that given a circle with two parallel tangents, and a third tangent drawn randomly to the circle which intersects both of the two parallel tangents, a right angle may be constructed by connecting the center point of the circle to the points at which the tangents intersect.
The proof of this construction is similar to that used for Thales Theorem, and requires construction of a segment from the circle center O to the tangent point G.

It is, I believe quite amazing that the elements of this construction so neatly utilize the framework contained within the Masonic symbol of a Point Within a Circle. This discovery however leads to other questions, for example, why was this particular method for the construction of a right triangle used as a Craft symbol, when a simpler method (Thales Theorem) existed, and was chronicled by Euclid?

If this construction is indeed the intended functional use of the Point Within a Circle symbol, it is probably of some importance to the Craft; yet this construction as a Geometric function is fairly obscure and is not considered by Euclid as a Theorem or Proposition (although several of Euclid's propositions are used to establish the proof).

Answers to these questions remain to be discovered, and I intend to find great entertainment in further exploration. A friend of mine once said "Most of what I know I learned while looking up the answer to something else". The truth of that humorous comment is rarely more evident than when examining the ancient symbols of our Craft.

The symbolic meaning of the Point within a Circle.

The point within a Circle is another symbol of great importance in Freemasonry, and commands peculiar attention in this connection with the ancient symbolism of the universe and the solar orb. We are told that the point represents an individual brother, the circle the boundary line of his duty to God and man, and the two perpendicular parallel lines the patron saints of the order; St. John the Baptist and St. John the Evangelist.

Perfectly to understand this symbol, I must refer, as a preliminary matter, to the worship of the *Phallus*, a peculiar modification of sun-worship, which prevailed to a great extent among the nations of antiquity.

The Phallus was a sculptured representation of the *membrum virile*, or male organ of generation, and the worship of it is said to have originated in Egypt, where, after the murder of Osiris by Typhon, which is symbolically to be explained as the destruction or deprivation of the sun's light by night, Isis, his wife, or the symbol of nature, in the search for his mutilated body, is said to have found all the parts except the organs of generation, which myth is simply symbolic of the fact, that the sun having set, its fecundating and invigorating power had ceased.

The Phallus, therefore, as the symbol of the male generative principle, was very universally venerated among the ancients and that too as a religious rite, without the slightest reference to any impure or lascivious application. He is supposed, by some commentators, to be the god mentioned under the name of Baal-peor, in the Book of Numbers, as having been worshipped by the idolatrous Moabites.

Among the eastern nations of India the same symbol was prevalent, under the name of "Lingam." But the Phallus or Lingam was a representation of the male principle only. To perfect the circle of generation it is necessary to advance one step farther. Accordingly we find in the *Cteis* of the Greeks, and the *Yoni* of the Indians, a symbol of the female generative principle, of co-extensive prevalence with the Phallus. The *Cteis* was a circular and concave pedestal, or receptacle, on which the Phallus or column rested, and from the centre of which it sprang.

The union of the Phallus and Cteis, or the Lingam and Yoni, in one compound figure, as an object of adoration, was the most usual mode of representation. This was in strict accordance with the whole system of ancient mythology, which was founded upon a worship of the prolific powers of nature. All the deities of pagan antiquity, however numerous they may be, can always be reduced to the two different forms of the generative principle--the active, or male, and the passive, or female. Hence the gods were always arranged in pairs, as Jupiter and Juno, Bacchus and Venus, Osiris and Isis. But the ancients went farther. Believing that the procreative and productive powers of nature might be conceived to exist in the same individual, they made the older of their deities hermaphrodite, and used the term *"man-virgin'*, to denote the union of the two sexes in the same divine person.

Now, this hermaphrodism of the Supreme Divinity was again supposed to be represented by the sun, which was the male generative energy, and by nature, or the universe, which was the female prolific principle. And this union was symbolized in different ways, but principally by ***the point within the circle,*** the point indicating the sun, and the circle the universe, invigorated and fertilized by his generative rays. And in some of the Indian cave-temples, this allusion was made more manifest by the inscription of the signs of the zodiac on the circle.

