

Architectural Meaning in Hebraic Measurement and Orientation

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When the great 19th Century architect Louis H. Sullivan uttered the phrase “Form Follows Function,” little did he realize just how literally he would be taken by the majority of descendant American architects. In just three little words, he deprived architecture of form emanating from any source other than the use to which it would be put. That diminishment included elements such as the expression of measurement and orientation (which in most cases is not necessarily crucial to built form). However, when architectural expressions concerning the differentiation between what is sacred and what is secular (and the cleaving of history thereto) is affected, it is important to note (significantly, in the cleaved realms between the eras of the Temple and that of the Synagogue).

Notations about measurement and orientation are referred to throughout the Torah pointing toward the differences between Hellenic abstraction and Hebraic representation. Moreover, because measured things show up so often in the Torah, there is the inference that measurement, for example, is a way by which one is given the unique capacity to commit to memory the size of things, thus appropriating the thing itself in a way that no other technique allows. The marginal orientational differentiation between the epochs of the Temple and that of the synagogue has its own particular significance related to, but not entirely derived from, measurement.

This paper attempts to delineate the Biblical significance of measurement and orientation and to begin a procedure of questioning that may possibly enlighten why both elements are symbolically consequential in all of the epochs throughout time.

Measurement

Measurement, or perhaps more significantly, the expression—or communication—of measurement is crucial to understanding building as a representational—not abstract—phenomenon. When everything else is taken away from architecture (place, use, i.e., all those constituent features that have conventionally defined it), only measurement remains, as perhaps the only feature intrinsic to building. Throughout time, traditional ways of absorbing knowledge about buildings have continuously added to our understanding through the tried and true method of “taking the measure of things.” History shows us that the most powerful method of committing the form of things to memory is to measure them and then, by using those measurements, to draw those measured things to some scale. In that way, the size, the form, and the juxtaposition of elements are endowed with a particularly powerful authority through interpreting those measurements taken by reconstituting them in drawn form, such that they remain with one basically throughout one’s life. Even beyond that, appropriation, or ownership of the measured building transpires, making the entire experience unique.

Torah, Talmudic exegesis, Midrash, and the many tractates whose mission it is to address (if not always to question) the consequential meaning of Biblical origins, all are filled with reports of the size of things and their relationship to each other.

In the elaboration of things forward from those distant origins, only Kabbalah, whose function it is to ask penetrating questions in order to advance understanding, is the uniquely appropriate vehicle to go beyond explicative interpretation of ostensible quantifiability to a realm where understanding is the result of increasingly (perhaps even disturbingly) penetrating questions.

The inference of such questions abound in reading Torah. Why, for example, is the tent covering the Ark of the Covenant of a particular size? Why is it situated in a specifically measurable way within the confines of the boundary defining it? Given the mobility of the entire precinct, why is the entirety perpetually reconstituted in precisely the same dimensional relationships each time? My suspicions are that proportion, i.e., the measurable relationships intrinsic to ratios, is NOT the reason for Hebraic spatial relationships. In his book, *THE HEBRAIC VERSUS THE HELLENIC*, Thorleif Boman shows us that mythical numerical ratios (and their inevitable hierarchies), are peculiarly (read abstractly) Hellenic in origin.

How one is to understand size of the secular cubit versus the incrementally larger size of the sacred cubit is clear, but why is the size of the sacred cubit used to measure the eminently movable Ark of the Covenant (Exodus), the same as the one used to measure the rootedly fixed Solomon’s Temple, (I Kings)? Is one to assume that the movable vessel and its accoutrements (so uniquely akin to a Text in perpetual interpretation) is no different than a fixed enclosure (the First Temple)? Or has the Sacred Text changed as well? Is it no longer to be subject to the perpetually interpreted Text and the stasis implicit in a “fixed” building (Solomon’s Temple), that implies yet another method of measurement? In other words, why is not measurement subject to speculation every bit as much as the Text that it delineates?

