THE SACRED CUBIT—TEST CASES.

WE shall never arrive at any definite determination of the value of the sacred cubit, and of its equivalent value expressed in English inches, until some standard case be taken as a test case, wherein the actual length in cubits is given by contemporaneous writers of things which can now be measured in English equivalents. And, in order that it may be rendered the more useful in our researches in relation to Temple measurements generally, the test case should be confined to the Area of the Haram, the undisputed site of the ancient Temples of Solomon and Herod.

I. THE TEST CASE—ROBINSON'S ARCH.

This case has the decided advantage of being the first thing identified in the Haram Area as one of the landmarks of the Temple Area at the time when Titus destroyed the Temple and its surroundings. Dr. Robinson suggested that this abutment of the arch was a vestige of the bridge from which Titus addressed the Jewish leaders. Colonel Warren's excavations at this spot seem to prove that it was the abutment of a bridge of two arches, which did not cross the Tyropœon ravine, but merely formed a handsome extension of the middle or central roadway of the Royal Cloisters, and that these two arches were a magnificent termination of the central roadway. It was simply a handsome stairway extending to the middle of the Tyropœon ravine, on piers and arches, and permitted an exit from the Royal Cloisters to the suburbs below by means of steps and a stairway. I propose to use the distance of the north side of this arch and Royal Stairway in English feet and inches as a test of the distance of the north side of the middle or central roadway of the three Royal Cloisters, given in cubits.

Josephus gives the following description of these Cloisters:—

"It had the Royal Cloisters, with three walks, which reached in length from the east valley unto that on the west.

"This Cloister had pillars that stood in four rows . . the fourth row was interwoven into the wall; and the thickness of each pillar was such that three men might, with their arms extended, fathom it round, and join their hands again.

"These four rows of pillars included three spaces for walking in the middle of this Cloister; two of which walks were made parallel to each other . . the breadth of each of them was 30 feet (20 cubits), and the length a furlong; but the breadth of the middle part of the Cloister was one and a half of the other."—Antiq. xv. 11. 5.

The pillars were equal to the span of three men, being exactly the same diameter as the two pillars, Boaz and Jachin, in the Porch of Solomon's Temple—namely, 4 cubits. Hence the entire width of the Royal Cloisters was $4 + 20 + 4 + 30 + 4 + 20 + 4 = 86$ cubits. But our test case only includes two of these three Cloisters and two rows of pillars, with half the diameter of the third row of pillars; therefore, the distance of the northern side of the Middle Cloister from the outer edge

of the south wall would be $4 + 20 + 4 + 30 + 2 = 60$ cubits. These 60 cubits should have exactly the same value in English feet and inches as the distance of the north side of the Royal Arch from the south-west angle of the Haram, whatever that equivalent value may be.

The typical values of a cubit, which has been selected for comparison, are those assumed by Prof. Piazzi Smyth, Colonel Warren, S. Beswick, and Lieut. Conder. And the estimated values of these 60 cubits will be as follows:—

	Inches.		Cubits.		Feet.
Smyth	25·00	×	60	=	125·00
Warren	21·00	×	60	=	105·00
Beswick	17·72	×	60	=	88·60
Conder	16·00	×	60	=	80·00

Now the actual distance of the north side of the Royal Bridge from the south-west angle of the Haram, as measured by Colonel Warren, is thus given by him:—

"The north end of Robinson's Arch is 89 feet from the south-west angle."—"Jerusalem Restored," p. 117.

My estimate, as given above, is 88·60 feet, and the values of the Cloisters in detail will be found to be almost identical with admitted measurements. Take Capt. Warren's estimate given in his latest work:—

"The diameter is 5 feet 9 inches for each pillar. The middle walk was 45 feet wide, and the side walks 30 feet each."—"Underground," &c., p. 71.

My values are:—

	Cubits.		Inches		Feet.
Diameter of pillar	4	×	17·72	=	5·91
South cloister	20	×	17·72	=	29·54
Middle cloister	30	×	17·72	=	44·30

The formula I have adopted for the actual value of a cubit is $\sqrt{3}\cdot14159 \times 10 = 17\cdot7245$ inches. And I regard $\sqrt{3}\cdot14159$ as the ancient standard or Canon of Proportion, and the foundation of every standard of length and capacity used by the ancients.

II. Ancient Length and Width of El Aska.

An old Arabian MS. was published by the Oriental Translation Fund of Great Britain and Ireland, in 1836, and translated by the Rev. James Reynolds, B.A., under the title of "History of the Temple of Jerusalem," and dating back to April, A.D. 1444. In this old Arabian MS. we have a description of the area covered by the Mosque El Aska at that date, of which the following is a translation:—

"Looking directly in *front* of the northern boundary wall, just above the gate called the Tyropœon Gate, and within the *wall* of the marble pavement, and thence estimating the length and breadth of the Mosque, the length will be 784 cubits, and the breadth 455 cubits" (p. 35).