So far, then, we arrive at the true interpretation of the Masonic symbolism of the point within the circle. It is the same thing, but under a different form, as the Master and Wardens of a lodge. The Master and Wardens are symbols of the sun, the lodge of the universe, or world, just as the point is the symbol of the same sun, and the surrounding circle of the universe.

But the two perpendicular parallel lines remain to be explained. Every one is familiar with the very recent interpretation, that they represent the two Saint Johns, the Baptist and the Evangelist. But this modern

exposition must be abandoned, if we desire to obtain the true ancient signification.

In the first place, we must call to mind the fact that, at two particular points of his course, the sun is found in the zodiacal signs of Cancer and Capricorn. These points are astronomically distinguished as the summer and winter solstice. When the sun is in these points, he has reached his greatest northern and southern declination, and produces the most evident effects on the temperature of the seasons, and on the length of the days and nights. These points, if we suppose the circle to represent the sun's apparent course, will be indicated by the points where the parallel lines touch the circle, or, in other words, the parallels will indicate the limits of the sun's extreme northern and southern declination, when he arrives at the solstitial points of Cancer and Capricorn.

But the days when the sun reaches these points are, respectively, the 21st of June and the 22d of December, and this will account for their subsequent application to the two Saint John’s, whose anniversaries have been placed by the church near those days.

THE ORIGIN OF COMPARITIES

Extracted from *Working the Craft in the Netherlands*

By Dr P. H. Pott, Grand Secretary (1984)

At the end of Prince Frederik's term of office (1881) two developments set in which have had a decisive influence on the working of the Craft in the Netherlands.

To begin with, individual lodges were now trying to obtain their own buildings. Halfway through the 19th century only a few lodges had a building of their own: at the end of the century not having one was exceptional. This may seem a minor point, a mere practical matter, but in fact it had far wider implications: having a building of one's own and using it only once a month is highly un-economical, and a heavy burden on resources. Possibilities for more intensive exploitation were therefore explored, resulting in weekly or fortnightly meetings instead of coming together once a month. Even so, exploitation was limited; consequently there were informal meetings besides the traditional formal ones, club-like gatherings, debating sessions. Thus the increase of lodge-owned accommodation was reflected in an increased number of meetings.

This in turn led to a change of procedures. As long as meetings had taken place once a month and had mostly been *'Open Loges'* - formal meetings - there had been no need to prepare a programme. When meetings became much more frequent, evening-programmes had to be made to ensure meaningful occupation. Very soon a distinction was made between 'Open Lodges', held in a separate room in the building: the temple, permanently equipped for that purpose, and *comparities* - informal meetings - which were held in the *voorhof* - the ante-room - an ordinary meeting-room, which required no special facilities and could also be used for other purposes. A regular item on the programme of these informal meetings was a *bouwstuk, (*a *morceau d'architecture:),* an introductory paper on a subject considered to be of interest to the brethren, which might lead to fruitful discussions afterwards and an opportunity for greater mutual understanding and acquaintance.

No wonder that the 'social issue' played a part in this development: subjects for these papers were chosen against the background of what had come to be seen as the aim and purpose of Freemasonry.

General social issues were obvious choices, and so were subjects in the field of phenomenology of religion, and philosophy. As both issues bordered on the off-limits topics of the lodge: - anything that might cause disputes on religion or religion - there was understandable hesitation as to whether or not discussion of these 'social issues' could be allowed.

PRESENT-DAY EXPLANATION OF A COMPARITIE
provided on the internet by Lodge L'Union Provinciale, Groningen.

What is a comparitie?

The Dutch word 'compareren', according to the (Dutch) *Lexicon for the Freemason* literally means "to appear at a specific place". The meaning comes from the French word 'comparoir'. Outside freemasonry this word is still used with that meaning. Thus the word comparitie is not linked to the French word 'comparer' which means 'to compare'.