Movable structures other than the original one described in Exodus as conceived by the hand of the first Biblically derived architect Bezalel, are equally vague about why certain measurements are used in order to define those structures and their appurtenances. For example, the Book of Seasons is quite explicit about the measurements necessary to define the limits of elements required to “make the booth valid” (in the case of temporary structures built to celebrate the holiday Sukkot), but precious little is presented about “why” particular measurements are more valid than others (see Addendum 1: my submission to a 1995 exhibition of 10 different booths at Chicago’s Spertus College of Hebraica and Judaica).

Particularities of measurement aside, it is somehow reassuring that when the Ark is removed from Herod's Temple, there are lower expectations to measure things (after all, when the sacred vessel is evacuated with the sacred text, the vessel loses its potency); indeed, dimensions of Synagogues (and their marginally differentiated orientation—but more on that later) are either marginally referential to the earlier Temple, or more likely, not at all (see *WRITING IN ARCHITECTURE*, in *ANY*, number zero, May/June, 1993).

The marvelously reiterative quality of measurement in Torah and subsequent sacred texts suggests an importance that requires examination. Clearly, measurement is presented either to: a. defer (or more likely) to displace symbolic and/or semantic description, all by way of referring back to the denial stipulated in the famous clause at the heart of the Second Commandment (“...Thou shalt not bow down to graven images...”), or b. to elevate measurement as the only reasonable method that remains in order to explain the nature of things, or c. there is an unknowable distinction that elevates measurement to the privileged status of language—to be more precise, the etymologically correct language of the Hebrews—i.e., the encoded original, where only consonants exist requiring interpretative decodings in order to attain linguistic understanding (see Dr. José Faur's illuminating book on the subject *GOLDEN DOVES AND SILVER DOTS*).

Quite possibly, all three constituents listed above are part and parcel of a deeper, more holistically complex meaning connected to the predominance of measurement threaded throughout Torah. The very mass of inanimate things made measurable (and thus, perhaps made knowable [possibly even made animated]) in Torah must give pause to the very essence of comprehensibility. If measurement, or numerical (read mathematical) language is akin to the

etymologically original Hebrew language, then both are encoded, and both require decoding (perhaps through interpretation) in order to fully appreciate meaning implicit in either.

In any case, the question of WHY things are of a certain size remains unanswered. Beginning with the Ark of the Covenant through Ezekiel's tractate describing a “Temple in anticipation of a Messianic age,” appreciation of the deep structure of numerical language describing sacred spaces and their appurtenances remains encoded, and thus alongside that condition, the very nature of the structures themselves. The seemingly perpetual an-

ticipation to encode such structures produces a longing that is unbearable.