It would appear from this old Arabian MS. that El Aska once extended,

in some shape or other, over the entire area now occupied by the pavement or platform of the Dome of the Rock, and perhaps this platform and mosque may have formed a part of what was then known under the general title El Aska. The discoveries of Colonel Warren prove that the northern side did once extend to the length of two tunnels, which run 8 feet beyond the vault No. 29, or 58 feet beyond the northern edge of the present platform of the Dome of the Rock. Let us, therefore, test the above values of length and width with what we find in the Haram to-day. And first, let us test the value of these 784 and 455 cubits by the four typical values of a cubit given in the previous case.

	Inches.		Cubits.		Feet.	
Smyth	25·00	×	784	=	1633·3	length.
Warren	21·00	×	784	=	1372·0	,,
Beswick	17·72	×	784	=	1158·0	,,
Conder.....	16·00	×	784	=	1045·3	,,
Smyth	25·00	×	455	=	948	width.
Warren	21·00	×	455	=	796	,,
Beswick	17·72	×	455	=	672	,,
Conder.....	16·00	×	455	=	607	,,

The actual *width* of the area from the north-eastern angle of the platform to the western wall of the Haram is exactly 672 feet. And the actual length of the area from the northern end of the two tunnels of vault No. 29, at the northern end of the platform, to the southern wall of the Haram, is exactly 1,158 feet. The whole civilised world has long been accustomed to the approximate measurement of 1·5 feet to the cubit = 18 inches, and this value has received the almost universal approval of every standard writer on Biblical standard measures of length in every age and country. The actual and precise value, however, is 17·7245 inches, instead of 18 inches, which is sufficiently accurate for popular use and reference.

A very simple test is furnished by estimating the value of a digit, or finger-width. The Talmudic writers say that a cubit consisted of six palms or handbreadths=24 digits. Hence the following test values:—

	Inches.		Digits.		Digits per inch.
Smyth.....	25·00	÷	24	=	0·96
Warren	21·00	÷	24	=	1·13
Beswick	17·72	÷	24	=	1·35
Conder.....	16·00	÷	24	=	1·50

According to Professor Piazzi Smyth's value of a cubit, the finger-width should be equal to 0·96 of a digit per inch, or 3·84 finger-widths = 4 inches. That would do very well for a giant, but not for ordinary mortals. In Colonel Warren's estimate, 4 digits would be equal to 3·54 inches, which is too great a width for the average hand across the fingers. And Lieut. Conder's estimate would only give 2·66 inches for the average width of the hand of 4 fingers, which is the average value of the width of a youth's hand across the fingers of the age of 8 to 10 years.

The value of 18 inches to the cubit (17·72 inches) would give an average of a little over 3 inches to the 4 finger-widths or handbreadth. And this value will be true in 99 cases out of a hundred amongst men who do not use the hand for heavy work.

Colonel Warren speaks of his discoveries in relation to this scarp at the northern edge of the platform as the "north wall of the Temple of Herod." And in another place he says, "I found there the old north scarp wall of the Temple courts, not far from the gate Tadi." I am of the same opinion, and regard this scarp as Solomonic and not Herodian. It was the site and boundary of the northern wall of the Temple courts both to Solomon and Herod. The distance of the northern end of the two tunnels of vault No. 29 is exactly 250 cubits = 369 feet from the central line of the Sakhrah, and is at the same distance from the Sakhrah as a central cave at the western wall of the Haram is from the centre of the Sakhrah, namely, 250 cubits=369 feet. It indicates the northern limits of the Temple Courts of Solomon, as much as the western wall does its western limit. And I am of the opinion that Captain Warren's discovery of this northern limit to the Temple Courts has never been as much appreciated as it really deserves. S. BESWICK.

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THE SUPPOSED TOMB OF ST. LUKE AT EPHESUS.

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ON a recent visit to Ephesus, I made some rough sketches of what Mr. J. T. Wood, in his work on the discoveries he made at that place, describes as the probable tomb of St. Luke. Afterwards, on comparing my sketches with the illustrations at p. 58 in "Discoveries at Ephesus," as well as with the description there given, I found that at least one very important feature of the monument had been entirely omitted, and as this feature seems to bear on the original character of this ancient work, I submit a few notes on the subject, and a couple of sketches of the place by way of illustration. Mr. Wood's celebrity as the discoverer of the Temple of the great Diana is so great, and so well deserved, on account of his labours and their final result, that his name naturally carries with it great authority, and as the illustration which he gives of this monument may be copied and re-copied into other works, I may be excused for attempting to add some information on the subject.

The place is within, and near to the Magnesian Gate; and all that remains at present of it is little else than a mound; but an external wall of large slabs of marble is visible in some parts. This base was circular, and between each slab there has been a dwarf pilaster, a sketch of which is given, and on one of these still standing there is a panel with a Christian cross cut so as to stand out in relief; in a smaller panel beneath is the figure of a bull or ox, with a well-developed hump, similar to that of a Brahminic bull. The bull being the symbol of St. Luke, led Mr. Wood most naturally to the conclusion that the monument had had