The term comparitie is used within Dutch Freemasonry for meetings of members of a lodge, during which a 'piece of architecture' (bouwstuk) (c.q. lecture) is delivered. It concerns a meeting held in masonic style wherein no ritual is performed. During the comparitie domestic business is discussed, pieces of architecture are delivered with an ensuing exchange of ideas. The opening and closing of the meeting are carried out in masonic style but without the usages of an open lodge. The comparitie takes place in a space which is also known as the Forecourt (Voorhof).

The word 'bouwstuk' (piece of architecture)derives from expression such as 'building the temple of humanity' and 'building the temple of perfection'. During a piece of architecture a presentation is made the contents of which usually deals with to the toil of a freemason, community matters or subjects dealing with masonic symbolism.

It is the custom that the subject matter of a piece of architecture does not deal with political or religious dogma. As many different beliefs and ideas prevail in a lodge and because freemasonry as an organization does not hold or promote any points of view in these matters, a careful approach is taken when such subjects are being discussed. When a piece of architecture is completed the brethren present exchange thoughts about the subject matter of the presentation. It is the then customary to avoid the possible development of a dogmatic discussion, but this does not prevent that one can indicate his disagreement with a particular matter.

The Comparitie, a meeting with a lecture and discussion, is unique within Dutch Freemasonry. In other countries where freemasonry is active this kind of meeting is unknown. The comparitie originated during the time when Prince Frederik was Grand Master. During this period many lodges obtained their own building and a need arose to meet more frequently.

Until then they only met for the purpose of Open Lodge, a meeting at which a ritual was carried out. A ritual was performed at the celebration of masonic high days and the working of the blue degrees. Hence the number of meetings per year were about ten to fifteen. Because of the desire to meet weekly the need arose for a new format for the extra meetingswhich over time developed into the present-day format of the comparities.

Grand Lodges in England

Contributed by Web Master

The Grand lodge of All England

A.D. 926 - THE MOST ANCIENT GRAND LODGE OF ALL ENGLAND IS FOUNDED

"Edward died in 924, and was succeeded by Athelstane his son, who appointed his brother Edwin, patron of the masons.This prince procured a charter from Athelstane, empowering them to meet annually in communication at York, where the first Grand Lodge of England was formed in 926, at which Edwin presided as Grand Master. Here many old writings were produced, in Greek, Latin and other languages, from which the constitutions of the English lodges are derived.

The activity and princely conduct of Edwin qualified him, in every respect, to preside over so celebrated a body of men as the masons, who were employed under him in repairing and building many churches and superb edifices, which had been destroyed by the ravages of the Danes and other invaders, not only in the city of York, but at Beverley, and other places. On the death of Edwin, Athelstane undertook in person the direction of the lodges, and the art of masonry was propagated in peace and security under his sanction." (SOURCE: William Preston - Illustrations of Masonry)

"The early history of Freemasonry is linked to the history of the trade groups, Roman Collegia, brotherhoods and corporations. The trades started to organise themselves in the thirteenth century. The first mention of Freemasonry is to be found in an English document of 1376, and again in 1396 in a document of the Archbishop of Canterbury. Freemasonry was never exclusively operative. Religious and initiatory aspects always went alongside the concrete, professional transmission of technical skills and the defence of the interest of members, as we know them today as trade unions. The organisations also helped the members in distress, provided charity, and looked after the good behaviour of the initiates. This dual nature of the movement became more visible with the admission of "accepted", non-operative members. As a result the lodges became meeting points for the trade people and men of culture. The decrease in the number of big building sites, such as those for new cathedrals, and the Renaissance, led to the decline of the brotherhoods, leaving more room for the speculative Masons in the Lodges." (SOURCE: Gilles C H Nullens - Annex 2, An Outsiders View of Freemasonry)