Orientation

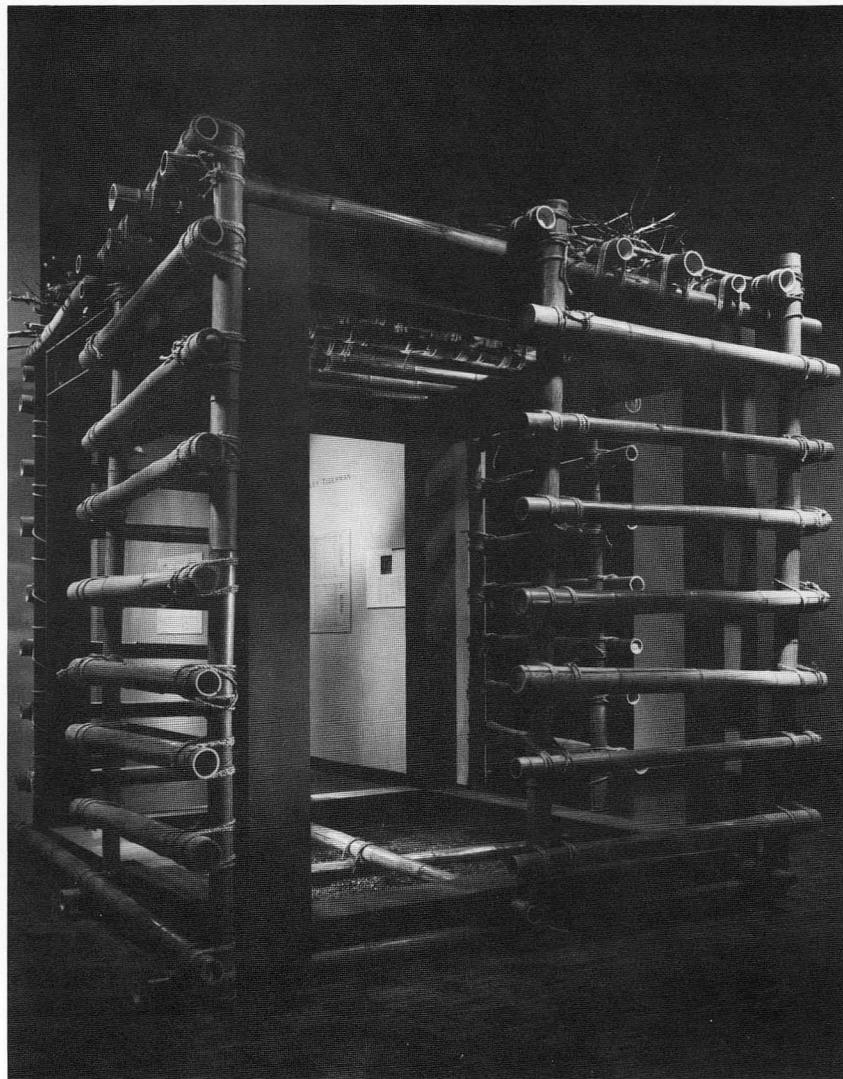
Alongside measurement, and as a product of it, stands orientation. Things that are measurable are only free-floating as they emanate from Hellenic antecedent; from a Hebraic point of view they are always pointed pragmatically in some direction or other for some purpose generally articulated in sacred texts. Certainly in Torah and its many redactions, and perhaps as a pragmatic product of a people committed to reasoned decision making, direction, and its natural extension, ori-

entation, is a logical expression extending the concept of measurement into another, reasoned realm.

Not only were the several sacred spaces of the Temple era made measurable (see above), but equally resonant was their orientation, whether an extension of the logic of all sun cultures where the rising sun in the East brought life, whether by the expulsion of Adam and Eve after their failed attempt to challenge the divine being as depicted early in Genesis, or whether as described by the prophet Ezekiel, in anticipation of a Messianic Age. Even in the post-Temple era of the Synagogue, the (now Post-Structural) concept of a significant other is manifested in the orientation towards Jerusalem (the phrase “...next year in Jerusalem” comes to mind). While the implied immanence attached to Ezekiel's vision is now considered by some as a “bankrupt concept,” orientation still exists in the era of the Synagogue—but it is a post-structuralist orientation pointing towards the significant other—Jerusalem.

The concept of “loss” is intrinsic to understanding orientation, at least as described reiteratively in Torah. Whether it is the daily loss understood by sun worshipers as night is begotten by day (and thus death is begotten by life), whether it is the loss felt by Adam and Eve after being thrust out of the Sacred Garden toward the East, whether it is the loss suggested in divine expectation perpetually defined by immanence; the negative resonance of unfulfilled loss is at the heart of a people conditioned by the seeming permanence in the interminable endlessness of the many reiterations that inexorably build flesh onto the skeleton of loss.

If the concept of loss is intrinsic to orientation, that same concept is logically attached to measurement as well; for that which is rooted in orientation is described largely by measurement. Thus, neither orientation nor measurement are innocent, though on the surface they both seem that way.



Exhibition at Chicago's Spertus College of Hebraica and Judaica, 1995

Addendum 1: Design of a Sukkah
According to the Book of Seasons:
Chapter IV, V, VI, Laws Concerning the
Booth. Additional Criteria: Chapter
VII, Paradox of Messianic Age.

IV.1.1 The booth's height is 37 handbreadths and its area is 256 handbreadths. The booth is valid.