"Then to breakfast in the fabric of the lodge, and forthwith all are to return to work until noon. Between April and August they shall sleep in lodge, then work until the first bell of Vespers." (SOURCE: Fabric Rolls of York Minster - AD 1355)

"At York Minster in 1370 a strict code of ordinances for masons was drawn up by the Chapter, regulating times and hours of work and refreshment;...(penalties for breaches)... The men were forbidden to go more than a mile from the 'lodge' in their free time; new men were to work a week a more on trial and if they were found 'sufficient' by the Master of Works and the Master Mason they were sworn 'upon the book' to adhere to the rules. Throughout this document the word 'lodge' refers primarily to the masons' workshop, but it was also their home, refectory and 'clubroom'." (SOURCE: Dr Bob James - Craft, Trade or Mystery - Part One)

1567 - THE GRAND LODGE AT YORK

The Ancient and Honourable Society and Fraternity of Freemasons meeting since time immemorial in the City of York, acting in its capacity as the Grand Lodge for the whole of England, sanctions the appointment of a Grand Master for the South to superintend the government of all London Lodges on behalf of The Grand-Master Mason at York.

"In the year 1567, the increase of Lodges in the South of England being so great as to require some NOMINAL PATRON to superintend their government, it was resolved that a person under the title of Grand Master for the South should be appointed for that purpose, with the approbation of the GRAND LODGE at YORK, to whom the whole Fraternity at large were bound to pay tribute and acknowledge subjection." (SOURCE: The Manifesto of 1778, The Lodge of Antiquity, formerly the Old Lodge of St Paul. Full transcript on this website)"We know from evidence ... that it was customary for the York Lodge to convene, or create, a lodge in other places than York, thus already acting as if it were a 'Grand Lodge'..... exerting an authority to extend Freemasonry in its area of influence, as an extension of itself." (SOURCE: Revd Neville Barker Cryer -York Mysteries Revealed) "One of the 'Grand Lodge' claims that marked this Lodge in York as being more than a private lodge with a pretentious name was its undoubted right to authorize the holding of other private lodges on receipt of a constitution or warrant from 'the Right Worshipful Grand Lodge'." (SOURCE: Revd Neville Barker Cryer - York Mysteries Revealed)

1705 - OLD GRAND LODGE AT YORK

The most ancient Grand Lodge in England, The Ancient and Honourable Society and Fraternity of Freemasons meeting since time immemorial in the City of York, is named the Old Grand Lodge at York and continues to meet regularly at York under the direction of their Grand Master, Sir George Tempest, Bart. Several subordinate Lodges met and many worthy brethren were initiated in York and its neighborhood. Sir George was succeeded by the Rt Hon. Robert Benson, Lord Mayor of York."In fact, is it possible that here, as in Chester, there is evidence of an organised Lodge in 1666 and by

1705 there was a York Lodge behaving as only an older type of Grand Lodge was expected to behave at that time? I have discovered hard proof that this is so." (SOURCE: Issue 37, FREEMASONRY TODAY, The Question of The First Grand Lodge)"It is worth noting again, as remarked earlier, that the Lodge records that are dated from 1705 are unquestionably regarded as being those of a Grand Lodge. Moreover they are nowhere referred to as being the first or early minutes and accounts. They are simply the earliest extant. (SOURCE: Revd Neville Barker Cryer - page 354, York Mysteries Revealed)

1717 - ASSEMBLY OF MASONS IN LONDON

Despite overwhelming evidence to the contrary it is still claimed by some that in 1717 "Four Old Lodges" assembled in a small back room of a London Ale-house and that this was the beginning of organized Freemasonry. This claim cannot be substantiated although meetings of a few individual Masons did take place, initially at the Cheshire Cheese Tavern, in 1716.