IV.2.1 The booth has four walls at right angles to each other.

IV.2.2 Each wall is more than one handbreadth wide.

IV.2.3 Each wall is provided with "the shape of a doorway" as defined in the laws concerning the sabbath as 2 upright reeds—one at either side—with a horizontal reed above them that need not even touch them. The booth is valid.

IV.3.1 The booth has four walls at right angles to each other.

IV.3.2 The reeds from the covering do not extend past the interior of the cube, therefore the exterior of the cube is the exterior of the booth. The booth is valid.

IV.4.1 The walls are attached to the roof of the booth and end less than three handbreadths from the ground.

IV.4.2 Where parts of the wall do not reach the covering of the booth, the gap is less than three handbreadths between the wall and the roof.

IV.4.3 There is no suspended partition within the booth. The booth is valid.

IV.5.1 There is no tree being used as a partition in the booth.

IV.5.2 The partition/walls of the booth can withstand a normal land breeze. The booth is valid.

IV.6.1 The booth may be entered on the first day of the festival, unlike a booth

erected in a tree or on a camel's back, because one does not have to climb a tree or mount a riding beast to enter.

IV.6.2 The booth is not partly formed by trees so it may be entered on the first day. The booth is valid.

IV.7.1 The booth has a roof that is neither walls joined together in the manner of a cone-shaped hut nor the top of a booth wall resting against a house wall.

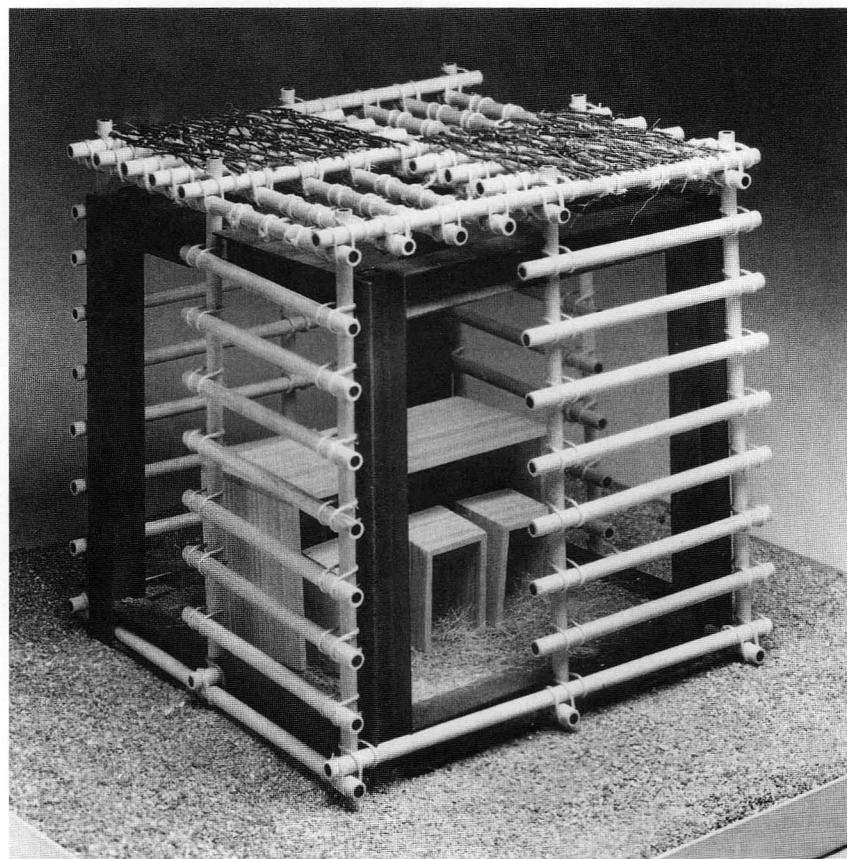
IV.7.2 The booth has more than one single handbreadth square of roof. The booth is valid.

IV.8.9.10 The rules regarding creating booths using existing structures are not applicable for the definition of the booth herein.