"It is to be regretted that the records of the 'Four Old Lodges' do not antedate those of the 'Grand Lodge', they brought into existence, as fortunately happens in the case of the single lodge which blossomed into the 'Grand Lodge of all England, held at York,' and assuredly the priority of a few years cannot be urged as a reason for styling the one body legal, and denying such a position to the other." (SOURCE: Robert Freke

1723 - THE GRAND LODGE OF LONDON

The Assembly of Masons in London constitutes itself a Grand Lodge of London and for the first time takes upon itself the authority to legislate for its Lodges in or near London. It publishes its first Book of Constitutions (The Anderson Constitutions) written by Dr. James Anderson.

Dr. James Anderson.

"Bro. Anderson, having acquitted himself of the task, in 1722 submitted his work to the commission, who approved it, and caused it to be sanctioned by the Grand Lodge on the 25th March, 1723." This constitution is entitled 'The Book of Constitutions of Freemasons, containing the History, Charges, and Regulations, etc., of that Most Ancient and Right Worshipful Fraternity, for the use of the Lodges.""This Constitution is based upon the charter of York, which, of all others, has served as a guide for all those which have been established since A.D. 926. Into this constitution were carried otherwise the changes and the developments which were rendered indispensable by the new object of the society, and properly above all was caused to predominate the supremacy of the Grand Lodge of London. This last tendency, so much to be, in this our own day, deprecated, but proves that the authors were not penetrated by the true spirit of the Charter of York." (SOURCE: Page 96, A General History of Freemasonry in Europe published in 1869, translated and compiled from the Masonic Histories of Emmanuel Rebold, M.D., by J. Fletcher Brennan, Editor of The American Freemasons Magazine)

1725 - THE GRAND LODGE OF ALL ENGLAND AT YORK

The Old Grand Lodge at York, the most ancient Grand Lodge of Freemasonry throughout the world adopts the name "The Grand Lodge of All England", an open and public statement that The Grand Lodge of All England will not tolerate further unauthorised expansion by the London Grand Lodge.

Warranted Lodges: Talbot Lodge, Halifax 1738; French Prisoners Lodge, Stonegate, York 1762; Three Tuns Lodge, Scarborough 1762; Royal Oak Lodge, Ripon 1769; Crown Lodge, Knaresborough 1769; Duke of Devonshire's Flying Childers Lodge, Macclesfield 1770; Hovingham, North Yorkshire 1773; Druidical Lodge, Rotherham 1778; New Inn
Lodge, Snainton, North Yorkshire 1778; Grand Lodge South of the River Trent, London 1779; Fortitude Lodge, Hollinwood 1790.

1738 - GRAND LODGE OF LONDON

Eight years have passed since the Grand Lodge of All England issued its warning to the London Grand Lodge against expansion outside of London.

Dr Anderson's "New Book of Constitutions" is published which claims jurisdiction over Masonic Lodges outside of London. It includes for the first time the legend of the "Four Old Lodges" in an attempt to establish supremacy over The Grand Lodge of All England at York which had existed since time immemorial. Anderson so garbled his account of the founding of the Grand Lodge of London and contradicted his own earlier story in such a fashion that even Robert Freke Gould was inclined to believe that "... he had become disgruntled and full of spleen" or was "... in his dotage". Anderson was dead within a year of the publication of the second edition of his Constitutions.

"There is a legend that in 1716 Four Old Lodges in London ... finding themselves neglected by Sir Christopher Wren, with the assistance of some old Brothers, met together at the Apple Tree Tavern in Charles Street, Covent Garden, and '... constituted themselves a Grand Lodge pro Temperore in Due Form', and on St John Baptist's Day, A.D. 1717, the Assembly and Feast of the Free and Accepted Masons was held at the Goose and Gridiron Ale-house in St Paul's Church-yard. In this humble fashion, without show or pretence, in a room at a Tavern about 22 feet long by 16 feet wide, the first Grand Lodge in London was, according to the account given by Dr. Anderson in his "New Book of Constitutions"(1738) thus formally Constituted."