IV.11.1 The rules regarding creating booths using corners of a house roof with four additional poles are not applicable for the definition of the booth herein.

IV.12.1 The booth walls have more open space than boarded space, and have four doorways. However, each door is less than ten cubits wide. The booth is valid.

IV.13.1 The inside of the booth is less than twenty cubits. The booth is valid.



Model of Sukkah

IV.14.1 There is no platform erected within the booth.

IV.14.2 There is no pillar erected within the booth. The booth is valid.

IV.15.1 The inside height of the booth is more than ten handbreadths. The booth is valid.

IV.16.1 The walls of the booth are made of bamboo, rope and steel. Anything whatsoever is fit to serve as the wall of a booth, for all that is required is a partition of some kind, even if it consists of a living creature. The booth is valid.

V.1 The roof covering of the booth consists of bamboo, natural fiber rope and twigs.

V.1.1 The materials for the covering have been grown from the soil.

V.1.2 The materials for the covering have been detached from the soil.

V.1.3 The materials for the covering are not susceptible to ritual impurity.

V.1.4 The materials for the covering do not have an evil odor.

V.1.5 The materials for the covering do not continually shed leaves or wither. The booth is valid.

V.4.1 The covering has not been pounded or carded. The appearance of the bamboo and twigs is unchanged and so the bamboo and twigs are regarded as being grown from the soil.

V.4.2 The rope used as part of the covering consist of the bast, rushes or the like, so may be used because the material has not altered in appearance and the ropes are therefore not utensils. The booth is valid.

V.5.1 The booth covering does not consist of female arrow shafts which are receptacles and therefore susceptible to ritual impurity. The booth is valid.

V.6.1 The booth covering does not consist of reed mats made to lie on.

V.6.2 The booth covering does not consist of reed mats which are rimmed and are, therefore, the equivalent of a receptacle. Even if the rim is removed, the mat should not be used, for now it is equivalent to a fragment of a utensil. The booth is valid.

V.7.1 The booth covering is not made from planks more than four handbreadths wide. The booth is valid.

V.8.1 The rules regarding creating booths using existing roofing structures are not applicable for the definition of the booth herein.

V.9.1 The booth is made in conformity with the law because it is made to provide shade, even though it was conceived by a non-practicing Jew and a fallen Catholic.

V.10.1 The twigs used as the booth covering are not bundled or tied. The booth is valid.

V.11.1 Any branches that are used are naturally formed bunches and therefore not bundles. The booth is valid.

V.12.1 The booth does not use a tree to form the covering. The booth is valid.

V.13.1 The booth covering does not have an area greater than three handbreadths square consisting of the mixture of an unsuitable substance with a suitable substance. The booth is valid.

V.14.1 The booth covering does not have an area greater than four handbreadths square in the middle of the roof consisting of an unsuitable substance. Neither does an unsuitable substance lie farther than four cubits from the wall. The booth is valid.

V.15.1 The booth falls under the definition of a large booth which has an area seven handbreadths square covered by a valid booth covering.