The Goose and Gridiron Ale house in St Paul's Church-yard

"Whilst it is now recognised that Dr Anderson's Story of the Craft, based on mythical tales and legendary traditions is quite untrustworthy, yet his version of the actual origin of the Grand Assembly, or Grand Lodge at London may or may not deserve

some credence, for, after all it is only available for our consideration as there are no records prior to 1723, so what ever may or may not have happened in 1717 is left only to imagination." (SOURCE: Paper read before the Manchester Association for Masonic Research in May 1924 by Bro. Heiron, author of Ancient Freemasonry and the Dundee Lodge No.18 1722-1920)

1751 - GRAND LODGE OF ENGLAND ACCORDING TO THE OLD CONSTITUTIONS

After thirteen difficult years Brethren from within the Grand Lodge of London rebel and form the Grand Lodge of England According to the Old Constitutions now known as ANTIENTS GRAND LODGE. The founders of this Grand Lodge vehemently dissapprove of the changes and innovations made to the Ancient Charges, Regulations and Landmarks of the Order by the Grand Lodge of London. They brand the remaining London Grand Lodge members "Moderns".

1779 - GRAND LODGE SOUTH OF THE RIVER TRENT

In its Manifesto of 1778 the Lodge of Antiquity, the first and only survivor of the so-called "Four Old Lodges" acknowledges in unequivocal terms the primary status and antiquity of The Grand Lodge of All England at York.

The Lodge of Antiquity formally withdraws all authority granted to The Grand Lodge of London by the "Four Old Lodges" citing that The Grand Lodge of London had reneged on the terms and conditions appended to The Lodge of Antiquity's Time Immemorial status. Accordingly it had contravened the Ancient Charges, Regulations and Landmarks of the Order.

The Grand Lodge South of the River Trent is established under a charter or warrant granted by The Grand Lodge of All England at York. (SOURCE: The Manifesto of 1778, The Lodge of Antiquity, formerly the Old Lodge of St Paul.)

1813 - GRAND LODGE OF LONDON

The Articles of Union between the Moderns Grand Lodge of London and The Grand Lodge According to The Old Constitutions (Antients Grand Lodge) produces the new UNITED GRAND LODGE OF ENGLAND. The Articles of Union made possible the development of the bogus doctrine of "recognition". With the Duke of Sussex at its head it represented the Hanoverian approach to all English constitutional structures, including the Church and Parliament - rationalisation and control. (See: "Articles and Papers" on this Website - The Role of Grand Lodges by Richard MartinYoung).

1823 - GRAND LODGE OF FREE AND ACCEPTED MASONS OF ENGLAND

Ten short years having passed and in order to free themselves from domination by the Grand Lodge in London, Antient Freemasons in the North of England form a Grand Lodge which is now known as the GRAND LODGE HELD AT WIGAN. This new and latest Antients Grand Lodge enjoys a great deal of success and some hard times, but it continues to work until just before the outbreak of World War One, 1913.

2005 - THE GRAND LODGE OF ALL ENGLAND AT YORK

1,079 years after the Charter of York, 439 years after sanctioning the appointment of the first Pro Grand-Master Mason for London, and 300 years after the renaming of The Grand Lodge of All England at York, the Assembly of Masons meets in Mason's Loft, York Minster and reclaims Ancient York Masonry to its rightful custodians.

York Minster

A date is set to repone The Grand Lodge of All England, to meet in Convocation strictly in accordance with the Old York Constitutions, and to continue the working traditions of England's most ancient Grand Lodge meeting at York since time immemorial.

Warranted Lodges: Talbot Lodge at Halifax; French Prisoners Lodge at York; Three Tuns Lodge at Scarborough; Royal Oak Lodge at Ripon; Crown Lodge at Knaresborough; Duke of Devonshire's Flying Childers Lodge at Bolton Abbey; Hovingham Lodge; Druidical Lodge at Rotherham; New Inn Lodge at Snainton; Fortitude Lodge at Hollinwood, St John's Lodge at York, Renaissance Lodge at London, Kipling Lodge at Staines