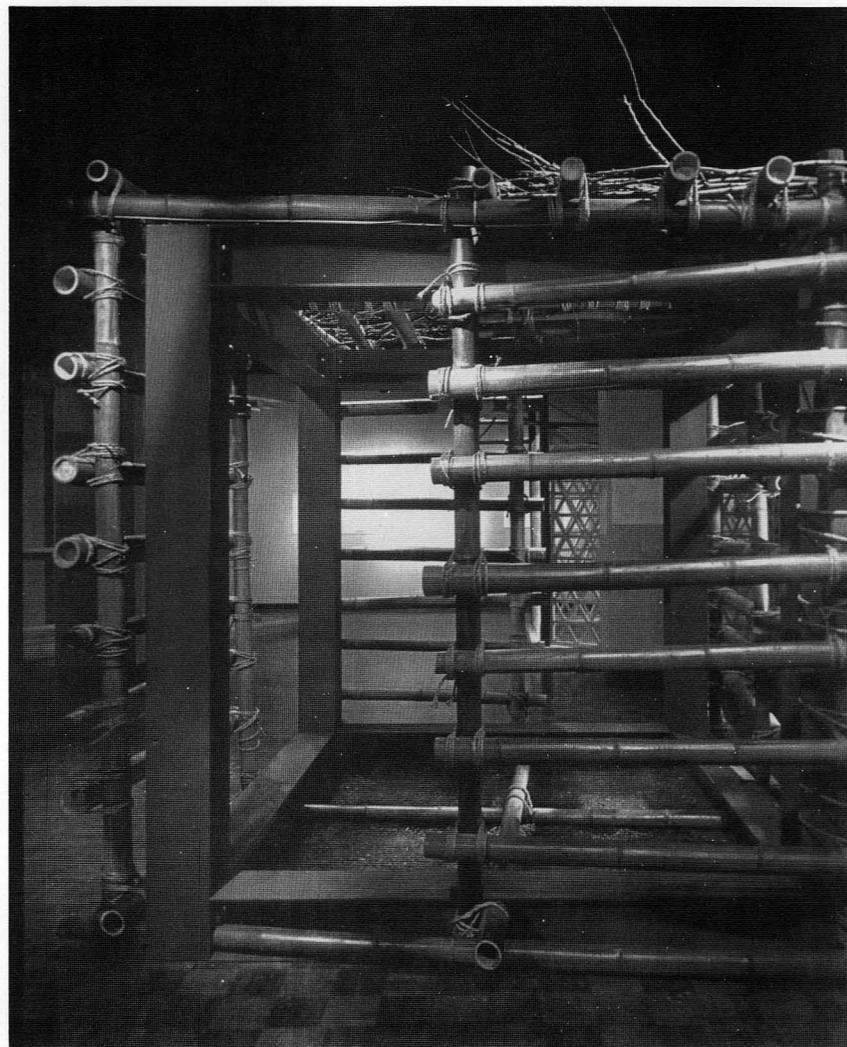
V.16.1 The total area of the valid booth covering exceeds the total area of open space or invalid booth covering. The booth is valid.

V.16.2 The width of the open space or

invalid booth covering is nowhere as much as three handbreadths wide. The booth is valid.

V.17.1 The occupants of the booth may spread a garment on the covering or ground and may hang food and utensils from the covering only if it is to beautify the booth.

V.18.1 Decorations are not to be hung four or more handbreadths distant from the covering. The booth is valid.



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V.19.1 The covered area exceeds the open space in the booth covering. The booth is valid.

V.20.1 The booth covering has no single space three handbreadths square or greater. The booth is valid.

V.21.1 The booth is lightly covered in order that large stars can be seen through the covering.

V.21.2 Part of the booth covering is higher than the other part, but the dis-

tance between the upper and lower levels is not as much as three handbreadths. The booth is valid.

V.22.1 There is no additional booth erected on top of the booth. The booth is valid.

V.23.1 One may not sit fully under the table for, since the table is more than ten handbreadths high, this is analogous to a booth within a booth.

V.24.1 There is no canopy. The booth is valid.

V.25.1 The booth, if stolen or borrowed is valid.

V.25.2 The booth erected in a public domain is valid.

VI.5.1 One's finest utensils, drinking vessels, bedspreads, and candelabrum shall be hung on the walls inside the booth.

VI.5.2 One's eating vessels shall be hung on the walls outside the booth. The booth is valid.

VI.8.1 The table is fully within the booth. The booth is valid.

VII.1.1 The booth is to be erected in such a way that the steel cube is facing directly east while the bamboo cube is facing directly towards Jerusalem, a shift of five degrees, recognizing the shift that has occurred in the faith because of the differentiation of orientation between the epoch of the Temple (East), and the epoch of the synagogue (orientation 5 degrees ESE toward Jerusalem), the schism of which is cleaved by the Christian Messianic Age. The cubes are interdependent with one another to form a valid booth.